



## National Center for Education Statistics

The National Center for Education Statistics (NCES) fulfills a congressional mandate to collect and report “statistics and information showing the condition and progress of education in the United States and other nations in order to promote and accelerate the improvement of American education.”

### *EDUCATION STATISTICS QUARTERLY*

#### **Purpose and goals**

At NCES, we are convinced that good data lead to good decisions about education. The *Education Statistics Quarterly* is part of an overall effort to make reliable data more accessible. Goals include providing a quick way to

- identify information of interest;
- review key facts, figures, and summary information; and
- obtain references to detailed data and analyses.

#### **Content**

The *Quarterly* gives a comprehensive overview of work done across all parts of NCES. Each issue includes short publications, summaries, and descriptions that cover all NCES publications and data products released during a 3-month period. To further stimulate ideas and discussion, each issue also incorporates

- a message from NCES on an important and timely subject in education statistics; and
- a featured topic of enduring importance with invited commentary.

A complete annual index of NCES publications appears in the fourth issue of each volume. Publications in the *Quarterly* have been technically reviewed for content and statistical accuracy.

#### **General note about the data and interpretations**

Many NCES publications present data that are based on representative samples and thus are subject to sampling variability. In these cases, tests for statistical significance take both the study design and the number of comparisons into account. NCES publications only discuss differences that are significant at the 95 percent confidence level or higher. Because of variations in study design, differences of roughly the same magnitude can be statistically significant in some cases but not in others. In addition, results from surveys are subject to

nonsampling errors. In the design, conduct, and data processing of NCES surveys, efforts are made to minimize the effects of nonsampling errors, such as item nonresponse, measurement error, data processing error, and other systematic error.

For complete technical details about data and methodology, including sample sizes, response rates, and other indicators of survey quality, we encourage readers to examine the detailed reports referenced in each article.

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# NOTE FROM NCES

Val Plisko, Associate Commissioner,  
Early Childhood, International, and Crosscutting Studies Division

## Assessing Technology Access and Use Through Surveys

Current, reliable information on technology access and use is critical to understanding the breadth of learning opportunities afforded by computers and the Internet. Timely surveys can also inform about the extent to which students and the U.S. population in general can access and use technology resources at school and in their homes and where gaps in opportunity remain. The National Center for Education Statistics (NCES) has benefited from the strong support of the Department of Education's Office of Educational Technology (OET) in designing and conducting the technology surveys featured in this issue of the *Education Statistics Quarterly*. Susan Patrick, the director of OET, provides the commentary for this issue.

NCES began tracking the use of technology for instruction in schools in 1994, when it launched its annual Fast Response Survey System (FRSS) survey on Internet access. "Internet Access in Public Schools," now in its 10th year, tracks progress made in connecting public schools and instructional rooms to the Internet, how public schools are connected to the Internet (broadband vs. narrowband), and the student-to-computer ratio. To keep up with advances in technology and Internet expansion, NCES has added questions to the survey to address emerging issues. These questions provide information on the technologies and procedures used to prevent student access to inappropriate material on the Internet, the availability of adaptive and assistive devices for students with disabilities, and access outside of regular school hours. Questions on topics such as platforms, memory, and disk space used on instructional computers; school web sites; school-sponsored e-mail; and laptop computer loans also enable school officials to compare their own technology programs to others.

NCES also tracks individual and household use of computers and the Internet. A number of different NCES surveys—the Education Longitudinal Study of 2002, the National Household Education Surveys Program, and the Early Childhood Longitudinal Study, Birth Cohort—contain items on this topic. The primary data collection that NCES uses to track changes in individual and household use of computers and the Internet, however, is the Current Population Survey (CPS). The first CPS collection on this topic was conducted in 1984. Since then, NCES and the U.S. Census Bureau (which fields the CPS) have worked with OET, the National Telecommunications and Information Administration, the Bureau of Labor Statistics, and other agencies to adjust the survey to reflect changes in technology over time. The most recent CPS collection on this topic was fielded in October 2003. It covered a wide range of related subjects including household computer ownership and Internet access, individual use of computers and the Internet for activities such as completing school and work projects, the locations where people use computers and the Internet, and the use of other information technologies.

In addition to technology access in schools and homes, NCES has studied

- classroom use of technology (using the Third International Mathematics and Science Study 1999 Video Study);



- technology use in kindergarten and first grade; and
- the use of distance learning and the range of offerings in postsecondary education.

NCES also expects to release in fall 2004 a new FRSS survey that will examine the extent to which school districts offer distance education courses to public elementary and secondary students. Anecdotal evidence suggests that technology-based education at the elementary and secondary levels enables school districts to expand the range of courses available and facilitates more flexibility in student schedules and instructional delivery. To date, however, no nationally representative studies have examined the relationship among distance education availability, course offerings, and enrollments in the nation's elementary and secondary schools. The new survey will provide for the first time

- the number of schools and districts with students enrolled in distance education courses;
- the number of enrollments in distance education courses by instructional level and curriculum area;
- reported reasons for having distance education courses;
- technologies used as the primary mode of instructional delivery for distance education courses;
- information about entities that deliver distance education courses;
- information about where students access online courses, and whether districts provide or pay for computers or Internet service providers for students accessing online courses at home; and
- information about whether districts plan to expand distance education course offerings and to what extent various factors may be keeping them from doing so.

Other NCES projects that relate to information and communications technology include the Technology-Rich Environments (TRE) pilot assessment, which is being conducted for the National Assessment of Educational Progress. The TRE assessment developed a set of example modules to use technology to assess student problem solving at the eighth grade. These example modules use the computer to present multimedia tasks that cannot be delivered through conventional paper-and-pencil assessments, but that tap important emerging skills.

To date, NCES surveys have generated findings that have been valuable to states, school districts, and postsecondary institutions by helping them benchmark their own technology goals and needs against national averages and comparable systems. In addition, the Department of Education has used results from these surveys to report to Congress about the outcomes of various technology initiatives and programs and to plan its own strategic agenda for using technology in education. The popular press, the education press, researchers, and the public have followed the survey releases, as evidenced by the large and growing volume of downloads from the NCES web site of the reports documenting these releases. Each new release documents that Internet access has expanded the reach of our reports to a wider audience and the increasing interest in these reports.

# FEATURED TOPIC: TECHNOLOGY IN EDUCATION

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## Computer and Internet Use Computer and Internet Use by Children and Adolescents in 2001

Matthew DeBell and Chris Chapman

***This article was originally published as the Highlights and Introduction of the Statistical Analysis Report of the same name. The sample survey data are from the Computer and Internet Use supplement to the Current Population Survey (CPS).***

### Introduction

Computers and the Internet recently passed a milestone: both are now used by a majority of Americans. Two-thirds of Americans used computers in 2001, up from about one-half in 1997, and 54 percent used the Internet, up from about a third in 1997. Comparable trend data have not been published for 5- to 17-year-olds, but among those ages 9 to 17, Internet use has increased from about one-third in 1997 to about two-thirds in 2001 (U.S. Department of Commerce 2002). In 2001, the use of these technologies was more widespread among children and adolescents ages 5 through 17 than among adults: about 90 percent of 5- to 17-year-olds used computers and 59 percent used the Internet in this year (table A).

This report uses data from the September Computer and Internet Use supplement to the 2001 Current Population Survey (CPS) to examine the use of computers and the Internet by American children and adolescents between the ages of 5 and 17.<sup>1</sup> The report examines the overall rate of use, the ways in which children and teens use the technologies, where the use occurs (home, school, and other locations), and the relationships of these aspects of

<sup>1</sup>CPS interviews were conducted in about 56,000 households in September 2001 and collected information regarding 28,002 5- to 17-year-olds, including those enrolled in school and those not enrolled in school. One respondent per household was interviewed and that respondent provided information about the household and about individual household members, including information about computer and Internet use. Because a household's respondent may not have full information regarding computer and Internet use by other members of the household, this method is a potential source of error in the data.

**Table A. Percentage of children and adolescents ages 5 through 17 who use computers and the Internet, by child and family/ household characteristics: 2001**

Characteristics	Number of children (in thousands)	Percent using computers	Percent using the Internet
All persons ages 5 through 17	53,013	89.5	58.5
Child characteristics			
Age			
5–7	11,990	80.5	31.4
8–10	12,455	90.5	53.5
11–14	16,493	92.6	68.3
15–17	12,075	93.4	77.1
Sex			
Female	25,835	90.0	58.6
Male	27,178	89.1	58.3
Race/ethnicity <sup>1</sup>			
White	33,433	93.4	66.7
Black	8,275	85.0	45.3
Hispanic	8,400	78.7	37.2
Asian	2,268	89.7	64.6
American Indian	637	89.8	53.5
Disability status			
Disabled	626	80.0	48.9
Not disabled	45,416	89.8	59.4
Family and household characteristics			
Parent educational attainment			
Less than high school credential	5,450	75.6	31.6
High school credential	13,611	87.2	50.2
Some college	15,665	92.0	63.2
Bachelor's degree	6,712	94.2	69.3
Graduate education	9,114	96.4	74.4
Family/household type			
Two-parent household	37,230	91.3	62.2
Male householder	2,715	86.9	54.3
Female householder	12,440	85.5	48.8
Other arrangement	628	75.2	48.8
Household language			
Spanish-only	2,549	70.4	28.7
Not Spanish-only	50,464	90.5	60.0
Poverty status			
In poverty	9,277	80.5	36.7
Not in poverty	36,904	92.6	65.3
Family income			
Under \$20,000	8,344	80.1	36.5
\$20,000–\$34,999	8,852	86.3	48.8
\$35,000–\$49,999	7,438	92.0	62.8
\$50,000–\$74,999	9,530	93.6	67.1
\$75,000 or more	12,018	96.2	75.4
Urbanicity			
Metropolitan, city center	12,249	84.6	49.5
Metropolitan, not city center	23,566	91.1	61.9
Nonmetropolitan	9,609	91.4	59.7

<sup>1</sup>White, Black, Asian, and American Indian, respectively, indicate White, non-Hispanic; Black, non-Hispanic; Asian or Pacific Islander, non-Hispanic; and American Indian, Aleut, or Eskimo, non-Hispanic.

NOTE: Detail may not sum to totals because of rounding or missing data.

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), September 2001. (Originally published as table 1 on p. 4 of the complete report from which this article is excerpted.)



computer and Internet use to demographic and socioeconomic characteristics such as children's age and race/ethnicity and their parents' education and family income.

## Key Findings

Key findings from the 2001 CPS are as follows:

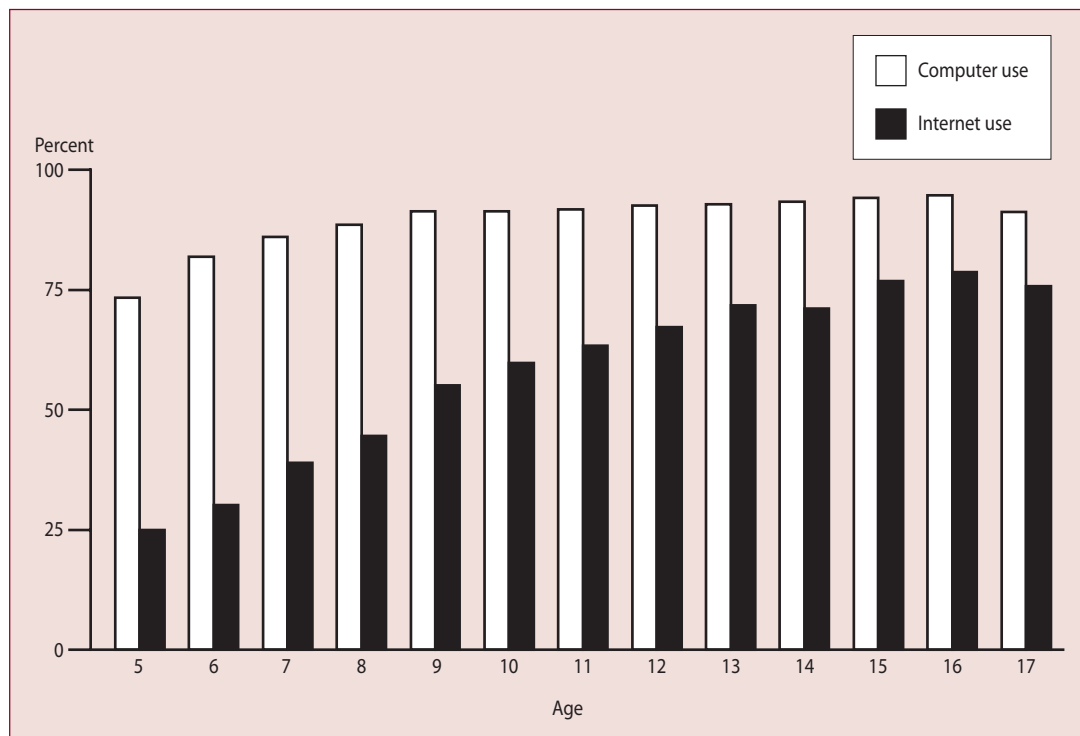
- **Most children and adolescents use these technologies.** About 90 percent of children and adolescents ages 5–17 (47 million persons) use computers, and about 59 percent (31 million persons) use the Internet (table A).
- **Use begins at an early age.** About three-quarters of 5-year-olds use computers, and over 90 percent of teens (ages 13–17) do so (figure A). About 25 percent of 5-year-olds use the Internet, and this number rises to over 50 percent by age 9 and to at least 75 percent by ages 15–17.
- **There is a “digital divide.”** Computer and Internet use are divided along demographic and socioeconomic lines. Use of both technologies is higher among Whites than among Blacks and Hispanics and higher among Asians and American Indians than

among Hispanics (table A).<sup>2</sup> Five- through 17-year-olds living with more highly educated parents are more likely to use these technologies than those living with less well educated parents, and those living in households with higher family incomes are more likely to use computers and the Internet than those living in lower income households.

- **Disability, urbanicity, and household type are factors in the digital divide.** Consistent with the findings of previous research (U.S. Department of Commerce 2002), 5- through 17-year-olds without a disability are more likely to use computers and the Internet than their disabled peers, and children and adolescents living outside of central cities are more likely to use computers than those living in central cities. When not controlling for other factors, children and adolescents from two-parent households are more likely to use the computer and the Internet

<sup>2</sup>“White,” “Black,” “Asian,” and “American Indian” refer to White, non-Hispanic; Black, non-Hispanic; Asian or Pacific Islander, non-Hispanic; and American Indian, Aleut, or Eskimo, non-Hispanic, respectively, and will be used throughout this report for ease of presentation. Hispanics may be of any race.

**Figure A. Percentage of 5- through 17-year-olds using computers or the Internet, by age: 2001**



SOURCE: U.S. Census Bureau, Current Population Survey (CPS), September 2001. (Originally published as figure 1 on p. 5 of the complete report from which this article is excerpted.)

than those from single-parent households,<sup>3</sup> and children and adolescents living outside of central cities are more likely to use the Internet than those living in central cities. However, when controlling for other factors such as family income and parent education, the association of household type and of Internet use outside of central cities was not statistically significant.

- **There are no differences between the sexes in overall computer or Internet use rates.** In contrast to the 1990s, when boys were more likely to use computers and the Internet than girls were, overall computer and Internet use rates for boys and girls are now about the same (table A).
- **More children and adolescents use computers at school (81 percent) than at home (65 percent).** The difference in school versus home computer use is larger for groups of 5- through 17-year-olds who are generally less likely to use computers. Computer use at school exceeds use at home by 30 percentage points or more for Blacks and Hispanics (table B). Use at school also exceeds use at home by 30 percentage points or more for those whose parents did not complete high school, who live with a single mother, who live in households where Spanish is the only language spoken by household members age 15 or over, or who live in households where the family income is under \$20,000. However, home use is slightly more prevalent than school use for two groups: (1) children and adolescents whose parents have at least some graduate school education, and (2) children and adolescents who live in families with incomes of \$75,000 or more per year.<sup>4</sup>
- **The use of home computers for playing games, to connect to the Internet, and for work on school assignments are common activities.** A majority (59 percent) of 5- through 17-year-olds use home computers to play games, and over 40 percent use computers to connect to the Internet (46 percent) and to complete school assignments (44 percent). Middle-school-age and high-school-age youth (ages 11–17) use home computers to complete school assignments

(57–64 percent), to connect to the Internet (54–63 percent), and to play games (60–63 percent).

- **Home is the most common location for Internet access, followed by school.** Although nearly all schools have Internet access, children and adolescents are more likely to access the Internet from their homes. Of those children and adolescents who use the Internet, 78 percent access it at home, compared to 68 percent who access it at school. Many of those who rely more on access at school come from lower income families (less than \$35,000 per year) or have parents who have not earned at least a high school credential.
- **Many disadvantaged children and adolescents use the Internet only at school.** Among the group of children and adolescents who access the Internet at only one location, 52 percent of those from families in poverty and 59 percent of those whose parents have not earned at least a high school credential do so at school. In comparison, 26 percent of those from families not in poverty and 39 percent of those with more highly educated parents do so only at school. This illustrates the role of schools in bridging the digital divide.
- **Considering all locations, the use of the Internet for work on school assignments, e-mail, and games are common activities.** Among Internet users ages 5–17, about 72 percent (42 percent of all persons in this age range) use the Internet to complete school assignments, while 65 percent (38 percent of all persons in this age range) use the Internet for e-mail or instant messaging and 62 percent (36 percent of all persons in this age range) use it to play games.

## Reference

U.S. Department of Commerce. (2002). *A Nation Online: How Americans Are Expanding Their Use of the Internet*. Washington, DC: Author.

**Data source:** U.S. Census Bureau, Current Population Survey (CPS), September 2001: Computer and Internet Use supplement.

**For technical information,** see the complete report:

DeBell, M., and Chapman, C. (2003). *Computer and Internet Use by Children and Adolescents in 2001* (NCES 2004–014).

**Author affiliations:** M. DeBell, Education Statistics Services Institute; C. Chapman, NCES.

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**To obtain the complete report (NCES 2004–014),** call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

<sup>3</sup>The categories for family structure include "male-headed single-householder" and "female-headed single-householder." "Single father" and "single mother" (or "single parent," when referring to both) are used for ease of presentation. Some single-householders include nonrelatives or relatives other than the father or mother such as a grandfather or grandmother.

<sup>4</sup>The prevalence of the use of a technology is measured in this report by the percentage of 5- to 17-year-olds using the technology. This report does not examine other aspects of the frequency of use, such as the number of incidents of use or the amount of time spent using technologies, because the CPS does not include these data.

**Table B. Percentage of children and adolescents ages 5 through 17 using computers at home and at school, by child and family/household characteristics: 2001**

Characteristics	Number of children (in thousands)	Percent using computers at home	Percent using computers at school
All persons ages 5 through 17	53,013	65.2	80.7
Child characteristics			
Age			
5–7	11,990	56.4	68.2
8–10	12,455	62.7	83.1
11–14	16,493	68.6	85.2
15–17	12,075	72.0	84.5
Sex			
Female	25,835	65.7	81.6
Male	27,178	64.8	79.9
Race/ethnicity <sup>1</sup>			
White	33,433	76.9	83.5
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\$50,000–\$74,999	9,530	80.1	83.9
\$75,000 or more	12,018	89.3	85.4
Urbanicity			
Metropolitan, city center	12,249	52.7	76.0
Metropolitan, not city center	23,566	71.9	81.4
Nonmetropolitan	9,609	63.1	84.3

<sup>1</sup>White, Black, Asian, and American Indian, respectively, indicate White, non-Hispanic; Black, non-Hispanic; Asian or Pacific Islander, non-Hispanic; and American Indian, Aleut, or Eskimo, non-Hispanic.

NOTE: Detail may not sum to totals because of rounding or missing data.

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), September 2001. (Originally published as table 3 on p. 12 of the complete report from which this article is excerpted.)

# Internet Access

## Internet Access in U.S. Public Schools and Classrooms: 1994–2002

Anne Kleiner and Laurie Lewis

*This article was originally published as the Introduction and Selected Findings of the E.D. TAB report of the same name. The sample survey data are from “Internet Access in U.S. Public Schools, Fall 2002,” conducted through the Fast Response Survey System (FRSS).*

Since 1994, the National Center for Education Statistics (NCES) has surveyed public schools to estimate access to information technology in schools and classrooms. In the fall of each academic year, a new nationally representative sample of public schools is surveyed about Internet access and other Internet-related topics. The results of this survey—“Internet Access in U.S. Public Schools, Fall 2002”—show what progress has been made since these data were first collected in 1994, and help assess the magnitude of tasks remaining to make the Internet available as an educational tool in all schools.

Although some items, such as those on school and classroom connectivity, have appeared annually on the survey, new items have been added as technology has changed and new issues have arisen. For example, an item on types of Internet connections was added in 1996 and has remained part of the subsequent surveys, with some modifications. The fall 2002 survey included items on access to the Internet outside of regular school hours; technologies and procedures used to prevent student access to inappropriate material on the Internet; school web sites; staff responsible for computer hardware, software, Internet, and web site support; loans of laptop computers to students; and provision of hand-held computers to students and teachers.

This survey was conducted by NCES using the Fast Response Survey System (FRSS). FRSS is designed to administer short, focused, issue-oriented surveys that place minimal burden on respondents and have a quick turnaround from data collection to reporting. Questionnaires for this survey were mailed to a representative sample of 1,206 public schools in the 50 states and the District of Columbia. Data have been weighted to yield national estimates.

In addition to national estimates, selected survey findings are presented by the following school characteristics:

- instructional level (elementary, secondary);
- school size (enrollment of less than 300, 300 to 999, 1,000 or more);
- locale (city, urban fringe, town, rural);

- percent minority enrollment (less than 6 percent, 6 to 20 percent, 21 to 49 percent, 50 percent or more); and
- percent of students eligible for free or reduced-price lunch (less than 35 percent, 35 to 49 percent, 50 to 74 percent, 75 percent or more), which is used as a measure of poverty concentration at the school.

It is important to note that many of the school characteristics used for independent analysis may also be related to each other. For example, enrollment size and instructional level of schools are related, with secondary schools typically being larger than elementary schools. Similarly, poverty concentration and minority enrollment are related, with schools with a higher minority enrollment also more likely to have a high concentration of poverty. Other relationships between analysis variables may exist. Because of the relatively small sample size used in this study, it is difficult to separate the independent associations these variables have with the data of interest. Their existence, however, should be considered in the interpretation of the data.

### Selected Findings

Key findings from the survey “Internet Access in U.S. Public Schools, Fall 2002” are presented below. For selected topics, data from previous FRSS Internet surveys are presented as well. The findings are organized as follows:

- school connectivity;
- students and computer access;
- school web sites;
- technologies and procedures to prevent student access to inappropriate material on the Internet; and
- teacher professional development on how to integrate the use of the Internet into the curriculum.

### School connectivity

The survey asked whether schools had access to the Internet. Other data collected allowed for the computation of the proportion of instructional rooms with Internet access. In addition, schools were asked to indicate the type of Internet connections used, as well as the staff position of the person primarily responsible for computer hardware, software, and Internet support at the school.

### School access

- In fall 2002, 99 percent of public schools in the United States had access to the Internet. When NCES first started estimating Internet access in schools in 1994, 35 percent of public schools had access. In 2002, no differences in school Internet access were observed by any school characteristics. This is consistent with data reported previously (Kleiner and Farris 2002), which showed that there have been virtually no differences in school access to the Internet by school characteristics since 1999.

### Instructional room access

- Public schools have made consistent progress in expanding Internet access in instructional rooms,<sup>1</sup> from 3 percent in 1994 to 77 percent in 2000 and 92 percent in 2002 (figure 1).
- In 2002, there were differences in Internet access in instructional rooms by locale. A smaller percentage of

instructional rooms were connected to the Internet in city schools (88 percent) than in schools located in towns (96 percent) and rural areas (93 percent).

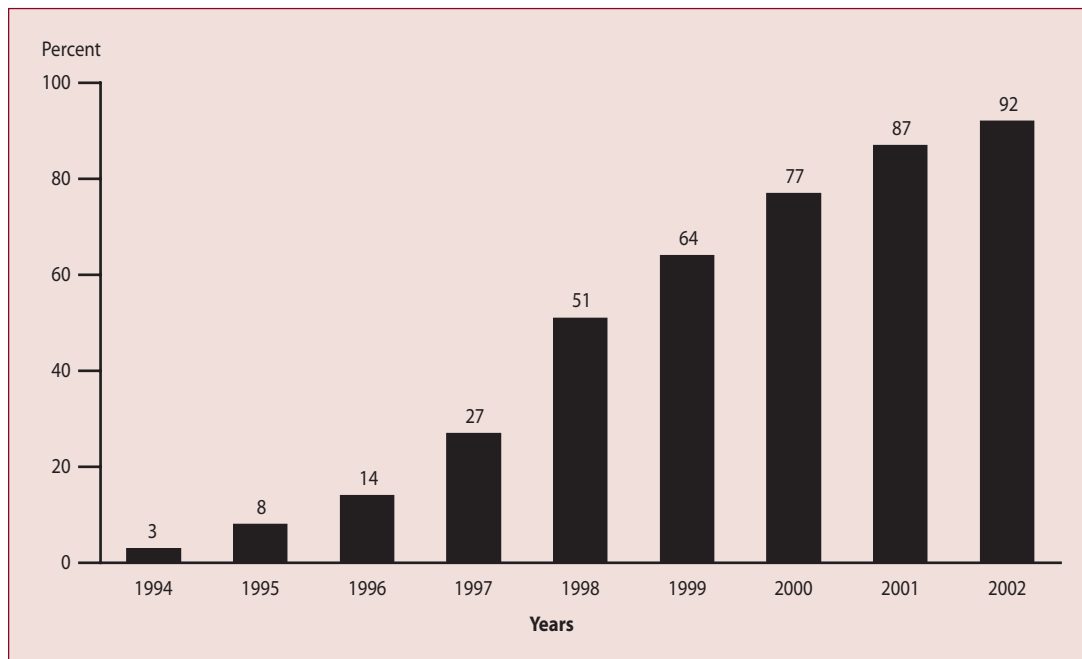
### Types of connections

Over the years, changes have occurred in the types of Internet connections used by public schools and the speed at which they are connected to the Internet. In 1996, dial-up Internet connections (a type of narrowband connection) were used by about three-fourths (74 percent) of public schools having Internet access (Heavyside, Riggins, and Farris 1997). In comparison, in 2001, 5 percent of schools used dial-up connections, while the majority of public schools (55 percent) reported using T1/DS1 lines (a type of broadband connection), a continuous and much faster type of Internet connection than dial-up connections (Kleiner and Farris 2002).

- In 2002, 94 percent of public schools with Internet access used broadband connections to access the Internet. This is an increase from 2001 and 2000, when 85 percent and 80 percent of the schools,

<sup>1</sup>Instructional rooms include classrooms, computer and other labs, library/media centers, and any other rooms used for instructional purposes.

**Figure 1. Percent of public school instructional rooms with Internet access: 1994–2002**



NOTE: Percentages are based on all schools. All of the estimates in this report were recalculated from raw data files using the same computational algorithms. Consequently, some estimates presented here may differ trivially (i.e., by 1 percent) from results published prior to 2001.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS): "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 51, 1994; "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61, 1996; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64, 1997; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000; "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82, 2001; and "Internet Access in U.S. Public Schools, Fall 2002," FRSS 83, 2002.

respectively, were using broadband connections.<sup>2</sup> In 2002, as in previous years (Kleiner and Farris 2002), the likelihood of using broadband connections increased with school size; 90 percent of small schools reported using broadband connections to access the Internet, compared with 100 percent of large schools.

- The use of broadband connections increased between 2000 and 2002, from 81 percent to 95 percent, in schools with the highest minority enrollment. Similarly, the percentage of schools with the highest poverty concentration (as measured by the percent of students eligible for free or reduced-price lunch) using broadband connections to access the Internet increased from 75 percent to 95 percent.
- Twenty-three percent of public schools with Internet access used wireless Internet connections in 2002.<sup>3</sup> Large schools were more likely than medium-sized and small schools to use wireless Internet connections (37 percent compared with 23 percent and 17 percent, respectively).
- Of the schools using wireless Internet connections in 2002, 88 percent indicated that they used broadband wireless Internet connections. Across all school characteristics, this percentage ranged from 76 percent to 100 percent.
- In 2002, 15 percent of all public school instructional rooms had wireless Internet connections. Differences were observed only by instructional level. A higher percentage of instructional rooms had wireless Internet connections in secondary schools (19 percent) than in elementary schools (13 percent).

#### **Computer hardware, software, and Internet support**

- The staff position of the person with primary responsibility for computer hardware, software, and Internet support varied considerably across schools in 2002. Thirty-eight percent of schools indicated that it was a full-time, paid school technology director or coordinator; 26 percent, district staff; 18 percent, a teacher or other staff as part of formal

responsibilities; 11 percent, a part-time, paid school technology director or coordinator; 3 percent, a consultant or outside contractor; 3 percent, a teacher or other staff as volunteers; and 1 percent, some other position (figure 2).

- The likelihood that the person primarily responsible for computer hardware, software, and Internet support would be a full-time, paid technology director or coordinator increased with school size in 2002, from 29 percent in small schools to 48 percent in large schools. Differences were also observed by percent minority enrollment; schools with the lowest minority enrollment were more likely than other schools to report that a full-time, paid technology director or coordinator was the person primarily responsible for computer hardware, software, and Internet support (49 percent compared with 32 to 34 percent in other schools).

#### **Students and computer access**

More children and adolescents in the nation used computers at school than at home in 2001 (DeBell and Chapman 2003). The survey “Internet Access in U.S. Public Schools, Fall 2002” obtained information on various measures of student access to computers at school, such as the ratio of students to instructional computers with Internet access, student access to the Internet outside of regular school hours, the provision of hand-held computers to students and teachers, and laptop loans to students.

#### **Students per instructional computer with Internet access**

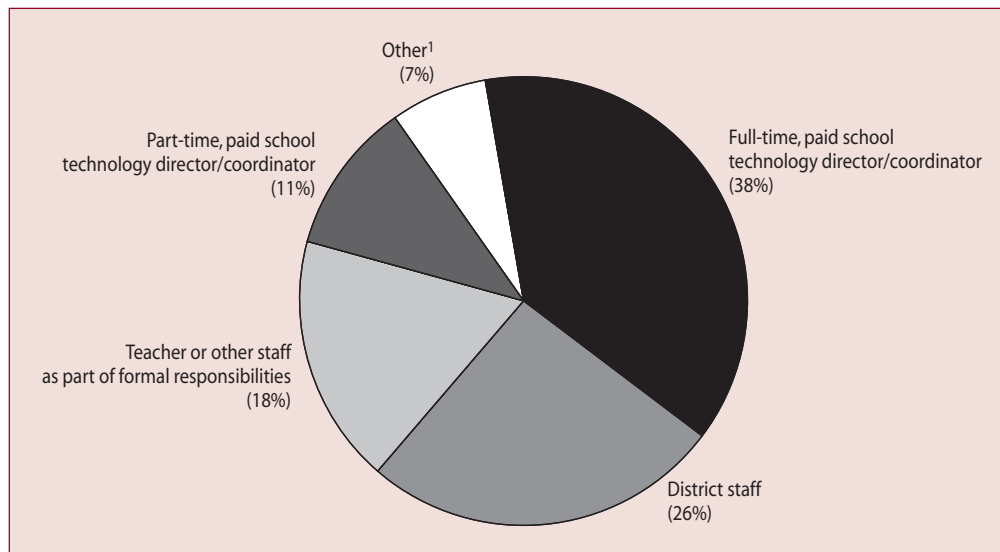
- The ratio of students to instructional computers with Internet access was computed by dividing the total number of students in all public schools by the total number of instructional computers with Internet access in all public schools (i.e., including schools with no Internet access).<sup>4</sup> In 2002, the ratio of students to instructional computers with Internet access in public schools was 4.8 to 1, an improvement from the 12.1 to 1 ratio in 1998, when it was first measured (figure 3).
- However, as in previous years (Kleiner and Farris 2002), there were differences by school characteris-

<sup>2</sup>In 2000 and 2001, respondents were instructed to circle as many types of connections as there were in the school. The 2002 questionnaire directly asked whether the schools used broadband and narrowband connections. These percentages include schools using only broadband connections, as well as schools using both broadband and narrowband connections. They do not include schools using narrowband connections exclusively. Broadband connections include T3/DS3, fractional T3, T1/DS1, fractional T1, and cable modem connections. In 2001 and 2002, they also included DSL connections, which had not been an option on the 2000 questionnaire.

<sup>3</sup>A school could use both wireless and wired Internet connections. Wireless Internet connections can be broadband or narrowband.

<sup>4</sup>This is one method of calculating students per computer. Another method involves calculating the number of students in each school divided by the number of instructional computers with Internet access in each school and then taking the mean of this ratio across all schools. When “students per computer” was first calculated for this NCES series in 1998, a decision was made to use the first method; this method continues to be used for comparison purposes. A couple of factors influenced the choice of that particular method. There was (and continues to be) considerable skewness in the distribution of students per computer per school. In addition, in 1998, 11 percent of public schools had no instructional computers with Internet access.

**Figure 2. Percentage distribution of the staff position of those who were primarily responsible for computer hardware, software, and Internet support at the school: 2002**

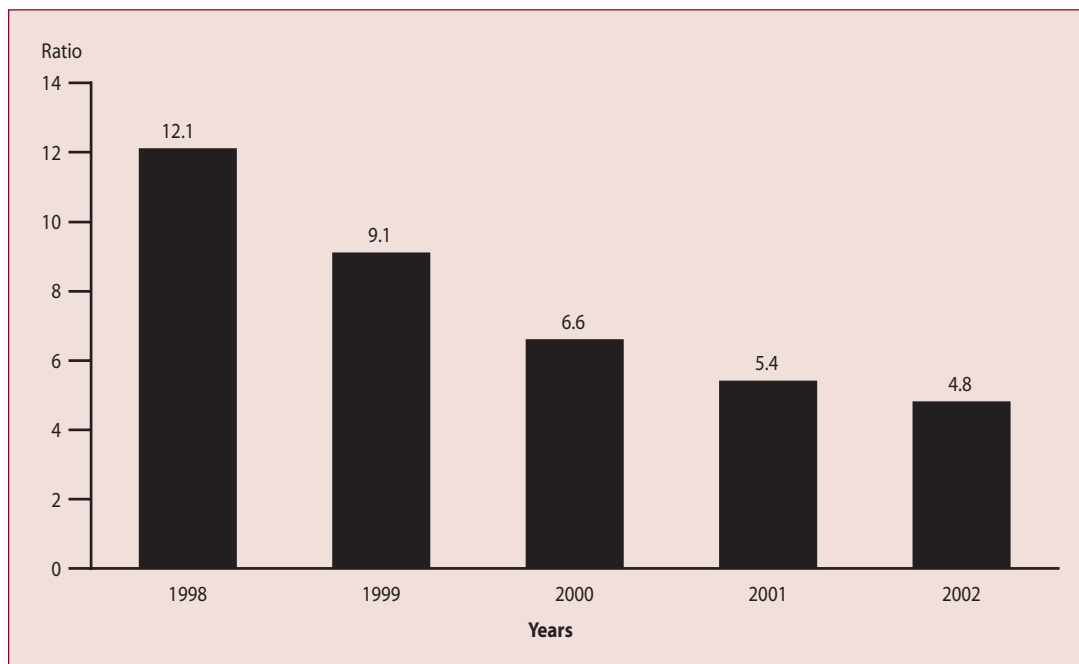


<sup>1</sup>This category includes consultant/outside contractor, teachers or other staff as volunteers, and other.

NOTE: Percentages are based on the 99 percent of public schools with Internet access.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Internet Access in U.S. Public Schools, Fall 2002," FRSS 83, 2002.

**Figure 3. Ratio of public school students to instructional computers with Internet access: 1998–2002**



NOTE: Ratios are based on all public schools. All of the estimates in this report were recalculated from raw data files using the same computational algorithms. Consequently, some estimates presented here may differ trivially (i.e., by 1 percent) from results published prior to 2001.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS): "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000; "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82, 2001; and "Internet Access in U.S. Public Schools, Fall 2002," FRSS 83, 2002.

tics in 2002. For example, the ratio of students to instructional computers with Internet access was higher in schools with the highest poverty concentration than in schools with the lowest poverty concentration (5.5 to 1 compared with 4.6 to 1). Despite this gap, in schools with the highest poverty concentration, the ratio improved from 6.8 students per computer in 2001 to 5.5 per computer in 2002. The difference between schools with the highest and lowest poverty concentrations in the ratio of students per instructional computer with Internet access decreased from 6.2 students per computer in 1998 to 0.8 students per computer in 2002.

#### **Availability of computers with Internet access outside of regular school hours**

- In 2001, 5- to 17-year-olds whose families were in poverty were less likely to use the Internet at their home than 5- to 17-year-olds whose families were not in poverty (47 percent compared with 82 percent) (DeBell and Chapman 2003). Making the Internet accessible outside of regular school hours allows students who do not have access to the Internet at home to use this resource for school-related activities such as homework.
- In 2002, 53 percent of public schools with Internet access reported that they made computers with access to the Internet available to students outside of regular school hours. Differences by school characteristics were observed only for instructional level and school size. Secondary schools were more likely to make the Internet available to students outside of regular school hours than were elementary schools (73 percent compared with 47 percent). Similarly, large schools reported making the Internet available to students outside of regular school hours more often than did medium-sized and small schools (79 percent compared with 50 percent and 49 percent, respectively).
- Among schools providing computers with Internet access to students outside of regular school hours in 2002, 96 percent made them available after school; 74 percent, before school; and 6 percent, on weekends. The availability of computers with Internet access before school was lower in schools with the highest minority enrollment (62 percent) than in schools with the two lowest categories of minority enrollment (80 percent and 78 percent). A similar pattern occurred by school poverty concentration for

the availability of computers with Internet access before school, with 57 percent for schools with the highest poverty concentration, compared with 75 percent and 82 percent for schools with the two lowest categories of poverty concentration. There were no differences by school characteristics for the availability of computers with Internet access after school. In addition, there were virtually no differences by school characteristics for the availability of computers with Internet access on weekends.

- In 2002, schools making computers with Internet access available to students outside of regular school hours reported that students had, on average, access to 49 computers with Internet access. No increase was observed in the average number of computers with Internet access available to students outside of regular school hours between 2001 and 2002.

#### **Provision of hand-held computers**

- In 2002, 7 percent of public schools provided hand-held computers to students or teachers for instructional purposes.<sup>5</sup> No differences were observed by school characteristics.
- Among schools providing hand-held computers to students or teachers for instructional purposes in 2002, the median number of hand-held computers provided per school was 9 (i.e., half of the schools reported a lower number than 9 and the other half a higher number).<sup>6</sup>

#### **Laptop computer loans**

In addition to asking about the availability of computers with Internet access outside of regular school hours and the provision of hand-held computers to students or teachers, the survey asked whether the schools lent laptop computers to students, how many laptops were available for loan, and the maximum length of time for which they could be borrowed. If schools did not lend laptop computers to students in 2002, a question inquired whether they planned to lend them in the 2003–04 school year.

<sup>5</sup>Hand-held computers are computers, or personal digital assistants, small enough to be held in one hand. Examples are Palm Pilots or Pocket PCs.

<sup>6</sup>On average, 22 hand-held computers per school were provided to students or teachers in schools that supplied such computers in 2002. The average number of hand-held computers would decrease to 18 if the data for 1 school in the sample were taken out of the calculation because the school reported a number of hand-held computers much higher (1,000 hand-held computers) than any of the other schools in the sample (ranging from 1 to 140). The number of hand-held computers at that school was verified with the respondent.



- In 2002, 8 percent of public schools lent laptop computers to students.<sup>7</sup> In those schools, the median number of laptop computers available for loan was 7. This represents 1 laptop computer for 16 students.<sup>8</sup> Fifty-nine percent of schools lending laptop computers reported that students could borrow them for less than 1 week, 19 percent reported that students could borrow them for a period of 1 week to less than 1 month, and 16 percent reported lending laptops for the entire school year.
- Of the 92 percent of schools without laptop computers available for loan to students in 2002, 7 percent were planning to make laptops available for students to borrow during the 2003–04 school year. No differences were observed by school characteristics.

### School web sites

Since 99 percent of public schools were connected to the Internet in 2002, most schools had the capability to make information available to parents and students directly via e-mail or through a web site. The survey asked whether the schools had a web site or a web page (e.g., a web page on the district's web site), how often it was updated, and who was primarily responsible for the school's web site or web page support.<sup>9</sup>

- Nationwide, 86 percent of public schools with access to the Internet had a web site or web page in 2002. This is an increase from 2001, when 75 percent of public schools reported having a web site. There were differences by school characteristics in the likelihood of having a web site or web page. For example, the likelihood of having a web site or a web page was lower in schools with the highest minority enrollment than in other schools (76 percent compared with 87 to 92 percent). The likelihood of having a web site or web page also decreased as the poverty concentration increased: 94 percent of schools with the lowest poverty concentration had a web site or web page, compared to 66 percent of schools with the highest poverty concentration.

<sup>7</sup>The difference between the percent of schools lending laptop computers to students in 2002 (8 percent) and in 2001 (10 percent) is not statistically significant.

<sup>8</sup>The ratio of students per laptop computer would increase to 19.9 to 1 if 1 school in the sample were taken out of the calculation because the school reported a number of laptop computers much higher (2,700) than any of the other schools in the sample (ranging from 1 to 850). The number of laptop computers at that school was verified with the respondent.

<sup>9</sup>In 2001, the questionnaire asked about the school's "web site." In 2002, the wording was changed to "web site or web page."

- Of the schools having a web site or a web page, 68 percent reported that their web site or web page was updated at least monthly.<sup>10</sup> Among the 32 percent of schools updating their web site or web page less often than monthly, differences by school characteristics were observed. For example, schools with the highest minority enrollment (49 percent) were more likely than other schools (22 percent to 30 percent) to update their web site or web page less than monthly. The likelihood of updating the web site or web page less than monthly also increased with poverty concentration of the schools (from 22 percent for schools with the lowest poverty concentration to 51 percent for schools with the highest poverty concentration).
- Among schools having a web site or web page, 29 percent reported that a teacher or other staff member was primarily responsible for the school's web site or web page support as part of his or her formal responsibilities (figure 4). Schools also reported that primary responsibility was assigned to a full-time, paid school technology director or coordinator (22 percent); a teacher or other staff as volunteers (18 percent); district staff (18 percent); a part-time, paid school technology director or coordinator (5 percent); students (2 percent); or a consultant or outside contractor (2 percent). Some other person was cited by 4 percent of the schools.
- The likelihood of having a teacher or other staff primarily responsible for the school's web site as part of his or her formal responsibilities was higher in secondary schools (35 percent) than in elementary schools (28 percent). The likelihood also increased with school size (from 26 percent in small schools to 39 percent in large schools).

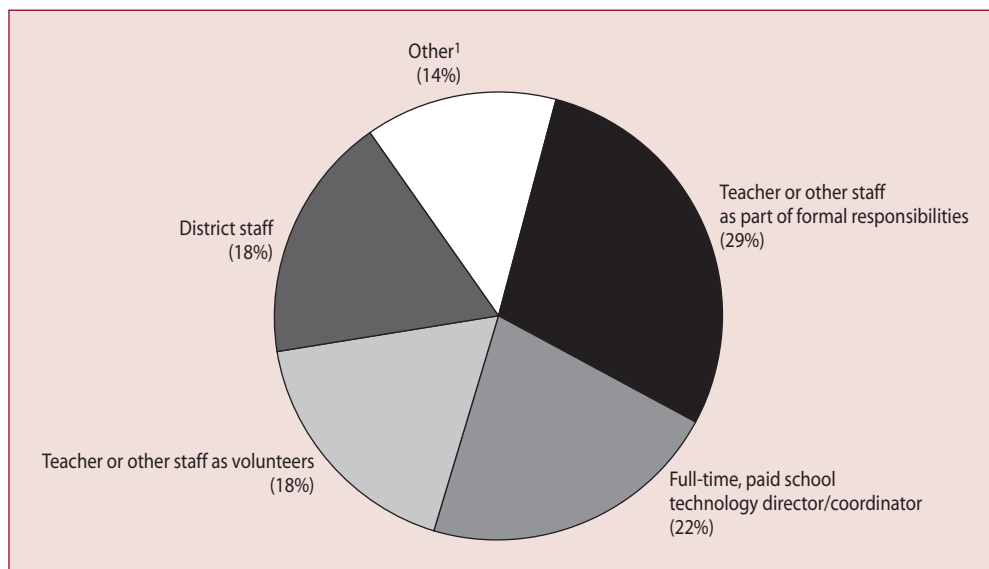
### Technologies and procedures to prevent student access to inappropriate material on the Internet

Given the diversity of the information carried on the Internet, student access to inappropriate material is a major concern of many parents and teachers. Moreover, under the Children's Internet Protection Act (CIPA), no school may receive E-rate<sup>11</sup> discounts unless it certifies

<sup>10</sup>This estimate is derived from the percentage of public schools updating their web site monthly, weekly, or daily.

<sup>11</sup>The Education rate (E-rate) program was established in 1996 to make telecommunications services, Internet access, and internal connections available to schools and libraries at discounted rates based upon the income level of the students in their community and whether their location is urban or rural.

**Figure 4. Percentage distribution of types of staff and students who were primarily responsible for the school's web site or web page support: 2002**



<sup>1</sup>This category includes part-time, paid school technology director/coordinator, students, consultant/outside contractor, and other.

NOTE: Percentages are based on 85 percent of public schools (99 percent with Internet access x 86 percent with a web site or web page). Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Internet Access in U.S. Public Schools, Fall 2002," FRSS 83, 2002.

that it is enforcing a policy of Internet safety that includes the use of filtering or blocking technology.<sup>12</sup>

- In 2002, almost all public schools with Internet access (99 percent) used various technologies or procedures to control student access to inappropriate material on the Internet. Across all school characteristics, between 98 and 100 percent of schools reported using these technologies or procedures. In addition, 99 percent of these schools used at least one of these technologies or procedures on all Internet-connected computers used by students.
- Among schools using technologies or procedures to prevent student access to inappropriate material on the Internet in 2002, 96 percent used blocking or filtering software. Ninety-one percent of schools reported that teachers or other staff members monitored student Internet access, 82 percent had a written contract that parents have to sign, 77 percent had a contract that students have to sign, 52 percent used monitoring software, 41 percent had honor

codes, and 32 percent allowed access only to their intranet.<sup>13</sup> As these numbers suggest, most of the schools (96 percent) used more than one procedure or technology as part of their Internet use policy (not shown in tables).

- Ninety percent of public schools using technologies or procedures to prevent student access to inappropriate material on the Internet in 2002 indicated that they disseminated the information about these technologies or procedures to students and parents via their school policies or rules distributed to students and parents. Sixty-four percent did so with a special notice to parents, 57 percent used their newsletters to disseminate this information, 32 percent posted a message on the school web site or web page, 24 percent had a notice on a bulletin board at the school, 15 percent had a pop-up message at computer or Internet log-on, and 5 percent used a method other than the ones listed above.

<sup>12</sup>More information about CIPA (P.L. 106-554) can be found at the web site of the Schools and Libraries Division, Universal Service Administrative Company (<http://www.sl.universalservice.org/reference/CIPA.asp>). The law is effective for Funding Year 4 (July 1, 2001, to June 30, 2002) and for all future years. Schools and libraries receiving only telecommunications services are excluded from the requirements of CIPA.

<sup>13</sup>An intranet is a controlled computer network similar to the Internet, but accessible only to those who have permission to use it. For example, school administrators can restrict student access to only their school's intranet, which may include information from the Internet chosen by school officials, rather than allow full Internet access.

### Teacher professional development on how to integrate the use of the Internet into the curriculum

Although approximately one-half of public school teachers in 1999 reported that they used computers or the Internet for instruction during class time, and/or that they assigned their students work that involves research using the Internet, one-third of teachers reported feeling well or very well prepared (Smerdon et al. 2000). The survey “Internet Access in U.S. Public Schools, Fall 2002” asked about teacher professional development on how to integrate the use of the Internet into the curriculum.

- Nationwide, 87 percent of public schools with Internet access indicated that their school or school district had offered professional development to teachers in their school on how to integrate the use of the Internet into the curriculum in the 12 months prior to the fall 2002 survey.
- Forty-two percent of the schools that had professional development on how to integrate the use of the Internet into the curriculum had 1 to 25 percent of their teachers attending such professional development in the 12 months preceding the survey. Seventeen percent of the schools had 26 to 50 percent of their teachers, 11 percent of the schools had 51 to 75 percent of their teachers, and 30 percent of the schools had 76 percent or more of their teachers attending such professional development in the 12 months preceding the survey. Another 1 percent reported not having any teachers attending such professional development during this time frame.

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**Data source:** The NCES Fast Response Survey System (FRSS), “Internet Access in U.S. Public Schools, Fall 2002” (FRSS 83).

**For technical information,** see the complete report:

Kleiner, A., and Lewis, L. (2003). *Internet Access in U.S. Public Schools and Classrooms: 1994–2002* (NCES 2004–011).

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# Technology-Based Education

## Participation in Technology-Based Postcompulsory Education

Lisa Hudson and Linda Shafer

*This article was originally published as an Issue Brief. The sample survey data are from the Adult Education and Lifelong Learning Survey of the National Household Education Surveys Program (AELL-NHES).*

Participation in both college programs and adult education activities has increased in recent decades (Kim and Creighton 1999; Kim et al. forthcoming; U.S. Department of Education 2002). The use of technology in education has also been increasing (Kleiner and Farris 2002; Waits and Lewis 2003), raising the possibility that technology could help increase participation in postcompulsory education overall and/or among groups of adults who traditionally have been underrepresented in education at this level. This Issue Brief addresses a more limited issue: Does technology-based education reach all adults equally, or are traditionally underrepresented or overrepresented adults more likely to be the beneficiaries of this type of education? It is important to note that this analysis cannot determine the extent to which participation is affected by learners' choices, their access to offerings, or the availability of offerings.

The data for this analysis come from the 2001 Adult Education and Lifelong Learning Survey of the National Household Education Surveys Program (AELL-NHES:2001) at the National Center for Education Statistics (NCES). This survey asks about adults' participation in the following formal learning activities: English as a Second Language (ESL) classes, adult basic education classes, apprenticeship programs, postsecondary education programs (leading to a credential), postsecondary courses,<sup>1</sup> and other courses. Technology-based learning was defined as learning activities that involve instruction using computers, computer conferencing, or instruction over the Internet or World Wide Web.<sup>2</sup> Participation in full-time postsecondary credential programs (which typically is excluded from NCES analyses of adult education) is included in this analysis. However, participation in adult basic education, ESL, and apprenticeship programs is excluded because the survey did not ask about the use of technology for these

activities. (About 4 percent of all adult education participants were excluded from this analysis because they participated in only these activities.)

To obtain more valid data on participation in ESL classes, the AELL-NHES survey was administered in both Spanish and English. However, this dual language administration makes the Hispanic AELL-NHES sample noncomparable to other racial/ethnic groups, since the Hispanic sample includes non-English (Spanish) speakers while the other (non-Hispanic) racial/ethnic groups consist of only English speakers. In particular, to the extent that non-English speakers utilize technology-based education to a different degree than English speakers, including Spanish speakers but not other non-English speakers would bias the comparisons of Hispanics and other groups. To create comparable racial/ethnic groups, the analysis in this Issue Brief was restricted to the English-speaking sample. Although this restriction means that the Hispanic sample does not represent all Hispanics (as is the case in analyses based on the full AELL-NHES sample), it does create an English-speaking Hispanic sample that is comparable to the English-speaking Asian sample, English-speaking Black sample, etc.<sup>3</sup>

Using these definitions and population (of English speakers), 49 percent of adults participated in postcompulsory learning activities in 2001, and 54 percent of these participants engaged in at least one activity that used technology (table 1). Looking at the types of activities engaged in, 12 percent of adults participated in a postsecondary credential program, 11 percent in a postsecondary course (separate from a credential program), and 38 percent in a course outside of postsecondary education. Technology was used as an instructional tool most often for postsecondary credential programs (used by 65 percent of these participants), followed by postsecondary courses (47 percent of participants) and, finally, other types of courses (43 percent of participants).

<sup>1</sup>Postsecondary education programs were defined as all activities listed in the two credential program sections ("college or university degree program" and "vocational or technical diploma program") of the survey; postsecondary courses were defined as all courses taken for college credit and all courses that had a postsecondary institution as the instructional provider.

<sup>2</sup>The survey questions also asked about instruction using (1) television, video, or radio and (2) other types of technology. Because the focus of this analysis is new technologies, these instructional methods were not counted as technology-based instruction. Also, because the analysis focuses only on formal instruction, the use of technology for self-instruction (included in the "work-related informal learning" section of AELL-NHES:2001) is not part of this analysis.

<sup>3</sup>The following statistics demonstrate the effects of including non-English-speaking Hispanics. In the population of English and Spanish speakers, Hispanics participated in postcompulsory education at a lower rate than (non-Hispanic) Whites (36 and 49 percent, respectively). When the sample is restricted to those who completed the survey in English (i.e., to English speakers), no differences are detected in the participation rates for Whites and Hispanics (49 and 51 percent, respectively). This restriction reduces the size of the Hispanic sample by roughly 40 percent, from 1,234 to 773 (unweighted). Otherwise, this analysis covers the AELL-NHES:2001 population of civilian, non-institutionalized adults age 16 or older who are not in compulsory education.

**Table 1. Percent of adults who participated in a postcompulsory education activity and percent of participants for whom at least one activity used technology, overall and by type of activity, English-speakers only: 2000–01**

Activity	Percent of adults participating in activity	Percent of participants for whom at least one activity used technology
All activities	49.0	53.6
Postsecondary credential program	11.7	64.7
Postsecondary course	10.9	47.1
Other (nonpostsecondary) course	38.0	42.5

NOTE: Detail sums to more than 49.0 in the “Percent of adults participating in activity” column because adults may have participated in more than one type of activity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education and Lifelong Learning Survey of the National Household Education Surveys Program, 2001 (AELL-NHES:2001).

The left-hand column in table 2 shows the percent of adults with various characteristics who participated in post-compulsory learning activities. This analysis is consistent with previous studies that have found that each of the following groups participate in adult education and/or postsecondary education at relatively low rates: males (vs. females) (Jacob 2002), Blacks (vs. Whites) (Jacobson et al. 2001), those from rural areas (vs. urban areas) (Ingels et al. 2002), those in lower status jobs (vs. higher status jobs) (Creighton and Hudson 2002), those with lower levels of education (vs. higher levels of education) (Creighton and Hudson 2002), and those from lower income or socioeconomic levels (vs. higher income or socioeconomic levels) (Creighton and Hudson 2002; Ingels et al. 2002).

To explore in greater depth which groups of adults are more or less likely to participate in technology-based education, one must take into account differences in participation rates in postcompulsory education generally. For example, a finding that females participate in technology-based education at the same rate as males would have different implications if females participated in all activities at a lower rate than males or at a higher rate than males. In effect, the question of interest is whether there are differences in who participates in technology-based versus non-technology-based education activities. To examine this question, one can compare the proportions of participants of each type (e.g., male vs. female) who are in technology-based education. If, for example, a higher proportion of male participants compared to female participants is in technology education, this would suggest that technology-based education is reaching relatively more men than women (accounting for each group’s overall participation level).

The right-hand column in table 2 shows the percent of participants with various characteristics who were in activities that used technology-based instruction. Although females were more likely than males to participate in postcompulsory education, male participants were more likely than female participants to be in technology-based activities. Fifty-seven percent of male participants were in activities that involve technology compared to 51 percent of female participants. This difference in participation in technology-based activities may reflect many influences, including gender differences in occupations or in learning preferences.<sup>4</sup> Also, although Blacks participated in postcompulsory education at a lower rate than Whites, no difference was detected in the likelihood of Black or White participants being in a technology-based activity. (The apparent differences between Whites and their Black and Hispanic counterparts in table 2 are not statistically significant, possibly due to relatively small sample sizes.)<sup>5</sup>

Technology could be used specifically to reach adults in rural areas. However, participants in rural areas were less likely to be in technology-based activities than were participants in suburban or urban areas (table 2). Forty-seven percent of participants in rural areas were enrolled in technology-based education activities compared to about 55 percent of participants in suburban and urban areas.

<sup>4</sup>For example, although females are more likely than males to use computers at work, males use their computers at work in more varied ways than do females (analysis of Current Population Survey, September 2001, unpublished data). Females have also been found to have less positive attitudes toward computers than do males (Mitra, LaFrance, and McCullough 2001; Kadrijevic 2000; Whitley 1997).

<sup>5</sup>Technology does seem to be reaching the “Other” race/ethnicity group (which is 54 percent Asian) more than Whites; 61 percent of “Other” participants were in technology-based activities compared to 53 percent of White participants.

**Table 2. Percent of adults who participated in a postcompulsory education activity and percent of participants who were in a technology-based activity, by various characteristics, English-speakers only: 2000–01**

Characteristic	Percent of adults who participated in postcompulsory activity	Percent of participants in technology-based activity
Total	49.0	53.6
Sex		
Male	45.4	57.4
Female	52.2	50.5
Race/ethnicity		
White, non-Hispanic	49.3	53.2
Black, non-Hispanic	44.2	49.7
Hispanic	51.3	56.6
Other	52.1	61.0
Occupation		
Not working	25.6	38.7
Trades	34.2	46.7
Sales, service, or support	56.8	53.1
Professional	74.5	61.6
Education level		
High school or less	29.5	40.4
Some college/associate's degree	62.8	58.2
Bachelor's degree or higher	69.0	59.1
Household income		
\$20,000 or less	30.1	46.0
\$20,001–\$35,000	40.0	47.0
\$35,001–\$50,000	50.1	51.9
\$50,001–\$75,000	58.4	53.4
\$75,001 and above	61.8	60.8
Locality		
Urban	52.6	55.4
Suburban	44.0	55.6
Rural	42.8	47.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education and Lifelong Learning Survey of the National Household Education Surveys Program, 2001 (AELL-NHES:2001).

Moreover, education and occupation groups that historically have been underrepresented in adult education remain underrepresented among participants who are in technology-based activities.<sup>6</sup> For example, 40 percent of participants who have no more than a high school education were in technology-based activities compared to almost 60 percent of those with some college or with at least a bachelor's degree (table 2). Participants who are not working participated in technology-based activities at a lower rate than all groups of working adults (39 vs. 47 percent or more), and those working in the trades participated at a lower rate than those in other occupation groups (47 vs. 53 and 62 percent). At the same time, education,

occupation, and income groups traditionally overrepresented in postcompulsory education are overrepresented among participants who are in technology-based activities. For example, 62 percent of professional workers who participated in learning were in technology-based activities compared to no more than 53 percent of those in other occupation groups. Participants with household incomes above \$75,000 were more likely than those in all lower income groups to be in technology-based activities; 61 percent of those with household earnings above \$75,000 were in these activities compared to 46 to 53 percent of those in other income categories.

### Conclusion

The relatively widespread use of technology in education comes at a time when postcompulsory education is increasing. Nonetheless, patterns of participation in post-compulsory learning are similar now to what they were

<sup>6</sup>Findings were mixed for participants with the lowest level of income (\$20,000 or less). No significant differences were detected between participants with the lowest level of income and those whose income was at the next two levels (\$20,001–\$35,000 and \$35,001–\$50,000), but participants at the lowest income level participated in technology-based activities at a lower rate than those at the highest two income levels (\$50,001–\$75,000 and \$75,001 or more).

in the past (e.g., college-educated adults were more likely than other adults to participate in 2000–01 and in previous years). Further, with the exception of men and racial/ethnic minorities, groups under- or overrepresented in post-compulsory education tend to be correspondingly represented among those who participate in technology-based education rather than in non-technology-based education. These differences in participation in technology activities can arise from many sources, including differences in access to or availability of learning opportunities, personal interests and motivation, professional requirements, and other labor market incentives and opportunities. A better understanding of why these participation differences exist can help shed light on the potential and the limitations of technology as a tool for both increasing participation in learning and addressing possible inequities in participation.

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**Data source:** The NCES 2001 National Household Education Surveys Program, Adult Education and Lifelong Learning Survey (AELL-NHES:2001).

**For technical information, see**

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# Educational Technology

## Invited Commentary: Children, Schools, Computers, and the Internet: The Impact of Continued Investment in Educational Technology Under NCLB

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*This commentary represents the opinions of the author and does not necessarily reflect the views of the National Center for Education Statistics.*

While public schools have made huge improvements in providing computer and Internet access, a disparity continues in minority and poor students' access to computers and the Internet at home.

The good news is the significant progress that has been made in connecting nearly every school in the nation to the Internet. However, significant differences remain in home computer use by students of disparate socioeconomic backgrounds.

The No Child Left Behind Act of 2001 (NCLB) supports enhancing education through technology and helps to support those students most in need. Approximately \$2.1 billion has been appropriated for educational technology programs in the last 3 years under NCLB, a 50 percent increase from prior programs. Federal investments are being used to help schools access computers and the Internet. NCLB sets before the nation a challenge to ensure that all children will receive a quality education that prepares them for a 21st century America. The bottom line is unprecedented accountability to measure student progress. At the heart of this effort is a commitment to focus on students, equip teachers, empower parents, and inform decisionmakers to ensure every child receives the best possible education.

Two recent reports from the National Center for Education Statistics (NCES) shed light on the progress that our nation has made in the last decade in technology access and highlight the role schools play in achieving parity in computer and Internet access for children and adolescents. *Computer and Internet Use by Children and Adolescents in 2001* examines how children and adolescents from ages 5 through 17 access computers and the Internet, both at home and at school, using data from the 2001 Current Population Survey. *Internet Access in U.S. Public Schools and Classrooms: 1994–2002* explores a series of trends in school use of technology over the past 9 years, using data from the NCES Fast Response Survey System.

Technology by its nature is a “transforming” tool, enabling organizations and individuals to gain significant advantages

in work and life. By 2001, computers and the Internet were used by a majority of the American population. Two-thirds of Americans used computers and over half used the Internet. In conjunction with this trend is the concerted national effort to ensure that all schools have access to computers and the Internet.

The generation of children known as the Millennials (children born between 1982 and 2000) are pioneering users of the Internet and adopt new technologies quickly. Findings in *Computer and Internet Use by Children and Adolescents in 2001* reflect this adaptability. In 2001, about 90 percent of 5- to 17-year-olds used computers and 59 percent used the Internet. And the rate of adoption increased with age. At age 5, about three-quarters of children used computers; at age 9, a majority used the Internet. By the time children reached high school, fully 90 percent used computers and at least 75 percent used the Internet.

### Increased Access to Computers and the Internet at School

Both *Internet Access in U.S. Public Schools* and *Computer and Internet Use* document increased access to computers and the Internet at school for most students, regardless of ethnicity or economic background. *Internet Access in U.S. Public Schools* documents that 99 percent of American schools had access to the Internet in fall 2002. *Computer and Internet Use* indicates that more children and adolescents used computers at school (81 percent) than at home (65 percent) in 2001.

Schools are working to increase access to technology by providing access to computers and the Internet outside of school hours. Fifty-three percent of schools provided access to an average of 49 computers outside school hours in 2002, and of the schools that provided such access, 74 percent did so before school, 96 percent after school, and 6 percent on weekends. In addition, 8 percent of schools, regardless of economic or racial make-up, lent laptops to students, and 7 percent provided handheld computers to students or teachers.



High-minority schools are also making strides toward achieving parity in connecting instructional rooms to the Internet. For example, in schools with the highest minority enrollment (50 percent or more), 89 percent of instructional rooms were connected to the Internet in 2002, while in schools with lower minority enrollments, 91 to 93 percent of instructional rooms had Internet access. Similarly, in schools with the highest poverty concentration (75 percent or more students eligible for free or reduced-price lunch), 89 percent of instructional rooms had Internet access in 2002, while in schools with lower poverty concentrations (less than 35 percent eligible students and 35 to 49 percent eligible students), 93 percent and 90 percent, respectively, of instructional rooms had access. It is important to note the significant strides that have been made over the past decade. In schools with the highest poverty concentration, only 2 percent of instructional rooms were connected to the Internet in 1994 and only 60 percent were connected in 2000.

Gender differences are being mitigated. There is no longer a difference in the overall rates of use of computers or the Internet between boys and girls. *Computer and Internet Use* indicates that the traditional gender divide in technology use has all but disappeared.

### Continuing Disparities in Technology Access and Use

Despite schools across the country achieving near parity in the availability and quality of access, there continue to be significant disparities across different groups of children and adolescents in terms of computer and Internet use. For example, White children and adolescents were more likely to use computers in 2001 than their Black and Hispanic counterparts (93 percent vs. 85 and 79 percent, respectively). Differences in Internet use were wider, with 67 percent of White 5- to 17-year-olds using the Internet compared to 45 percent of Black and 37 percent of Hispanic 5- to 17-year-olds.

Poverty status and disability are related to differences in computer and Internet use. Children and adolescents living in poor families were less likely to use computers (81 percent) and the Internet (37 percent) in 2001 than children and adolescents living in nonpoor families (93 percent and 65 percent, respectively). Children and adolescents with disabilities were less likely than those without disabilities to use computers (80 percent vs. 90 percent) and the Internet (49 percent vs. 59 percent).

Disparities in computer use across groups of children and adolescents vary between home and school settings. For example, there was a relatively large gap in 2001 between the percentage of White 5- to 17-year-olds who used computers at home (77 percent) and Black and Hispanic 5- to 17-year-olds who used computers at home (41 percent for each group). The difference was smaller for the use of computers at school, where 84 percent of White 5- to 17-year-olds used computers compared to 80 percent of Black and 72 percent of Hispanic 5- to 17-year-olds.

Internet use varies similarly between home and school settings. Eighty-three percent of White 5- to 17-year-olds who used the Internet in 2001 did so at home compared to 60 percent of Black and 62 percent of Hispanic 5- to 17-year-olds. When considering who uses the Internet at school, these differences largely disappeared, with 69 percent of White 5- to 17-year-old Internet users accessing the Internet at school compared to 66 percent of their Black and 67 percent of their Hispanic counterparts.

Disparities in home versus school use are important because, while there is increased availability of computers at school and, in many cases, higher bandwidth, the preferred Internet access point for students may be home, rather than school.

### Conclusion

The nation's continued investment in school-based technology has resulted in significant progress toward achieving parity with regard to children's and adolescents' computer and Internet access. Nevertheless, significant disparities remain by racial and economic characteristics and by disability status in technology use patterns among children across the country.

It is important not to underestimate the role that continued investments in educational technology play, especially when the investments are aligned with educational goals. The challenge now is for an education system based on an agricultural calendar and organized after an Industrial Age model to transform itself to provide a 21st century education that prepares students for the Information Age. New circumstances demand not a reinforcing of Industrial Age structures and systems but rather a building anew with new initiatives, tools, and institutions for our time. Our nation needs a revolution in the way we educate students in order to meet the expectations of excellence set forth by NCLB. This is the strategic role of technology. As Secretary of

Education Rod Paige states, “We need to address the limited access to technology that many students have outside of school. There is much more we can do. Closing the digital

divide will also help close the achievement gap that exists within our schools.”\*

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\*See <http://www.ed.gov/news/pressreleases/2003/10/10292003a.html>.

# ELEMENTARY AND SECONDARY EDUCATION

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## NAEP Math Highlights

### The Nation's Report Card: Mathematics Highlights 2003

—James S. Braswell, Mary C. Daane, and Wendy S. Grigg

*This article was excerpted from The Nation's Report Card: Mathematics Highlights 2003, a tabloid-style publication. The sample survey data are from the National Assessment of Educational Progress (NAEP) 1990, 1992, 1996, 2000, and 2003 Mathematics Assessments.*

#### Introduction

Since 1969, the National Assessment of Educational Progress (NAEP) has been an ongoing nationally representative indicator of what American students know and can do in major academic subjects. Over the years, NAEP has measured students' achievement in many subjects, including reading, mathematics, science, writing, U.S. history,

geography, civics, and the arts. In 2003, NAEP conducted a national and state assessment in mathematics at grades 4 and 8. NAEP is a project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education, and is overseen by the National Assessment Governing Board (NAGB).

Beginning in 2002, the NAEP national sample was obtained by aggregating the samples from each state, rather than by obtaining an independently selected national sample. As a consequence, the size of the national sample increased, and smaller differences between years or between types of students were found to be statistically significant than would have been detected in previous assessments. In keeping with past practice, all statistically significant differences are indicated in the current report.

The results presented in this report distinguish between two different reporting samples that reflect a change in administration procedures beginning in 1996. This change involved permitting students with disabilities or limited-English-proficient students to use certain accommodations (e.g., extended time, small group testing). Comparisons between results from 2003 and those from assessment years in which both types of administration procedures were used (1996 and 2000) are discussed based on the results when accommodations were permitted, although significant differences in results when accommodations were not permitted may be noted in the figures and tables.

### Achievement Levels Provide Standards for Student Performance

Achievement levels are performance standards set by NAGB to provide a context for interpreting student performance on NAEP. These performance standards, based on recommendations from broadly representative panels of educators and members of the public, are used to report what students should know and be able to do at the *Basic*, *Proficient*, and *Advanced* levels of performance in each subject area and at each grade assessed.\*

The minimum scale scores for achievement levels are as follows:

	<u>Grade 4</u>	<u>Grade 8</u>
<i>Basic</i>	214	262
<i>Proficient</i>	249	299
<i>Advanced</i>	282	333

\*The NAEP achievement levels are as follows: *Basic* denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade. *Proficient* represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. *Advanced* signifies superior performance. Detailed descriptions of the NAEP mathematics achievement levels can be found on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

As provided by law, NCES, upon review of a congressionally mandated evaluation of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted and used with caution. However, both NCES and NAGB believe that these performance standards are useful for understanding trends in student achievement. NAEP achievement levels have been widely used by national and state officials.

### NAEP 2003 Mathematics Assessment Design

#### Assessment framework

The NAEP mathematics framework, which defines the content for the 1990–2003 assessments, was developed through a comprehensive national consultative process and adopted by NAGB. The mathematics framework calls for the assessment to include questions based on five mathematics content areas: (1) number sense, properties, and operations; (2) measurement; (3) geometry and spatial sense; (4) data analysis, statistics, and probability; and (5) algebra and functions. In addition, the framework specifies that each question measure one of three mathematical abilities. The three mathematical abilities specified by the framework are (1) conceptual understanding, (2) procedural knowledge, and (3) problem solving. The complete framework is available on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

#### Student samples

Results from the 2003 mathematics assessment are reported for the nation and states at grades 4 and 8. The national results are based on a representative sample of students in both public schools and nonpublic schools, while the state results are based only on public school students.

#### Accommodations

It is NAEP's intent to assess all selected students from the target population. Before 1996, no testing accommodations were provided to students with disabilities and limited-English-proficient students who participated in the NAEP mathematics assessments. In 1996 (national only) and 2000 (national and state), NAEP was administered to two reporting samples—"accommodations not permitted" and "accommodations permitted." Beginning in 2003, the NAEP mathematics assessment has adopted the new "accommodations-permitted" procedure as its only administration procedure, and thus again had only one reporting sample as in mathematics assessment years prior to 1996.

Because the representativeness of samples is ultimately a validity issue, NCES has commissioned studies of the impact of assessment accommodations on overall scores. One paper that explores the impact of two possible scenarios on NAEP is available on the NAEP web site (<http://nces.ed.gov/nationsreportcard/pdf/main2002/statmeth.pdf>).

### Fourth- and Eighth-Graders' Average Mathematics Scores Increase

Average scores were higher in 2003 than in all the previous assessment years at both grades 4 and 8 (figure A). (Differences are discussed in the report only if they were found to be statistically significant.)

### How Well Did Students Perform in 2003?

Thirty-two percent of fourth-graders and 29 percent of eighth-graders performed at or above the *Proficient* level in 2003. The percentages of students performing at or above *Basic* in 2003 were 77 percent at grade 4 and 68 percent at grade 8.

### Gain Overall Since 1990 in Achievement-Level Performance

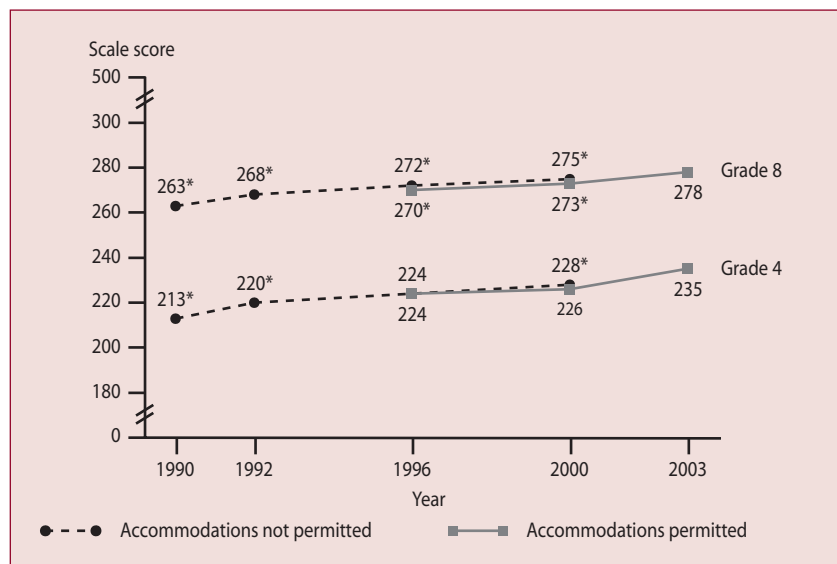
The percentages of fourth- and eighth-graders at or above *Basic*, at or above *Proficient*, and at *Advanced* were all higher in 2003 than in 1990. There were also recent increases from 2000 to 2003 in the percentages of fourth-graders at or above *Basic* and *Proficient* and at *Advanced*, and in the percentages of eighth-graders at or above *Basic* and *Proficient*.

### Improvement Seen Among Lower-, Middle-, and Higher-Performing Students

Looking at changes in scores for students at lower, middle, and higher performance levels gives a more complete picture of student progress. An examination of scores at different percentiles on the 0–500 mathematics scale at each grade indicates whether or not the changes seen in the national average score results are reflected in the performance of lower-, middle-, and higher-performing students.

The percentile indicates the percentage of students whose scores fell below a particular score. For example, 25 percent

**Figure A. Average mathematics scores, grades 4 and 8: 1990–2003**



\*Significantly different from 2003.

NOTE: Average mathematics scores are reported on a 0–500 scale. In addition to allowing for accommodations, the accommodations-permitted results (1996–2003) differ slightly from previous years' results, and from previously reported results for 1996 and 2000, due to changes in sample weighting procedures. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1990, 1992, 1996, 2000, and 2003 Mathematics Assessments. (Originally published as the first figure on p. 1 of the publication from which this article is excerpted.)

of assessed students' scores fell below the 25th percentile score and 75 percent fell below the 75th percentile score.

At both grades 4 and 8, scores at the 10th, 25th, 50th, 75th, and 90th percentiles were higher in 2003 than in any of the previous assessment years.

At grade 4, gains detected between 2000 and 2003 ranged from approximately 5 scale score points for students performing at the 90th percentile to 13 points for students at the 10th percentile. At grade 8, increases since 2000 ranged from approximately 3 scale score points at the 90th percentile to 7 points at the 10th percentile.

### Most Participating States and Jurisdictions Show Gains at Grades 4 and 8

In addition to national results, the 2003 mathematics assessment collected performance data for fourth- and eighth-graders who attended public schools in 50 states and 3 other jurisdictions that participated.

#### State average score results

Among the 43 states and jurisdictions that participated in both the 2000 and 2003 fourth-grade assessments, all showed increases in average scores. Similarly, all 42 of the states and jurisdictions that participated in the 1992 and 2003 assessments showed increases in average scores.

At grade 8, of the 42 states and jurisdictions that participated in both the 2000 and 2003 assessments, 28 had higher average scores in 2003 and none showed a decline. All 38 states and jurisdictions that participated in both 1990 and 2003 had higher average scores in 2003.

#### State versus national comparisons

In 2003, 26 of the 53 states and other jurisdictions that participated at grade 4 had average scores that were higher than the national average, 11 had scores that were not found to differ significantly from the national average, and 16 had scores that were lower than the national average.

Of the 53 states and other jurisdictions that participated at grade 8, 30 had average scores higher than the national average, 7 had average scores that were not found to differ significantly from the national average, and 16 had average scores that were lower than the national average.

#### State achievement-level results

At grade 4, 18 states and other jurisdictions had higher percentages of students at or above *Proficient* than the

nation, 19 had percentages that were not found to be statistically different from the nation, and 16 had percentages that were lower than the nation.

At grade 8, 24 states and other jurisdictions had higher percentages of students at or above *Proficient* than the nation, 12 had percentages that were not found to be significantly different from the nation, and 17 had percentages that were lower than the nation.

#### Percentage of students at or above *Proficient* across years by state

The percentage of fourth-graders at or above *Proficient* was higher in 2003 than in 2000 for all 43 states and jurisdictions that participated in both years. The percentages also increased from 1992 to 2003 for all 42 states and jurisdictions that participated in both those assessment years.

Among the 42 states and jurisdictions that participated in both the 2000 and 2003 eighth-grade assessments, 18 showed an increase in the percentage of students at or above *Proficient* and none showed a decline. The percentage of eighth-graders at or above *Proficient* was higher in 2003 than in 1990 for all 38 states and jurisdictions that participated in both years.

### Subgroup Results Reveal How Various Groups of Students Performed on NAEP

In addition to reporting on overall students' performance on its assessments, NAEP also reports on the performance of various subgroups of students. The mathematics performance of subgroups of students in 2003 indicates whether they have progressed since earlier assessments and allows for comparisons with the performance of other subgroups in 2003.

When reading these subgroup results, it is important to keep in mind that there is no simple, cause-and-effect relationship between membership in a subgroup and achievement in NAEP. A complex mix of educational and socioeconomic factors may interact to affect student performance.

#### Gender

*Average mathematics scores by gender.* At both grades 4 and 8, the average scores for male and female students were higher in 2003 than in any of the previous assessment years. In 2003, male students scored higher on average than female students at both grades.

**Achievement-level results by gender.** At grade 4, the percentages of male and female students at or above *Basic* and *Proficient* were higher in 2003 than in any of the previous assessment years. At grade 8, the percentages of male and female students at or above *Basic* and *Proficient* were also higher in 2003 than in all previous assessment years.

**Race/ethnicity**

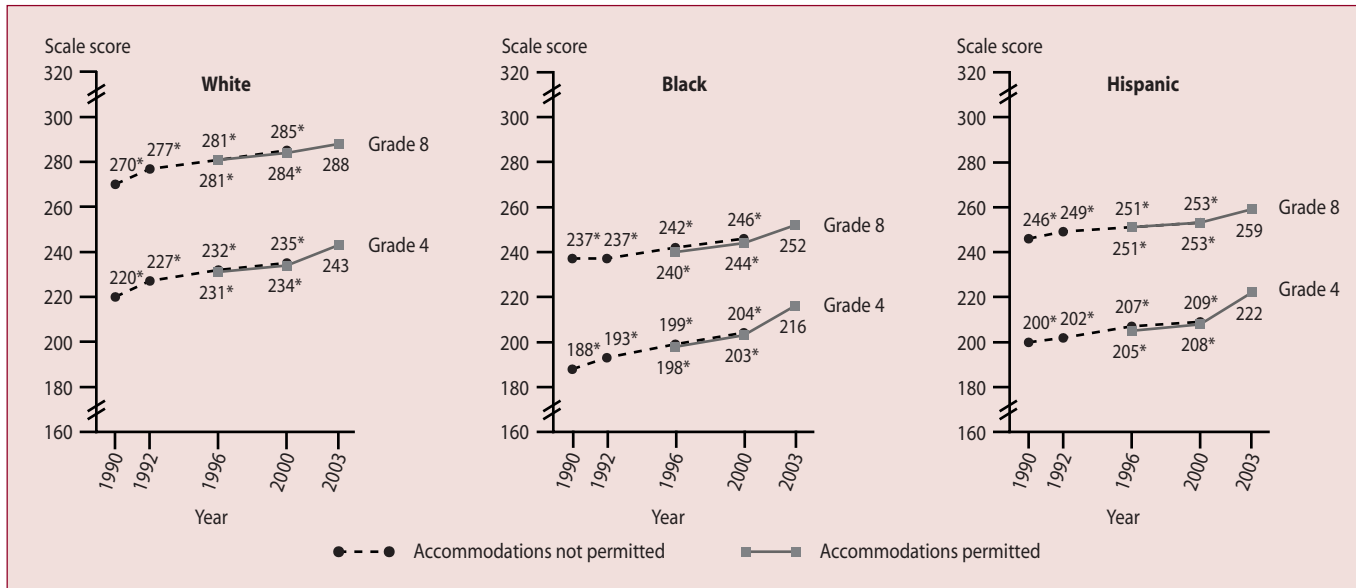
**Average mathematics scores by race/ethnicity.** At grades 4 and 8, White, Black, and Hispanic students all had higher average scores in 2003 than in any of the previous assessment years (figure B). The average score of Asian/Pacific Islander students was higher in 2003 than in 1990 at both grades 4 and 8. There was no significant change detected in the average score for Asian/Pacific Islander students between 2000 and 2003 at grade 8. American Indian/Alaska Native students had higher average scores in 2003 than in 2000 at grade 4, but the apparent increase at grade 8 was not found to be statistically significant.

At both grades 4 and 8, Asian/Pacific Islander students scored higher on average in 2003 than White students. Both White and Asian/Pacific Islander students had higher average scores than Black, Hispanic, and American Indian/Alaska Native students. Hispanic and American Indian/Alaska Native students scored higher on average than Black students at both grades.

**Average mathematics score gaps between selected racial/ethnic subgroups.** At grade 4, the score gap between White and Black students decreased between 2000 and 2003, and was smaller in 2003 than in 1990. The gap between White and Hispanic fourth-graders also narrowed between 2000 and 2003, but the gap in 2003 was not found to be significantly different from that in 1990.

At grade 8, the score gap between White and Black students was narrower in 2003 than in 2000, but the gap in 2003 was not found to differ significantly from 1990. The score gap

**Figure B. Average mathematics scale scores, by selected race/ethnicity, grades 4 and 8: 1990–2003**



\*Significantly different from 2003.

NOTE: In addition to allowing for accommodations, the accommodations-permitted results (1996–2003) differ slightly from previous years' results, and from previously reported results for 1996 and 2000, due to changes in sample weighting procedures. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1990, 1992, 1996, 2000, and 2003 Mathematics Assessments. (Adapted from the first figure on p. 13 of the publication from which this article is excerpted.)

between White and Hispanic eighth-graders in 2003 was not found to differ significantly from the gap in any of the previous assessment years.

**Achievement-level results by race/ethnicity.** At grade 4, the percentages of White, Black, and Hispanic students at or above the *Basic* and *Proficient* levels were higher in 2003 than in any of the previous assessment years. The percentages of Asian/Pacific Islander students at or above *Basic* and *Proficient* were higher in 2003 than in 1990. The percentage of American Indian/Alaska Native students at or above *Basic* was higher in 2003 than in 2000, but the apparent increase in the percentage at or above *Proficient* was not found to be statistically significant.

At grade 8, the percentages of White, Black, and Hispanic students at or above *Basic* and *Proficient* were higher in 2003 than in any of the previous assessment years. The percentages of Asian/Pacific Islander students at or above *Basic* and *Proficient* were higher in 2003 than in 1990.

#### **Eligibility for free/reduced-price school lunch**

**Average mathematics scores by students' eligibility for free/reduced-price school lunch.** NAEP collects data on students' eligibility for free/reduced-price lunch as an indicator of family economic status. Eligibility for free and reduced-price lunches is determined by students' family income in relation to the federally established poverty level. Free lunch qualification is set at 130 percent of the poverty level, and reduced-price lunch qualification is set at between 130 and 185 percent of the poverty level. Information regarding students' eligibility in 2003 was not available for 10 percent of fourth-graders and 11 percent of eighth-graders, either because their schools did not participate in the National School Lunch Program or for other reasons.

At both grades 4 and 8, average mathematics scores in 2003 were higher than the scores in 1996 and 2000 both for students who were eligible and for students who were not eligible for free/reduced-price lunch. The average math-

ematics score for students who were eligible for free/reduced-price lunch was lower than the average score for students who were not eligible at both grades. Results broken down by students' eligibility for free lunch and eligibility for reduced-price lunch are available on the NAEP web site (<http://nces.ed.gov/nationsreportcard/naepdata>).

**Achievement-level results by students' eligibility for free/reduced-price lunch.** At both grades 4 and 8, the percentages of students at or above *Basic* and *Proficient* were higher in 2003 than in 1996 and 2000 for both students who were eligible and students who were not eligible for free/reduced-price lunch.

**Average mathematics score gaps between students who were eligible and those who were not eligible for free/reduced-price lunch.** At grade 4, the average score gap between students who were eligible and students who were not eligible for free/reduced-price lunch decreased from 2000 to 2003, but the gap in 2003 was not found to be significantly different from the gap in 1996. No significant change was detected in the gap in 2003 compared to the gap in any of the previous assessment years at grade 8.

**Data source:** The NAEP 1990, 1992, 1996, 2000, and 2003 Mathematics Assessments.

**For technical information,** see the NAEP web site (<http://nces.ed.gov/nationsreportcard>) or see the complete 2003 Mathematics Report Card:

Braswell, J.S., Dion, G.S., Daane, M.C., and Jin, Y. (forthcoming). *The NAEP 2003 Mathematics Report Card* (NCES 2004-460).

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**To obtain the Highlights publication from which this article is excerpted (NCES 2004-451),** call the ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

**The complete 2003 Mathematics Report Card (NCES 2004-460)** will be available through the ED Pubs number (877-433-7827) and at the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).



## The Nation's Report Card: Trial Urban District Assessment, Mathematics Highlights 2003

Anthony D. Lutkus and Arlene W. Weiner

*This article was excerpted from The Nation's Report Card: Trial Urban District Assessment, Mathematics Highlights 2003, a tabloid-style publication. The sample survey data are from the National Assessment of Educational Progress (NAEP) 2003 Trial Urban District Mathematics Assessment.*

### Introduction

Since 1969, the National Assessment of Educational Progress (NAEP) has been an ongoing nationally representative indicator of what American students know and can do in major academic subjects. Over the years, NAEP has measured students' achievement in many subjects, including reading, mathematics, science, writing, U.S. history, geography, civics, and the arts. In 2003, NAEP conducted national and state assessments in reading and mathematics at grades 4 and 8. NAEP is a project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences (IES) of the U.S. Department of Education, and is overseen by the National Assessment Governing Board (NAGB).

In 2001, after discussion among NCES, NAGB, and the Council of the Great City Schools, Congress appropriated funds for a district-level assessment on a trial basis, similar to the trial for state assessments that began in 1990, and NAGB passed a resolution approving the selection of urban districts for participation in the Trial Urban District Assessment (TUDA), a special project within NAEP.

Representatives of the Council of the Great City Schools worked with the staff of NAGB to identify districts for the trial assessment. Districts were selected that permitted testing of the feasibility of conducting NAEP over a range of characteristics, such as district size, minority concentrations, federal program participation, socioeconomic conditions, and percentages of students with disabilities (SD) and limited-English-proficient (LEP) students.

By undertaking the TUDA, NAEP continues a tradition of extending its service to education, while preserving the rigorous sampling, scoring, and reporting procedures that have characterized prior NAEP assessments at both the national and state levels.

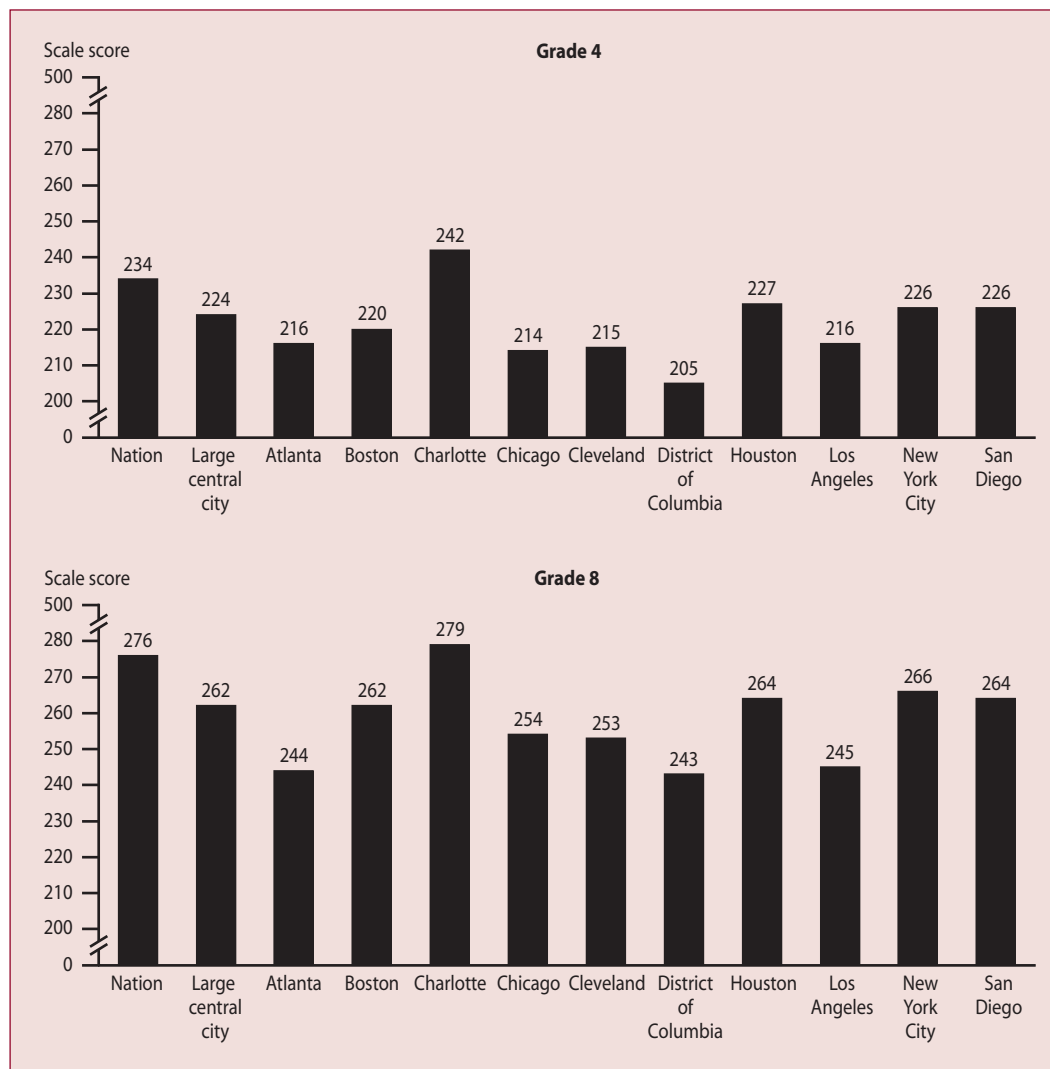
In 2002, five urban school districts participated in NAEP's first TUDA in reading and writing. In 2003, nine urban districts (including the original five) participated in the TUDA in reading and mathematics at grades 4 and 8: Atlanta City, Boston School District, Charlotte-Mecklenburg Schools, City of Chicago School District 299, Cleveland

Municipal School District, Houston Independent School District, Los Angeles Unified, New York City Public Schools, and San Diego City Unified. Only public school students were sampled in the TUDA. Results for the District of Columbia public schools, which normally participate in NAEP's state assessments, are also reported (figure A).

Average mathematics scores are reported on a 0–500 scale. Figure A shows the average scores at both grades for the districts that participated in 2003. The average scores for public school students in the nation and for public school students attending schools located in large central cities are also shown for comparison. "Urban districts" refers to the 10 districts reported in this trial study. Eight of the 10 urban districts consist entirely of schools in cities with a population of 250,000 or more (i.e., large central cities as defined by NCES); two of them (Charlotte and Los Angeles) consist primarily of schools in large central cities, but also have from one-quarter to one-third of their fourth- and eighth-grade students enrolled in surrounding urban fringe or rural areas. All of the data for both districts were used to compare with data from large central cities and the nation.

At grade 4, the average score in Charlotte was higher than the average scores for the nation, large central cities, and the other participating districts. All participating districts at grade 4 except Charlotte had lower average scores than the average score for the nation. Compared with the average score in large central cities, the average scores in three districts (Houston, New York City, and San Diego) were not found to be significantly different, and the average scores in the remaining six districts were lower.

At grade 8, the average score in Charlotte was again higher than the average scores for the nation, large central cities, and the other participating districts, while the average scores for all other districts were lower than that for the nation. Students in New York City also scored higher, on average, than students in large central city public schools, while the average scores for students in Boston, Houston, and San Diego were not found to be significantly different from that in large central cities. The average scores in the remaining five districts were lower than the average score in large central cities.

**Figure A. Average NAEP mathematics scores, grade 4 and grade 8 public schools: By urban district, 2003**

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2003 Trial Urban District Mathematics Assessment. (Originally published as the figure on p. 1 of the publication from which this article is excerpted.)

### Achievement Levels Provide Standards for Student Performance

Achievement levels are performance standards set by NAGB to provide a context for interpreting student performance on NAEP. These performance standards, based on recommendations from broadly representative panels of educators and members of the public, are used to report what students should know and be able to do at the *Basic*, *Proficient*, and *Advanced* levels of performance in each subject area and at each grade assessed.<sup>1</sup>

<sup>1</sup>The NAEP achievement levels are as follows. *Basic* denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade. *Proficient* represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. *Advanced* signifies superior performance. Detailed descriptions of the NAEP mathematics achievement levels can be found on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

The minimum scale scores for achievement levels are as follows:

	Grade 4	Grade 8
<i>Basic</i>	214	262
<i>Proficient</i>	249	299
<i>Advanced</i>	282	333

As provided by law, NCES, upon review of a congressionally mandated evaluation of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted and used with caution. However, both NCES and NAGB believe that these performance standards are useful for understanding trends in student achievement. NAEP achievement levels have been widely used by national and state officials.

## NAEP 2003 Mathematics Assessment Design

### Assessment framework

The NAEP mathematics framework, which defines the content for the 2003 assessment, was developed through a comprehensive national consultative process and approved by NAGB. The mathematics framework calls for the assessment to include questions based on five mathematics content areas: (1) number sense, properties, and operations; (2) measurement; (3) geometry and spatial sense; (4) data analysis, statistics, and probability; and (5) algebra and functions.

In addition, the framework specifies that each question should measure one of three mathematical abilities. The three mathematical abilities specified by the framework are (1) conceptual understanding, (2) procedural knowledge, and (3) problem solving. The complete framework is available on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

### Student samples

Results from the 2003 TUDA are reported for the participating districts for public school students at grades 4 and 8. The TUDA employed larger-than-usual samples within the districts, making reliable district-level data possible. The samples were also large enough to provide reliable estimates on subgroups within the districts, such as female students or Hispanic students.

### Accommodations

It is NAEP's intent to assess all selected students from the target population. Beginning in 2002, SD and LEP students who require accommodations have been permitted to use them in NAEP, unless a particular accommodation would alter the skills and knowledge being tested. For example, students may not use calculators for questions not intended for calculator use. Because the representativeness of samples is ultimately a validity issue, NCES has commissioned studies of the impact of assessment accommodations on overall scores. One paper that explores the impact of two possible scenarios on NAEP is available on the web site (<http://nces.ed.gov/nationsreportcard/pdf/main2002/statmeth.pdf>).

### Achievement-Level Results for Urban Districts

At grade 4, the percentages of students in Charlotte performing at or above *Basic*, at or above *Proficient*, and at *Advanced* were higher than the corresponding percentages in both large central cities and the nation. The percentages

of fourth-graders at or above *Basic* in Houston and New York City were higher than the percentage in large central cities.

At grade 8, the percentages of students in Charlotte at or above *Proficient* and at *Advanced* were higher than the corresponding percentages in both large central cities and the nation. The percentage of eighth-graders at or above *Basic* in Boston, Houston, New York City, and San Diego was not found to be different from the percentage in large central cities.<sup>2</sup>

### Percentile Results for 2003

Examining the performance of students at different locations (high, middle, and low) on the full student score distribution gives a more complete picture than examining the average score alone. The percentile indicates the percentage of students whose scores fell below a particular score. For example, to score above the 25th percentile nationally, a fourth-grade public school student would have had to score at least 215, compared to a fourth-grade public school student in a large central city who would have had to score at least 204.

At both grades 4 and 8, the scores for all of the districts except Charlotte were lower than those of public schools in the nation at the 25th, 50th, and 75th percentiles. At grade 4, the score at the 75th percentile for students in large central cities was lower than the score for Charlotte; not found to differ significantly from the scores for Houston, New York City, and San Diego; and higher than the scores in the remaining districts.

At grade 8, the score at the 75th percentile for students in large central cities was lower than that for Charlotte; not found to differ significantly from the scores for Boston, New York City, and San Diego; and higher than the scores in the remaining districts.

### How Various Groups of Students Performed in Mathematics

In addition to reporting the overall performance of assessed students, NAEP also reports on the performance of various subgroups of students. The performance of subgroups of students on the 2003 TUDA in mathematics can be compared

<sup>2</sup>For Charlotte and Los Angeles, statistical comparisons restricted to just the schools in large central cities, as distinct from the whole-district comparisons used here, are available from the online Data Tool on the NAEP web site (<http://nces.ed.gov/nationsreportcard/naepdata>). The results of significance tests in this report for these two districts may differ slightly from those found by type of location in the online Data Tool.

with that of their counterparts in large central city public schools and the nation. In addition, this assessment serves as a baseline for future comparisons of students' performance in mathematics.

When reading these subgroup results, it is important to keep in mind that there is no simple, cause-and-effect relationship between membership in a subgroup and achievement in NAEP. A complex mix of educational and socioeconomic factors may interact to affect student performance.

### Gender

**Average mathematics scores by gender.** Male students scored higher, on average, than female students nationally in both grades 4 and 8. At grade 4, the average scores for both male and female students in Charlotte were higher than those of their counterparts in the nation and in large central cities. The average scores for male fourth-graders in Houston, New York City, and San Diego, and the average scores for female students in New York City and San Diego were not found to differ significantly from the corresponding average scores in large central cities. Male and female fourth-graders in Atlanta, Boston, Chicago, Cleveland, the District of Columbia, and Los Angeles had lower average scores than their counterparts in large central cities and in the nation.

At grade 8, the average scores for both male and female students in Charlotte were higher than the corresponding average score for large central cities. The average scores for both male and female eighth-graders in Boston, Houston, New York City, and San Diego were not found to differ significantly from the corresponding average scores in large central cities. Both male and female eighth-graders in Atlanta, Chicago, Cleveland, the District of Columbia, and Los Angeles had lower average scores than their counterparts in large central cities and in the nation.

**Average score gaps between male and female students in mathematics.** In 2003, male public school students in the nation scored higher, on average, than female students by 3 points at grade 4 and by 2 points at grade 8. At grade 4, the score gap between male and female students in the District of Columbia was the reverse of the gap in the nation and large central cities (i.e., female students outscored males). The score gap between male and female students for Los Angeles was wider than that in the nation. At grade 8, there was also a reversal of the score difference for male and female students in Atlanta, Boston, and the District of Columbia (i.e., female students outscored male students).

**Achievement-level results by gender.** The percentages of male and female students performing below *Basic*, at or above *Basic*, at or above *Proficient*, and at *Advanced* are presented below. At grade 4, the percentages of male and female students performing at or above *Proficient* in public schools nationally were higher than the percentages for all districts except Charlotte, where the percentages at or above *Proficient* were higher than those for the nation. When compared with male and female students in large central city public schools, higher percentages of both male and female fourth-grade students in Charlotte performed at or above *Proficient*. The percentages of fourth-grade male and female students performing at or above *Proficient* in Houston, New York City, and San Diego were not found to differ significantly from the corresponding percentages at or above *Proficient* in large central cities.

At grade 8, greater percentages of male students in Charlotte performed at or above *Proficient* than in public schools nationally and in large central cities. Greater percentages of female eighth-grade students in Charlotte and New York City performed at or above *Proficient* than those in large central city public schools. The percentages of eighth-grade male and female students in Boston and San Diego and eighth-grade male students in New York City were not found to differ significantly from the percentage at or above *Proficient* in large central cities. Lower percentages of male and female students in the other TUDA districts performed at or above *Proficient* than the percentages of their counterparts in large central city public schools.

### Race/ethnicity

**Average mathematics scores by race/ethnicity.** In each of the urban districts participating in the 2003 TUDA in mathematics, Black students and/or Hispanic students constituted the majority or the largest racial/ethnic subgroup in both grades 4 and 8. This distribution differs from that for the 2003 national assessment, in which White students constituted a majority—58 percent of the fourth-grade sample and 62 percent of the eighth-grade sample (table A). Statistically significant differences between the average scores of racial/ethnic subgroups in the districts and their counterparts in the nation and in large central cities are marked with asterisks in the table.

At grade 4, the average scale scores for White students in Charlotte, the District of Columbia, and Houston; Black students in Boston, Charlotte, Houston, and New York City; and Hispanic students in Charlotte and Houston were higher than the corresponding scores in large central cities

**Table A. Average mathematics scale score results, by selected race/ethnicity, grades 4 and 8 public schools: By urban district, 2003**

	Grade 4		Grade 8	
	Percentage of students	Average scale score	Percentage of students	Average scale score
<b>White</b>				
Nation (public)	58	243	62	287
Large central city (public)	22	243	24	285
Atlanta	10	258	5	298 *
Boston	12	234 **,***	16	289
Charlotte	41	257 **,***	42	301 **,***
Chicago	11	235 **,***	10	276 **
Cleveland	16	233 **,***	15	269 **,***
District of Columbia	4	262 **,***	3	‡
Houston	7	254 **,***	8	293 **,***
Los Angeles	11	241	10	277
New York City	15	244	16	289
San Diego	23	243	27	284
<b>Black</b>				
Nation (public)	17	216	17	252
Large central city (public)	34	212 **	35	247 **
Atlanta	87	211 **	93	241 **,***
Boston	46	216 *	46	251
Charlotte	46	229 **,***	46	258 **,***
Chicago	52	207 **,***	51	245 **
Cleveland	76	210 **	72	249
District of Columbia	87	202 **,***	87	240 **,***
Houston	35	221 **,***	33	259 **,***
Los Angeles	10	208 **	12	234 **,***
New York City	35	219 *	36	253 *
San Diego	17	216	16	252
<b>Hispanic</b>				
Nation (public)	19	221	15	258
Large central city (public)	35	220 **	32	257
Atlanta	2	‡	1	‡
Boston	33	215 **,***	28	252 **
Charlotte	7	233 **,***	6	262
Chicago	34	217 **	36	259
Cleveland	6	220	11	249 **
District of Columbia	8	205 **,***	9	246 **,***
Houston	56	226 **,***	55	261 *
Los Angeles	73	211 **,***	71	240 **,***
New York City	37	220	34	260
San Diego	42	216 **,***	38	248 **,***

# The estimate rounds to zero.

‡ Reporting standards not met. Sample size is insufficient to permit a reliable estimate.

\* Significantly different from large central city public schools.

\*\* Significantly different from nation (public schools).

NOTE: Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2003 Trial Urban District Mathematics Assessment. (Adapted from the table on p. 7 of the publication from which this article is excerpted.)

(table A). The average scores for fourth-grade White students in Boston, Chicago, and Cleveland; Black students in Chicago and the District of Columbia; and Hispanic students in Boston, the District of Columbia, Los Angeles, and San Diego were lower than the corresponding scores in large central cities.

At grade 8, the average scale scores for White students in Atlanta, Charlotte, and Houston; Black students in Charlotte, Houston, and New York City; and Hispanic students in Houston were higher than the corresponding scores in large central cities (table A). The average scores for eighth-grade White students in Cleveland; Black students in Atlanta, the District of Columbia, and Los Angeles; and Hispanic students in the District of Columbia, Los Angeles, and San Diego were lower than the corresponding scores in large central cities.

**Average mathematics score gaps between selected racial/ethnic subgroups.** At grade 4, the gaps between White students and Black students in Boston and New York City were narrower than that in large central cities; the gaps in Atlanta and the District of Columbia were wider than the gap between White students and Black students in large central cities. The gap between White students and Hispanic students was wider in the District of Columbia than the gap in large central cities.

At grade 8, the gap between White students and Black students in Cleveland was narrower than the gap in large central cities, and the gaps in Atlanta and Charlotte were wider than the gap between White students and Black students in large central cities. The gaps between White students and Hispanic students for eighth-graders were wider in Boston and San Diego than in large central cities and wider in Charlotte than in the nation. In Chicago, the gap between White students and Hispanic students was narrower than that in large central cities and the nation.

**Achievement-level results by race/ethnicity.** At grade 4, the percentages of students at or above the *Proficient* level were higher for White students in Atlanta, Charlotte, the District of Columbia, and Houston; Black students in Charlotte and New York City; and Hispanic students in Charlotte than the corresponding percentage in large central cities. The percentages of fourth-grade students at or above *Proficient* for White students in Boston, Chicago, and Cleveland; Black students in Chicago, Cleveland, and the District of Columbia; and Hispanic students in Boston, the District of

Columbia, Los Angeles, and San Diego were lower than the corresponding percentage in large central cities.

At grade 8, the percentages of students at or above the *Proficient* level were higher for White students in Atlanta, Boston, Charlotte, and Houston and for Black students in Charlotte and New York City than that of their counterparts in large central cities. The percentages of eighth-grade students at or above the *Proficient* level for White students in Cleveland; Black students in Atlanta, the District of Columbia, and Los Angeles; and Hispanic students in Boston, the District of Columbia, Los Angeles, and San Diego were lower than the corresponding percentage in large central cities.

### **Eligibility for free/reduced-price lunch**

**Mathematics performance by students' eligibility for free/reduced-price lunch.** NAEP collects data on students' eligibility for free/reduced-price lunch as an indicator of economic status. In 2003, approximately 7 percent of fourth-graders and 6 percent of eighth-graders nationally attended schools that did not participate in the National School Lunch Program. Note that Cleveland chose to define all of its students as eligible for free or reduced-price lunch. Information regarding students' eligibility in 2003 was not available for 4 percent of fourth-graders and 6 percent of eighth-graders nationally. For information on the National School Lunch Program, see <http://www.fns.usda.gov/cnd/lunch/default.htm>.

At grade 4, the average scores for students eligible for free/reduced-price lunch in Charlotte, Houston, and New York City were higher than the average score for large central cities nationally. The average scores for eligible fourth-graders in Boston, Cleveland, and San Diego were not found to differ significantly from the average score for large central cities; the average scores for eligible students in Atlanta, Chicago, the District of Columbia, and Los Angeles were lower than the average score for eligible students in large central cities.

At grade 8, the average scores for students who were eligible for free/reduced-price lunch in Boston, Houston, and New York City were higher than the average score for large central cities. In Charlotte, Chicago, Cleveland, and San Diego, the average scores for eligible eighth-graders were not found to differ from that in large central cities. The average scores for eligible students in Atlanta, the District of

Columbia, and Los Angeles were lower than the average score in large central cities.

*Average mathematics score gaps between students who were eligible and those who were not eligible for free/reduced-price lunch.* In 2003, public school students in the nation who were not eligible for free/reduced-price lunch scored higher, on average, than eligible students by 23 points at grade 4 and by 28 points at grade 8. At grade 4, the gaps in Boston and Houston were narrower than the nation's. At grade 8, the District of Columbia, Houston, and Los Angeles had narrower score gaps than large central cities and the nation, while Charlotte had a wider gap in the average score than the gap found in large central cities and in the nation.

### **Mathematics performance by student-reported highest level of parents' education, grade 8**

Eighth-grade students who participated in the NAEP 2003 mathematics assessments, including those in the TUDA, were asked to indicate, from among five options, the highest level of education completed by each parent. The question was not posed to fourth-graders.

The average score for students who indicated that a parent graduated from college was lower in Atlanta, Chicago, Cleveland, the District of Columbia, and Los Angeles than the average score for students in the same parental education category in public schools in large central cities. The average score for students who reported that a parent graduated from college was higher in Charlotte and San Diego than for comparable students in large central cities as a whole. Students in Boston, Houston, and New York City who reported that a parent graduated from college had an average score that was not found to differ statistically from that of their counterparts in large central cities.

### **Testing Status of Special-Needs Students Selected in NAEP Samples**

NAEP endeavors to assess all students selected in the randomized sampling process, including SD students and students who are classified by their schools as LEP students. Some students who are sampled for participation, however, can be excluded from the sample according to carefully defined criteria. School personnel, guided by the student's Individualized Education Program (IEP), as well as by eligibility for Section 504 services, make decisions regarding inclusion in the assessment of SD students. Based on NAEP's guidelines, they also make the decision regarding inclusion of LEP students. The process includes evaluating the student's capability to participate in the assessment in English, as well as taking into consideration the number of years the student has been receiving instruction in English. The percentage of students excluded from NAEP may vary considerably across states or districts. Comparisons of achievement results across districts should be interpreted with caution if the exclusion rates vary widely.

**Data source:** The NAEP 2003 Trial Urban District Mathematics Assessment.

**For technical information,** see the NAEP web site (<http://nces.ed.gov/nationsreportcard>) or see the complete 2003 Mathematics Report Card:

Braswell, J.S., Dion, G.S., Daane, M.C., and Jin, Y. (forthcoming). *The NAEP 2003 Mathematics Report Card* (NCES 2004-460).

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**The complete 2003 Mathematics Report Card (NCES 2004-460)** will be available through the ED Pubs number (877-433-7827) and at the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# NAEP Reading Highlights

## The Nation's Report Card: Reading Highlights 2003

Patricia L. Donahue, Mary C. Daane, and Wendy S. Grigg

*This article was excerpted from The Nation's Report Card: Reading Highlights 2003, a tabloid-style publication. The sample survey data are from the National Assessment of Educational Progress (NAEP) 1992, 1994, 1998, 2000, 2002, and 2003 Reading Assessments.*

### Introduction

Since 1969, the National Assessment of Educational Progress (NAEP) has been an ongoing nationally representative indicator of what American students know and can do in major academic subjects. Over the years, NAEP has measured students' achievement in many subjects, including reading, mathematics, science, writing, U.S. history, geography, civics, and the arts. In 2003, NAEP conducted a national and state assessment in reading at grades 4 and 8. NAEP is a project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education, and is overseen by the National Assessment Governing Board (NAGB).

Beginning in 2002, the NAEP national sample was obtained by aggregating the samples from each state, rather than by obtaining an independently selected national sample. As a consequence, the size of the national sample increased, and smaller differences between years or between types of students were found to be statistically significant than would have been detected in previous assessments. In keeping with past practice, all statistically significant differences are indicated in the current report.

The results presented in this report distinguish between two different reporting samples that reflect a change in administration procedures. The more recent results are based on administration procedures in which testing accommodations (e.g., extended time, small group testing) were permitted for students with disabilities (SD) and limited-English-proficient (LEP) students. Accommodations were not permitted in 1992 or 1994. Comparisons between results from 2003 and those from assessment years in which both types of administration procedures were used (in 1998 and 2000 at grade 4 and in 1998 at grade 8) are discussed based on the results when accommodations were permitted, even though significant differences in results when accommodations were not permitted may be noted in the figures and tables.

### Achievement Levels Provide Standards for Student Performance

Achievement levels are performance standards set by NAGB to provide a context for interpreting student performance

on NAEP. These performance standards, based on recommendations from broadly representative panels of educators and members of the public, are used to report what students should know and be able to do at the *Basic*, *Proficient*, and *Advanced* levels of performance in each subject area and at each grade assessed.\*

The minimum scale scores for achievement levels are as follows:

	<u>Grade 4</u>	<u>Grade 8</u>
<i>Basic</i>	208	243
<i>Proficient</i>	238	281
<i>Advanced</i>	268	323

As provided by law, NCES, upon review of a congressionally mandated evaluation of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted and used with caution. However, both NCES and NAGB believe that these performance standards are useful for understanding trends in student achievement. NAEP achievement levels have been widely used by national and state officials.

### NAEP 2003 Reading Assessment Design

#### Assessment framework

The NAEP reading framework, which defines the content for the 1992–2003 assessments, was developed through a comprehensive national consultative process and adopted by NAGB. The reading framework is organized along two dimensions, the *context* for reading and the *aspect* of reading. The context dimension is divided into three areas that characterize the purposes for reading: reading for literary experience, reading for information, and reading to perform a task. All three contexts are assessed at grade 8, but reading to perform a task is not assessed at grade 4. The aspects of reading, which define the types of comprehension questions used in the assessments, include forming a

\*The NAEP achievement levels are as follows: *Basic* denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade. *Proficient* represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. *Advanced* signifies superior performance. Detailed descriptions of the NAEP reading achievement levels can be found on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).



general understanding, developing interpretation, making reader/text connections, and examining content and structure. The complete framework is available on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

### Student samples

Results from the 2003 reading assessment are reported for the nation and states at grades 4 and 8. The national results are based on a representative sample of students in both public schools and nonpublic schools, while the state results are based only on public school students.

### Accommodations

It is NAEP's intent to assess all selected students from the target population. Before 1998, no testing accommodations were provided to SD and LEP students who participated in the NAEP reading assessments. In 1998 and 2000 (at fourth grade only), NAEP was administered to two reporting samples—"accommodations not permitted" and "accommodations permitted." Beginning in 2002, the NAEP reading assessment adopted the new "accommodations permitted" procedure as its only administration procedure, and thus had only one reporting sample as in reading assessment years prior to 1998.

Because the representativeness of samples is ultimately a validity issue, NCES has commissioned studies of the impact of assessment accommodations on overall scores. One paper that explores the impact of two possible scenarios on NAEP is available on the NAEP web site (<http://nces.ed.gov/nationsreportcard/pdf/main2002/statmeth.pdf>).

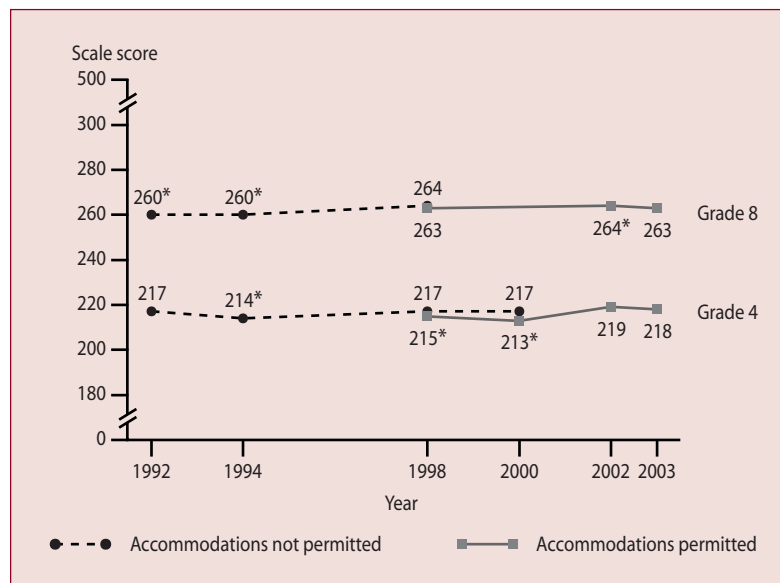
### Average Fourth- and Eighth-Grade Reading Scores Show Little Change

No significant change was detected between 2002 and 2003 in the average score for fourth-graders (figure A). The average fourth-grade score in 2003 was not found to differ significantly from that in 1992. The average reading score for eighth-graders decreased by 1 point between 2002 and 2003; however, the score in 2003 was higher than that in 1992. (Differences are discussed in this report only if they were found to be statistically significant.)

### How Well Did Students Perform in 2003?

Thirty-one percent of fourth-graders and 32 percent of eighth-graders performed at or above the *Proficient* level in 2003. The percentage of students performing at or above

**Figure A. Average reading scores, grades 4 and 8: 1992–2003**



\*Significantly different from 2003.

NOTE: Average reading scores are reported on a 0–500 scale. Data were not collected at grade 8 in 2000. In addition to allowing for accommodations, the accommodations-permitted results at grade 4 (1998–2003) differ slightly from previous years' results, and from previously reported results for 1998 and 2000, due to changes in sample weighting procedures. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1994, 1998, 2000, 2002, and 2003 Reading Assessments. (Originally published as the first figure on p. 1 of the publication from which this article is excerpted.)

the *Basic* level in 2003 was 63 percent at grade 4 and 74 percent at grade 8.

### Higher Percentages of Fourth- and Eighth-Graders Performed at or Above *Proficient* in 2003 Compared to 1992

The percentages of students performing at or above the *Proficient* level were higher in 2003 than in 1992 at both grades 4 and 8. No significant change was detected in the percentage of fourth-graders at or above *Basic* from 2002 to 2003, and the percentage of fourth-graders at or above *Basic* in 2003 was not found to differ significantly from that in 1992. The percentage of eighth-graders at or above *Basic* decreased by 1 point between 2002 and 2003, but was higher in 2003 than in 1992.

### Trends in Percentiles Differ by Grade Level

Looking at changes in scores for students at lower, middle, and higher performance levels gives a more complete picture of student progress. An examination of scores at different percentiles on the 0–500 reading scale at each grade indicates whether or not the changes seen in the national average score results are reflected in the performance of lower-, middle-, and higher-performing students.

The percentile indicates the percentage of students whose scores fell below a particular score. For example, 25 percent of assessed students' scores fell below the 25th percentile score and 75 percent fell below the 75th percentile score.

There was a 1-point increase in the fourth-grade reading score at the 90th percentile between 2002 and 2003, and the score in 2003 was not found to be significantly different from that in 1992. The score at the 75th percentile for fourth-graders showed no significant change since 2002, but was higher in 2003 than in 1992.

There were decreases in eighth-grade scores at the 10th and 25th percentiles from 2002 to 2003. Scores at the 10th, 25th, 50th, and 75th percentiles were higher in 2003 than in 1992.

### How States Performed in Reading

In addition to national results, the 2003 reading assessment collected performance data for fourth- and eighth-graders who attended public schools in states and other jurisdictions that participated. In 2003, all 50 states and 3 other jurisdictions participated at grades 4 and 8.

### State average score results

Among the 46 states and jurisdictions that participated in both the 2002 and 2003 fourth-grade assessments, 1 showed an increase in the average reading score and 1 showed a decrease. Of the 42 states and jurisdictions that participated in both the 1992 and 2003 fourth-grade assessments, 13 showed increases and 5 showed declines in average scores.

At grade 8, of 44 states and jurisdictions that participated in both 2002 and 2003, 1 showed a gain and 6 showed declines in average scores. Of the 39 states and jurisdictions that participated in both 1998 (when accommodations were permitted) and 2003, 8 showed increases and 7 showed declines in average scores.

### State versus national comparisons

In 2003, 28 of the 53 states and other jurisdictions that participated at grade 4 had average scores that were higher than the national average, 11 had scores that were not found to differ significantly from the national average, and 14 had average scores that were lower than the average score for the nation.

Of the 53 states and other jurisdictions that participated in 2003 at grade 8, 31 had average scores that were higher than the national average, 6 had average scores that were not found to differ significantly from the national average, and 16 had average scores that were lower than the national average score.

### State achievement-level results

At grade 4, 24 states and other jurisdictions had higher percentages of students at or above *Proficient* than the nation, 16 had percentages that were not found to be statistically different from the nation, and 13 had percentages that were lower than the nation.

At grade 8, 25 states and other jurisdictions had higher percentages of students at or above *Proficient* than the nation, 11 had percentages that were not found to be significantly different from the nation, and 17 had percentages that were lower than the nation.

### Percentage of students at or above *Proficient* across years by state

Of the 46 states and other jurisdictions that participated in both the 2002 and 2003 fourth-grade reading assessments, 1 showed an increase and 1 showed a decrease in the percentage of students at or above *Proficient*. The percentage of

fourth-graders at or above *Proficient* increased in 17 of the 42 states and jurisdictions that participated in both the 1992 and 2003 assessments, and none showed a decline since 1992.

Of the 44 states and jurisdictions that participated in the 2002 and 2003 eighth-grade reading assessments, 1 showed an increase and 2 showed declines in the percentage of students at or above *Proficient*. Between 1998 (when accommodations were permitted) and 2003, the percentage of eighth-graders performing at or above *Proficient* increased in 5 of the 39 states and jurisdictions that participated in both years, and 1 showed a decline.

### How Various Groups of Students Performed in Reading

In addition to reporting on overall students' performance on its assessments, NAEP also reports on the performance of various subgroups of students. The reading performance of

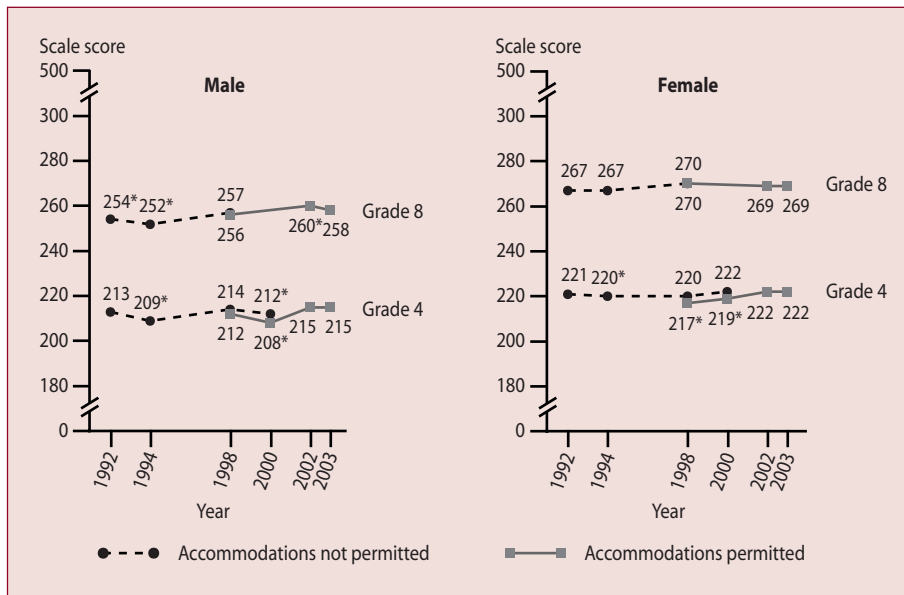
subgroups of students in 2003 indicates whether they have progressed since earlier assessments and allows for comparisons with the performance of other subgroups in 2003.

When reading these subgroup results, it is important to keep in mind that there is no simple, cause-and-effect relationship between membership in a subgroup and achievement in NAEP. A complex mix of educational and socioeconomic factors may interact to affect student performance.

#### Gender

**Average reading scores by gender.** No statistically significant changes were detected in average scores of male or female fourth-graders between 2002 and 2003, or between 1992 and 2003. The average reading score for male eighth-graders declined 2 points between 2002 and 2003; the average score in 2003 was higher than in 1992 (figure B). The average score for female eighth-graders in 2003 was not

**Figure B. Average reading scale scores, by gender, grades 4 and 8: 1992–2003**



\*Significantly different from 2003.

NOTE: Data were not collected at grade 8 in 2000. In addition to allowing for accommodations, the accommodations-permitted results at grade 4 (1998–2003) differ slightly from previous years' results, and from previously reported results for 1998 and 2000, due to changes in sample weighting procedures. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1994, 1998, 2000, 2002, and 2003 Reading Assessments. (Originally published as the first figure on p. 11 of the publication from which this article is excerpted.)

found to differ significantly from the scores in any of the previous assessment years. Female students scored higher on average than male students at both grades 4 and 8.

**Average reading score gaps between males and females.** In 2003, female students scored higher on average than male students by 7 points at grade 4 and by 11 points at grade 8. No statistically significant change was detected in the gender gaps between 2002 and 2003, and the fourth- and eighth-grade gaps observed in 2003 were not found to be significantly different from those in 1992.

**Achievement-level results by gender.** At grade 4, no significant change was detected from 2002 to 2003 in the percentages of male or female students performing at or above the *Basic* and *Proficient* levels, and the percentages in 2003 were not found to differ significantly from those in 1992 for either subgroup.

At grade 8, the percentage of male students at or above *Proficient* was higher in 2003 than in 1992. There was no significant difference detected in the percentage of female eighth-graders at or above *Proficient* in 2003 in comparison to any of the previous assessments. The percentages of both male and female students at or above *Basic* declined from 2002 to 2003, but both percentages were higher in 2003 than in 1992.

### Race/ethnicity

**Average reading scores by race/ethnicity.** There were no significant changes detected since 2002 in the average scores for any of the racial/ethnic groups at either grade 4 or grade 8. The average scores for White, Black, and Asian/Pacific Islander fourth-graders were higher in 2003 than in 1992. The average scores for White, Black, and Hispanic eighth-graders were also higher in 2003 than in 1992 (figure C). The apparent decrease in the average score for American Indian/Alaska Native students in 2003 was not found to be statistically significant at either grade 4 or grade 8.

In 2003, White students and Asian/Pacific Islander students outperformed Black, Hispanic, and American Indian/Alaska Native students on average at both grades 4 and 8. At grade 4, White students also scored higher on average than Asian/Pacific Islander students, and Hispanic students scored higher on average than Black students. There were no significant differences detected at grade 8 between the average scores for White and Asian/Pacific Islander students or between the average scores for Hispanic and Black students.

**Average reading score gaps between selected racial/ethnic subgroups.** At both grades 4 and 8, the average score gaps between White and Black students and between White and Hispanic students in 2003 were not found to differ significantly from those in 2002 or 1992.

**Achievement-level results by race/ethnicity.** At both grades 4 and 8, there were no significant changes detected in the percentages of students at or above the *Basic* and *Proficient* levels within any of the racial/ethnic subgroups since 2002. At grade 4, the percentages of White, Black, and Asian/Pacific Islander students at or above *Proficient* were higher in 2003 than in 1992. Also, the percentages of White and Black students at or above *Basic* were higher in 2003 compared to 1992. No significant changes were detected in the percentages of Hispanic students at or above *Basic* or *Proficient* in 2003 compared to 1992. At grade 8, the percentages of White students and Black students at or above the *Basic* and *Proficient* levels were higher in 2003 than in 1992. A higher percentage of Hispanic students scored at or above *Basic* in 2003 than in 1992.

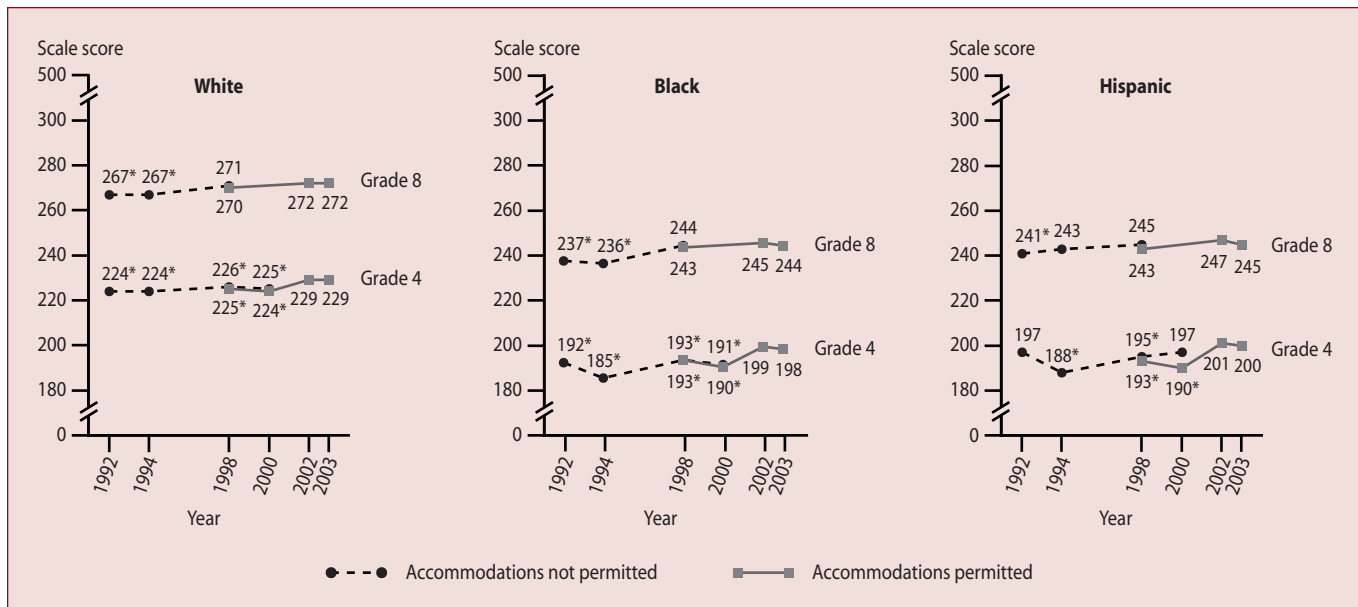
### Eligibility for free/reduced-price school lunch

**Average reading scores by students' eligibility for free/reduced-price school lunch.** NAEP collects data on students' eligibility for free/reduced-price lunch as an indicator of family economic status. Eligibility for free and reduced-price lunches is determined by students' family income in relation to the federally established poverty level. Free lunch qualification is set at 130 percent of the poverty level, and reduced-price lunch qualification is set between 130 and 185 percent of the poverty level. Information regarding students' eligibility in 2003 was not available for 10 percent of fourth-graders and 11 percent of eighth-graders, either because their school did not participate in the National School Lunch Program or for other reasons.

At grade 4, average scores were higher in 2003 than in 1998 for students who were eligible for free/reduced-price lunch and for students who were not eligible, but showed no significant change between 2002 and 2003.

At grade 8, the average score for students who were eligible for free/reduced-price lunch showed a decrease between 2002 and 2003. Average scores in 2003 were not found to differ significantly from those in 1998 for students who were eligible for free/reduced-price lunch or for students who were not eligible.

**Figure C. Average reading scale scores, by selected race/ethnicity, grades 4 and 8: 1992–2003**



\*Significantly different from 2003.

NOTE: Data were not collected at grade 8 in 2000. In addition to allowing for accommodations, the accommodations-permitted results at grade 4 (1998–2003) differ slightly from previous years' results, and from previously reported results for 1998 and 2000, due to changes in sample weighting procedures. Significance tests were performed using unrounded numbers.

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Results broken down by students' eligibility for free lunch and eligibility for reduced-price lunch are available on the NAEP web site (<http://nces.ed.gov/nationsreportcard/naepdata>). The average reading scores for fourth- and eighth-graders who were eligible for free lunch were lower than the scores for students who were eligible for reduced-price lunch, and both were lower than the scores for students who were not eligible.

**Achievement-level results by students' eligibility for free/reduced-price lunch.** The percentages of fourth-graders at or above *Basic* were higher in 2003 than 1998 for students who were eligible and for students who were not eligible for free/reduced-price lunch. For those students who were eligible, the percentage at or above *Proficient* was higher in 2003 than in 1998.

At grade 8, the percentage of students at or above *Basic* decreased between 2002 and 2003 for students who were eligible, but the percentage at or above *Basic* in 2003 was not found to differ significantly from that in 1998.

**Average reading score gaps between students who were eligible and those who were not eligible for free/reduced-price lunch.** At grade 4, the average score gap between students who were eligible and students who were not eligible for free/reduced-price lunch in 2003 was not found to be significantly different from the gap in either 1998 or 2002. At grade 8, the gap in 2003 was larger than in 2002 but was not found to be significantly different from 1998.

**Data source:** The NAEP 1992, 1994, 1998, 2000, 2002, and 2003 Reading Assessments.

**For technical information,** see the NAEP web site (<http://nces.ed.gov/nationsreportcard>) or see the complete 2003 Reading Report Card:

Donahue, P.L., Daane, M.C., and Jin, Y. (forthcoming). *The NAEP 2003 Reading Report Card* (NCES 2004–461).

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**To obtain the Highlights publication from which this article is excerpted (NCES 2004–452),** call the ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

**The complete 2003 Reading Report Card (NCES 2004–461)** will be available through the ED Pubs number (877–433–7827) and at the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# NAEP TUDA Reading

## The Nation's Report Card: Trial Urban District Assessment, Reading Highlights 2003

— Anthony D. Lutkus and Arlene W. Weiner

*This article was excerpted from The Nation's Report Card: Trial Urban District Assessment, Reading Highlights 2003, a tabloid-style publication. The sample survey data are from the National Assessment of Educational Progress (NAEP) 2002 and 2003 Trial Urban District Reading Assessments.*

### Introduction

Since 1969, the National Assessment of Educational Progress (NAEP) has been an ongoing nationally representative indicator of what American students know and can do in major academic subjects. Over the years, NAEP has measured students' achievement in many subjects, including reading, mathematics, science, writing, U.S. history, geography, civics, and the arts. In 2003, NAEP conducted a national and state assessment in reading at grades 4 and 8. NAEP is a project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences (IES) of the U.S. Department of Education, and is overseen by the National Assessment Governing Board (NAGB).

In 2001, after discussion among NCES, NAGB, and the Council of the Great City Schools, Congress appropriated funds for a district-level assessment on a trial basis, similar to the trial for state assessments that began in 1990, and NAGB passed a resolution approving the selection of urban districts for participation in the Trial Urban District Assessment (TUDA), a special project within NAEP.

Representatives of the Council of the Great City Schools worked with the staff of NAGB to identify districts for the trial assessment. Districts were selected that permitted testing of the feasibility of conducting NAEP over a range of characteristics, such as district size, minority concentrations, federal program participation, socioeconomic conditions, and percentages of students with disabilities (SD) and limited-English-proficient (LEP) students.

By undertaking the TUDA, NAEP continues a tradition of extending its service to education, while preserving the rigorous sampling, scoring, and reporting procedures that have characterized prior NAEP assessments at both the national and state levels.

In 2002, five urban school districts participated in NAEP's first TUDA in reading and writing. In 2003, nine urban districts (including the original five) participated in the TUDA in reading and mathematics at grades 4 and 8: Atlanta City, Boston School District, Charlotte-Mecklenburg Schools, City of Chicago School District 299, Cleveland

Municipal School District, Houston Independent School District, Los Angeles Unified, New York City Public Schools, and San Diego City Unified. Only public school students were sampled in the TUDA. Results for the District of Columbia public schools, which normally participate in NAEP's state assessments, are also reported.

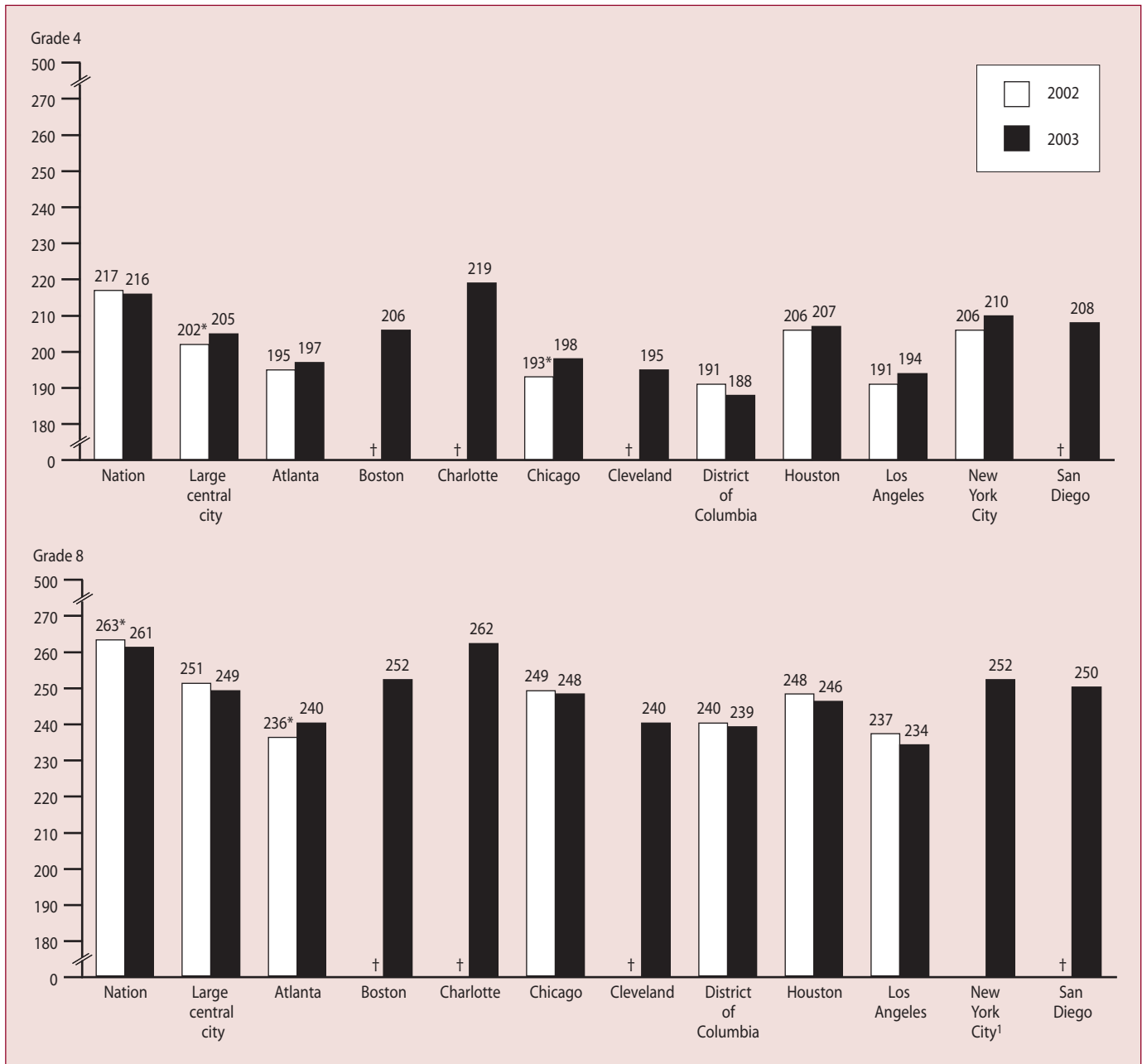
Average reading scores are reported on a 0–500 scale. Figure A shows the average scores at both grades for the participating districts. The average scores for public school students in the nation and for public school students attending schools located in large central cities are also shown for comparison. "Urban districts" refers to the 10 districts reported in this trial study. Eight of the 10 urban districts consist entirely of schools in cities with a population of 250,000 or more (i.e., large central cities as defined by NCES); two of them (Charlotte and Los Angeles) consist primarily of schools in large central cities, but also have from one-quarter to one-third of their fourth- and eighth-grade students enrolled in surrounding urban fringe or rural areas. All of the data for both districts were used to compare with data from large central cities and the nation.

Average reading scores for fourth-graders in Chicago and for eighth-graders in Atlanta increased between the 2002 and 2003 assessments. Among public school students in the nation, the average reading score at grade 4 did not change significantly from 2002 to 2003, and at grade 8 the average score decreased. In public schools in large central cities, the average score at grade 4 increased from 2002 to 2003. At both grades 4 and 8, the average score for each participating district was lower than the nation, except in Charlotte, where the average scores at grades 4 and 8 were not found to differ significantly from those of the nation.

### Achievement Levels Provide Standards for Student Performance

Achievement levels are performance standards set by NAGB to provide a context for interpreting student performance on NAEP. These performance standards, based on recommendations from broadly representative panels of educators and members of the public, are used to report what students should know and be able to do at the *Basic*, *Proficient*, and

**Figure A. Average NAEP reading scores, grade 4 and grade 8: By urban district, 2002 and 2003**



\*Significantly different from 2003.

† Not applicable. Did not participate in 2002.

<sup>1</sup>Data for grade 8 for New York City were not published in 2002 because the district did not meet the required 70 percent school participation rate.

NOTE: NAEP sample sizes increased since 2002 compared to previous years, resulting in smaller detectable differences than in previous assessments. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2002 and 2003 Trial Urban District Reading Assessments. (Originally published as the figure on p.1 of the publication from which this article is excerpted.)

*Advanced* levels of performance in each subject area and at each grade assessed.<sup>1</sup>

The minimum scale scores for achievement levels are as follows:

	Grade 4	Grade 8
<i>Basic</i>	208	243
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As provided by law, NCES, upon review of a congressionally mandated evaluation of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted and used with caution. However, both NCES and NAGB believe that these performance standards are useful for understanding trends in student achievement. NAEP achievement levels have been widely used by national and state officials.

## NAEP 2003 Reading Assessment Design

### Assessment framework

The NAEP reading framework, which defines the content for the 2003 assessment, was developed through a comprehensive national consultative process and adopted by NAGB. The reading framework is organized along two dimensions, the *context for reading* and the *aspect of reading*. The context for reading dimension is divided into three areas that characterize the purposes for reading: reading for literary experience, reading for information, and reading to perform a task. Reading to perform a task is not assessed at grade 4, but all three contexts are assessed at grade 8. The aspects of reading, which define the types of comprehension questions used in the assessments, include forming a general understanding, developing an interpretation, making reader/text connections, and examining content and structure. Each student read one or two passages and responded to approximately 13–20 questions in 50 minutes. The complete framework is available on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

### Student samples

Results from the 2002 and 2003 TUDA are reported for the participating districts for public school students at grades 4

and 8. The TUDA employed larger-than-usual samples within the districts, making reliable district-level data possible. The samples were also large enough to provide reliable estimates on subgroups within the districts, such as female students or Hispanic students. Data for grade 8 in New York City were not published for 2002 because the district did not meet the required 70 percent school participation rate.

### Accommodations

It is NAEP's intent to assess all selected students from the target population. Beginning in 2002, SD students and LEP students who require accommodations have been permitted to use them in NAEP, unless a particular accommodation would alter the skills and knowledge being tested. For example, in a reading assessment, NAEP does not permit the reading passages to be read aloud. Because the representativeness of samples is ultimately a validity issue, NCES has commissioned studies of the impact of assessment accommodations on overall scores. One paper that explores the impact of two possible scenarios on NAEP is available on the NAEP web site (<http://nces.ed.gov/nationsreportcard/pdf/main2002/statmeth.pdf>).

### Achievement-Level Results for Urban Districts

Among the districts that participated in both 2002 and 2003, the percentages of students at or above *Proficient* were found to be significantly higher in 2003 for students in Chicago at grade 4, and for students in Atlanta at grade 8. In all other participating districts, the percentages at or above *Proficient* were not found to differ from 2002 to 2003. The percentages at or above *Proficient* for public school students nationally were not found to differ significantly in 2002 from the corresponding percentages in 2003 at either grade 4 or grade 8. At grade 4, the percentage of students at or above *Proficient* in large central city public schools was higher in 2003 than in 2002. At grades 4 and 8, the percentage of students at or above *Proficient* in all urban districts was lower than that for the nation, except for Charlotte where the percentage of students at or above *Proficient* was not significantly different from that of the nation.<sup>2</sup>

### Percentile Results From 2002 to 2003

Looking at changes in scores (for districts with 2 years of participation) for students at higher, middle, and lower

<sup>1</sup>The NAEP achievement levels are as follows. *Basic* denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade. *Proficient* represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. *Advanced* signifies superior performance. Detailed descriptions of the NAEP reading achievement levels can be found on the NAGB web site (<http://www.nagb.org/pubs/pubs.html>).

<sup>2</sup>For Charlotte and Los Angeles, statistical comparisons restricted to just the schools in large central cities, as distinct from the whole-district comparisons used here, are available from the online Data Tool on the NAEP web site (<http://nces.ed.gov/nationsreportcard/naepdata>). The results of significance tests in this report for these two districts may differ slightly from those found by type of location in the online Data Tool.



performance levels gives a more complete picture of student progress. An examination of scores at different percentiles on the 0–500 reading scale at each grade indicates whether changes in average score results are reflected in the performance of lower-, middle-, and higher-performing students. Comparing scores at percentiles also shows differences in performance across levels within 1 year. The percentile indicates the percentage of students whose scores fell below a particular score. For example, in 2003, a fourth-grade public school student would have had to score at least 193 to score above the 25th percentile in the nation, but would have had to score only 179 or better to score above the 25th percentile compared with students in large central cities.

At grade 4, the national and large central city public school scores at the 25th, 50th, and 75th percentiles were not found to differ significantly from 2002 to 2003; the scores for the 50th and 75th percentiles for students in Chicago were higher in 2003 than in 2002. The score for students in the District of Columbia at the 25th percentile was lower in 2003 than in 2002. At grade 8, scores for public school students in the nation were lower at the 25th and the 50th percentiles in 2003 than in 2002; the score for students in Houston at the 75th percentile was also lower in 2003 than in 2002. Scores at the 25th, 50th, and 75th percentiles for students in large central cities were not found to differ significantly between 2002 and 2003 at grade 8.

### How Various Groups of Students Performed in Reading

In addition to reporting the overall performance of assessed students, NAEP also reports on the performance of various subgroups of students. Five of the nine districts, as well as the District of Columbia, were assessed both in 2002 and 2003, so that comparisons over time will indicate whether the subgroup has progressed. Additionally, subgroups can be compared to each other within an assessment year.

When reading these subgroup results, it is important to keep in mind that there is no simple, cause-and-effect relationship between membership in a subgroup and achievement in NAEP. A complex mix of educational and socioeconomic factors may interact to affect student performance.

#### Gender

*Average reading scores by gender.* Table A presents the percentages of assessed male and female students and average reading scores in the 2 assessment years, where applicable. In 2003, at grade 4, female students scored

higher, on average, than male students in every district (except Atlanta and Houston), in the nation, and in large central cities. Where data were available in both assessment years, there were no significant differences detected in any district for male students or female students between their respective average score in 2002 and their average score in 2003.

At grade 8, while the average score for male students in public schools in the nation declined, the average scores for both male and female students in each of the districts and in large central cities in 2003 were not found to differ significantly from those in 2002 (table A). Female eighth-graders scored higher, on average, than male eighth-graders in the 10 urban districts, in large central cities, and in the nation.

*Average reading score gaps between female and male students.* At grade 4, the score gaps between female and male students in Charlotte and the District of Columbia were wider than the gaps in the nation and large central cities. At grade 8, the score gap was wider in the District of Columbia than in public schools in large central cities and narrower in Chicago than in the nation. In 2003, female public school students in the nation scored higher, on average, than male students by 8 points at grade 4 and by 11 points at grade 8.

*Achievement-level results by gender.* In 2003 at grade 4, Charlotte had a higher percentage of female students performing at or above *Proficient* than the nation, but no statistically significant difference was found between the percentage of male students at or above *Proficient* in Charlotte and those at or above *Proficient* in the nation. Compared to the nation, 9 of the 10 urban districts had lower percentages of both female and male fourth-grade students who performed at or above *Proficient*. Compared to public schools in large central cities, Charlotte had higher percentages of both male and female fourth-grade students who performed at or above *Proficient*. In New York City, the percentage of female fourth-grade students performing at or above *Proficient* was also higher than that recorded in large central cities.

At grade 8, greater percentages of both male and female students in Charlotte performed at or above *Proficient* than their peers in public schools in large central cities. The percentages of eighth-grade male students at or above *Proficient* in Boston, Chicago, New York City, and San Diego and of female eighth-graders in Boston and San Diego were

Table A. Average reading scale score results, by gender, grades 4 and 8 public schools: By urban district, 2002 and 2003

	Grade 4				Grade 8				
	Percentage of students		Average scale score		Percentage of students		Average scale score		
	2002	2003	2002	2003	2002	2003	2002	2003	
<b>Male</b>									
Nation (public)	51	51	214	213	Nation (public)	50	50	258 ***	256
Large central city (public)	50	50	199	201 **	Large central city (public)	50	50	245	244 **
Atlanta	47	50	191	193 **	Atlanta	49	47	231	234 ***
Boston	—	53	—	201 **	Boston	—	47	—	246 **
Charlotte	—	50	—	211 *	Charlotte	—	50	—	257 *
Chicago	50	49	189	194 **	Chicago	50	46	245	245 **
Cleveland	—	50	—	191 **	Cleveland	—	48	—	235 **
District of Columbia	49	49	185	182 **	District of Columbia	47	48	235	231 ***
Houston	51	49	204	205 **	Houston	51	49	243	241 ***
Los Angeles	51	51	188	189 **	Los Angeles	53	52	233	229 ***
New York City	50	50	199	204 **	New York City	—	47	—	246 **
San Diego	—	51	—	205 **	San Diego	—	48	—	244 **
<b>Female</b>									
Nation (public)	49	49	220	220	Nation (public)	50	50	267	267
Large central city (public)	50	50	206	209 **	Large central city (public)	50	50	256	254 **
Atlanta	53	50	200	200 ***	Atlanta	51	53	240	245 ***
Boston	—	47	—	211 **	Boston	—	53	—	258 **
Charlotte	—	50	—	227 ***	Charlotte	—	50	—	267 *
Chicago	50	51	198	201 ***	Chicago	50	54	254	251 **
Cleveland	—	50	—	200 ***	Cleveland	—	52	—	246 ***
District of Columbia	51	51	196	195 ***	District of Columbia	53	52	245	245 ***
Houston	49	51	208	208 **	Houston	49	51	253	251 **
Los Angeles	49	49	194	198 ***	Los Angeles	47	48	241	240 ***
New York City	50	50	213	216 ***	New York City	—	53	—	257 **
San Diego	—	49	—	211 **	San Diego	—	52	—	256 **

— Not available.

\* Significantly different from large central city public schools.

\*\* Significantly different from nation (public schools).

\*\*\* Significantly different from 2003.

NOTE: NAEP sample sizes increased since 2002 compared to previous years, resulting in smaller detectable differences than in previous assessments. Detail may not sum to totals because of rounding. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2002 and 2003 Trial Urban District Reading Assessments. (Originally published as the first table on p. 5 of the publication from which this article is excerpted.)

not found to differ significantly from the percentages of their counterparts at or above *Proficient* in large central cities.

At both grades 4 and 8, the percentages of male and female students performing at or above *Proficient* were not found to differ statistically in 2003 from the percentages in 2002 in the nation, in large central cities, or in any of the districts that participated in both assessments.

### Race/ethnicity

*Average reading scores by race/ethnicity.* In each of the urban districts participating in the 2003 TUDA, Black

students and/or Hispanic students constituted the majority or the largest racial/ethnic subgroup in both grades 4 and 8. This distribution differed from that for the 2003 national assessment, in which White students constituted a majority—59 percent of the fourth-grade sample and 61 percent of the eighth-grade sample (table B).

At grade 4, Black students in Chicago scored higher on average in 2003 than in 2002, and Black students in the District of Columbia scored lower in 2003 than their counterparts in 2002 (table B). No significant difference was found between the national or large central city overall scores in 2003 and those for 2002 for any racial/ethnic subgroup.

**Table B. Average reading scale score results, by selected race/ethnicity, grades 4 and 8 public schools: By urban district, 2002 and 2003**

	Grade 4				Grade 8				
	Percentage of students		Average scale score		Percentage of students		Average scale score		
	2002	2003	2002	2003	2002	2003	2002	2003	
<b>White</b>									
Nation (public)	60	59	227	227	Nation (public)	64	61	271	270
Large central city (public)	22	23	224	226	Large central city (public)	26	23	270	268 **
Atlanta	6	10	250	250 **,*	Atlanta	5	5	275	‡
Boston	—	11	—	225	Boston	—	16	—	273
Charlotte	—	42	—	237 **,*	Charlotte	—	46	—	278 **,*
Chicago	10	10	221	224	Chicago	11	10	266	265
Cleveland	—	16	—	208 **,*	Cleveland	—	16	—	250 **,*
District of Columbia	3	5	248	254 **,*	District of Columbia	3	3	‡	‡
Houston	10	10	233	235 **,*	Houston	8	8	279	270
Los Angeles	9	10	223	217 **,*	Los Angeles	10	10	264	266
New York City	15	14	226	231	New York City	—	13	—	270
San Diego	—	22	—	231	San Diego	—	24	—	269
<b>Black</b>									
Nation (public)	18	17	198	197	Nation (public)	15	17	244	244
Large central city (public)	38	35	192	193 **	Large central city (public)	33	36	241	241 **
Atlanta	90	87	192	191 **	Atlanta	92	91	233 ***	237 **,*
Boston	—	49	—	202 *	Boston	—	47	—	245 *
Charlotte	—	45	—	205 **,*	Charlotte	—	43	—	247 **,*
Chicago	48	53	185 ***	193 **	Chicago	50	52	245	243
Cleveland	—	73	—	191 **	Cleveland	—	78	—	238 **
District of Columbia	88	85	188 ***	184 **,*	District of Columbia	88	88	238	236 **,*
Houston	37	40	200	201 **,*	Houston	31	34	247	244
Los Angeles	12	12	186	187 **	Los Angeles	14	13	236	233 **,*
New York City	36	37	197	201 *	New York City	—	38	—	245 *
San Diego	—	18	—	196	San Diego	—	16	—	236 **
<b>Hispanic</b>									
Nation (public)	17	18	199	199	Nation (public)	15	15	245	244
Large central city (public)	34	33	197	198	Large central city (public)	31	31	243	241
Atlanta	3	2	‡	‡	Atlanta	2	2	‡	‡
Boston	—	30	—	201	Boston	—	25	—	245
Charlotte	—	8	—	202	Charlotte	—	6	—	244
Chicago	37	35	193	196	Chicago	35	34	248	249 **,*
Cleveland	—	7	—	201	Cleveland	—	5	—	‡
District of Columbia	7	9	193	187 **,*	District of Columbia	7	8	240	240
Houston	50	47	203	203 *	Houston	58	56	243	242
Los Angeles	72	72	185	189 **,*	Los Angeles	67	69	230	228 **,*
New York City	40	37	201	205 **,*	New York City	—	33	—	247
San Diego	—	43	—	195 **	San Diego	—	37	—	238 **

— Not available.

‡ Reporting standards not met. Sample size is insufficient to permit a reliable estimate.

\* Significantly different from large central city public schools.

\*\* Significantly different from nation (public schools).

\*\*\* Significantly different from 2003.

NOTE: NAEP sample sizes increased since 2002 compared to previous years, resulting in smaller detectable differences than in previous assessments. Significance tests were performed using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2002 and 2003 Trial Urban District Reading Assessments. (Adapted from the table on p. 7 of the publication from which this article is excerpted.)

At grade 8, there was also no average score difference detected between 2002 and 2003 for any subgroup in the nation, in large central cities, or in the participating urban districts, except that Black eighth-graders in Atlanta scored higher on average in 2003 than in 2002 (table B). Statistically significant differences between racial/ethnic subgroups in the districts and their counterparts in the nation and in large central cities within the 2003 assessments are marked with asterisks in table B, as are statistically significant differences between 2002 and 2003.

**Average reading score gaps between selected racial/ethnic subgroups.** At grade 4, the gaps between the average scores of White and Black students in Cleveland and Boston were narrower than the corresponding gap in large central cities. The gap between average scores of White and Hispanic students in Cleveland was also narrower than that in large central cities. The gaps between the average scores for White and Black students in Atlanta and the District of Columbia were wider than the corresponding gaps in large central cities and the nation. Similarly, the District of Columbia and San Diego had wider gaps between White students' and Hispanic students' average scores than the gap found in the nation.

At grade 8, there was a narrower gap in Cleveland between White and Black students' scores and a narrower gap in Chicago between White and Hispanic students' scores than the corresponding gaps in large central cities and the nation. Los Angeles had a wider gap between White students' and Hispanic students' average scores than the corresponding gaps found in large central cities and the nation.

**Achievement-level results by race/ethnicity.** At grade 4, no significant differences were detected between 2002 and 2003 in the percentages of subgroups of students at or above *Proficient* in public schools in the nation, in large central cities, or in any of the participating urban districts. At grade 8, there were also no significant differences detected between 2002 and 2003 in the percentages of subgroups of students performing at or above *Proficient*, except that Black eighth-grade students in Atlanta had a higher percentage at or above *Proficient* in 2003 than did their counterparts in 2002.

### Eligibility for free/reduced-price lunch

**Reading performance by students' eligibility for free/reduced-price lunch.** NAEP collects data on students' eligibility for free/reduced-price lunch as an indicator of economic status. In 2003, approximately 7 percent of fourth-graders and 6 percent of eighth-graders nationally attended schools that did not participate in the National School Lunch Program. Information regarding students' eligibility in 2003 was not available for 2 percent or less of fourth- and eighth-graders. For information on the National School Lunch Program, see <http://www.fns.usda.gov/cnd/lunch/default.htm>.

At grade 4, no statistically significant differences from 2002 to 2003 were detected between the average scores or the percentages of students at or above *Proficient* in the nation or large central cities for students who were eligible for free/reduced-price lunch or for those who were not eligible. Among the participating urban districts, there were also no significant differences for these measures in 2002 and 2003, except in New York City where students who were not eligible for free/reduced-price lunch had a higher average scale score in 2003 than in 2002.

At grade 8, students in public schools in the nation who were eligible for free/reduced-price lunch scored lower, on average, in 2003 than did their counterparts in 2002. For the participating districts, there were no significant differences detected in the average scores between 2002 and 2003, except that eighth-graders in Atlanta who were not eligible for free/reduced-price lunch scored higher in 2003 than did their counterparts in 2002. Similarly, at grade 8, students in Atlanta who were not eligible for free/reduced-price lunch were the only group whose percentage of students at or above *Proficient* was significantly higher in 2003 than in 2002.

**Average reading score gaps between students who were eligible and those who were not eligible for free/reduced-price lunch.** In 2003, public school students who were not eligible for free/reduced-price lunch scored higher, on average, than eligible students, by 28 points at grade 4 and 25 points at grade 8. At grade 4, the gap in Houston was narrower than the gaps in large central cities and the nation, while the gap in Charlotte was wider than those in both large central cities and the nation. At grade 8, the District of Columbia and Houston had narrower score gaps than those in large central cities and the nation, while Charlotte and New York City had wider gaps in average scores than the gap found in large central cities.

### Reading performance by student-reported highest level of parents' education, grade 8

Eighth-grade students who participated in the NAEP 2002 and 2003 reading assessments, including those in the TUDA, were asked to indicate, from among five options, the highest level of education completed by each parent. The question was not posed to fourth-graders.

In 2003, the average scores for students who indicated that a parent graduated from college were lower in Atlanta, Chicago, Cleveland, the District of Columbia, and Los Angeles than the average score for students in the same parental education category in public schools in large central cities. Average scores for students who reported that a parent graduated from college were higher in Charlotte than average scores for comparable students in large central cities.

Among eighth-graders in public schools nationally, average scores were lower in 2003 than in 2002 for students who indicated that their parents either did not graduate from high school or did graduate from high school or college and for students who indicated that they did not know their parents' highest level of education. Among the participating urban districts, no statistically significant differences in average scores were detected between 2003 and 2002 at any level of parental education.

### Testing Status of Special-Needs Students Selected in NAEP Samples

NAEP endeavors to assess all students selected in the randomized sampling process, including SD students and students who are classified by their schools as LEP students.

Some students who are sampled for participation, however, can be excluded from the sample according to carefully defined criteria. School personnel, guided by the student's Individualized Education Program (IEP), as well as by eligibility for Section 504 services, make decisions regarding inclusion in the assessment of SD students. Based on NAEP's guidelines, they also make the decision regarding inclusion of LEP students. The process includes evaluating the student's capability to participate in the assessment in English, as well as taking into consideration the number of years the student has been receiving instruction in English. The percentage of students excluded from NAEP may vary considerably across states or districts. Comparisons of achievement results across districts should be interpreted with caution if the exclusion rates vary widely.

**Data source:** The NAEP 2002 and 2003 Trial Urban District Reading Assessments.

**For technical information,** see the NAEP web site (<http://nces.ed.gov/nationsreportcard>) or see the complete 2003 Reading Report Card:

Donahue, P.L., Daane, M.C., and Jin, Y. (forthcoming). *The NAEP 2003 Reading Report Card* (NCES 2004-461).

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**To obtain the Highlights publication from which this article is excerpted (NCES 2004-459),** call the ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

**The complete 2003 Reading Report Card (NCES 2004-461)** will be available through the ED Pubs number (877-433-7827) and at the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## 2000 SSOCS

**Violence in U.S. Public Schools: 2000 School Survey on Crime and Safety**

Amanda K. Miller

*This article was originally published as the Executive Summary of the Statistical Analysis Report of the same name. The sample survey data are from the School Survey on Crime and Safety (SSOCS).*

In the United States, school safety continues to be a priority for educators, policymakers, parents, and the public (Elliott, Hamburg, and Williams 1998). Schools are responsible for the effective education of their students, and creating an environment in which students and teachers are safe is an important component of the education process. A safe school is necessary for students to learn and teachers to teach.

As a result of highly publicized acts of extreme violence, increased national attention has focused on crime and violence in public schools. Reliable data collection is important in order to understand the extent to which American schools experience crime and violence, and to prevent emerging problems. Because of the need for accurate information on crime, violence, and disorder, the National Center for Education Statistics (NCES) administered the 2000 School Survey on Crime and Safety (SSOCS), a survey of public schools in the United States. SSOCS is a nationally representative sample of 2,270 regular public elementary, middle, secondary, and combined public schools. It was designed to provide an overall picture of school crime and safety in the United States by asking school principals about the characteristics of school policies, school violence prevention programs and practices, violent deaths at school and elsewhere, frequency of crime and violence, disciplinary problems and actions, and other school characteristics that have been associated with school crime.

The federal government has collected data about the safety of American schools from school principals for several decades. The first large-scale study, the Safe Schools Study, was administered to principals, teachers, and students in the 1970s. Since that time, the Department of Education has periodically collected information about crime and safety from school principals. SSOCS builds upon previous surveys conducted by NCES using the Fast Response Survey System (FRSS). These surveys collected a limited amount of information about crime and violence, disciplinary actions and problems, and policies related to school crime. The 2000 SSOCS questionnaire expanded on

these topics and included additional topics related to school practices to prevent or reduce crime, violence prevention programs and activities, and other school characteristics that may be associated with the presence of crime at school.

One of the topics covered by SSOCS was violence-related activities that occurred at public schools during the 1999–2000 school year. The focus of this report is the presence of violence and serious violence (a subset of violence) that occurred in American public schools. The incidents of violence collected in SSOCS included rape, sexual battery other than rape, physical attacks or fights with and without a weapon, threats of physical attack with and without a weapon, and robberies with and without a weapon. The measure of serious violence is a subset of these items that includes all of the incidents described above with the exception of physical attacks or fights without a weapon and threats of physical attacks without a weapon.

The report from which this summary is excerpted provides the first analysis of the 2000 SSOCS. Additional information about this survey and other school crime surveys can be found at <http://nces.ed.gov/programs/crime>. The following are some of the key findings found in this report:

### **Incidents of Violence in Public Schools**

- According to school principals, 71 percent of public elementary and secondary schools experienced at least one violent incident during the 1999–2000 school year (including rape, sexual battery other than rape, physical attacks or fights with and without a weapon, threats of physical attack with and without a weapon, and robbery with and without a weapon). In all, approximately 1,466,000 such incidents were reported in public schools.
- One or more serious violent incidents (including rape, sexual battery other than rape, physical attacks or fights with a weapon, threats of physical attack with a weapon, and robbery with and without a weapon) occurred in 20 percent of public schools.

## School Demographic Characteristics and Violence

- Secondary schools were more likely than elementary, middle, and combined schools to report a violent incident during the 1999–2000 school year (92 percent of secondary schools vs. 61 percent, 87 percent, and 77 percent for elementary, middle, and combined schools, respectively) (figure A). Elementary schools were less likely to report a serious violent crime than middle or secondary schools, between which no difference was detected in their likelihood of reporting a serious violent incident (14 percent of elementary schools vs. 29 percent for middle schools and 29 percent for secondary schools).
- In the 1999–2000 school year, the size of a school's student enrollment was related to the prevalence of both violent and serious violent incidents. That is, as enrollment size increased, schools were more likely to report one or more violent or serious violent incidents (figure B).
- City schools (77 percent) were more likely than urban fringe schools (67 percent) to report an

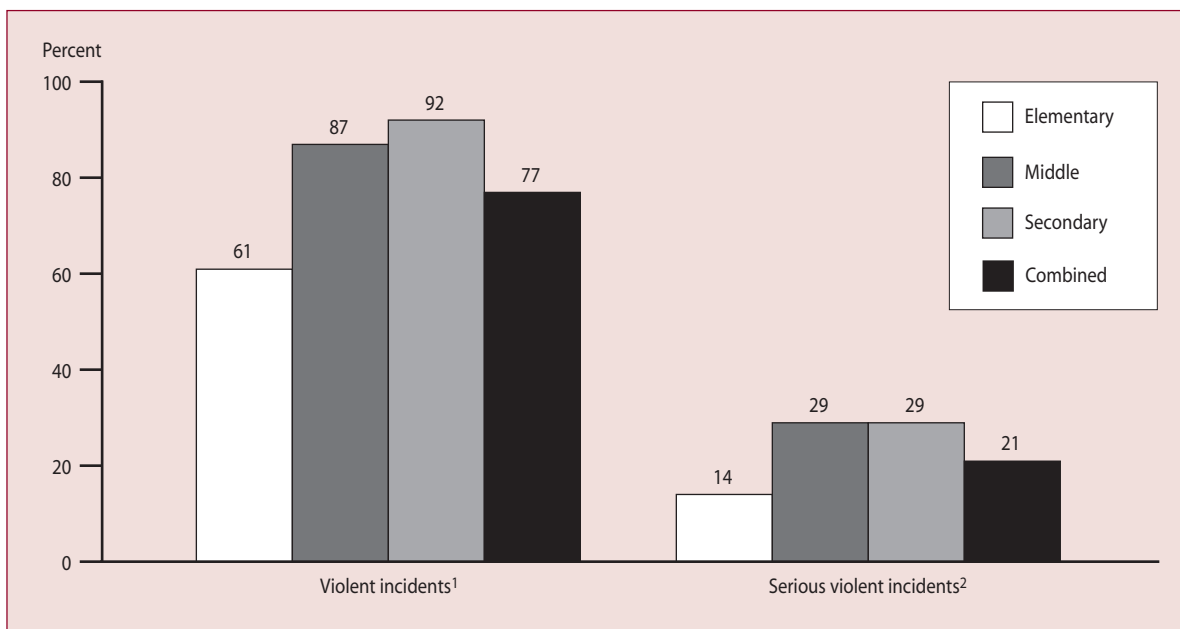
occurrence of at least one violent incident during the 1999–2000 school year, while no differences were detected among schools in other locations. When looking at serious violent incidents, however, no such differences were detected when comparing schools in city, urban fringe, or town locations. Rural schools (12 percent) were less likely than schools in cities (27 percent), urban fringe areas (22 percent), or towns (20 percent) to experience a serious violent incident (figure C).

- Principals reporting that their students lived in neighborhoods with high or mixed levels of crime were more likely to report a violent or serious violent incident than those principals with students who lived in neighborhoods with low levels of crime.

## Characteristics of the Student Population

- Schools with the largest percentage (more than 15 percent) of students below the 15th percentile on standardized tests were more likely than those schools with the smallest percentage (0–5 percent) of students below the 15th percentile to have experienced at least one violent or serious violent incident.

**Figure A. Percentage of public schools reporting at least one violent or serious violent incident, by school level: 1999–2000**

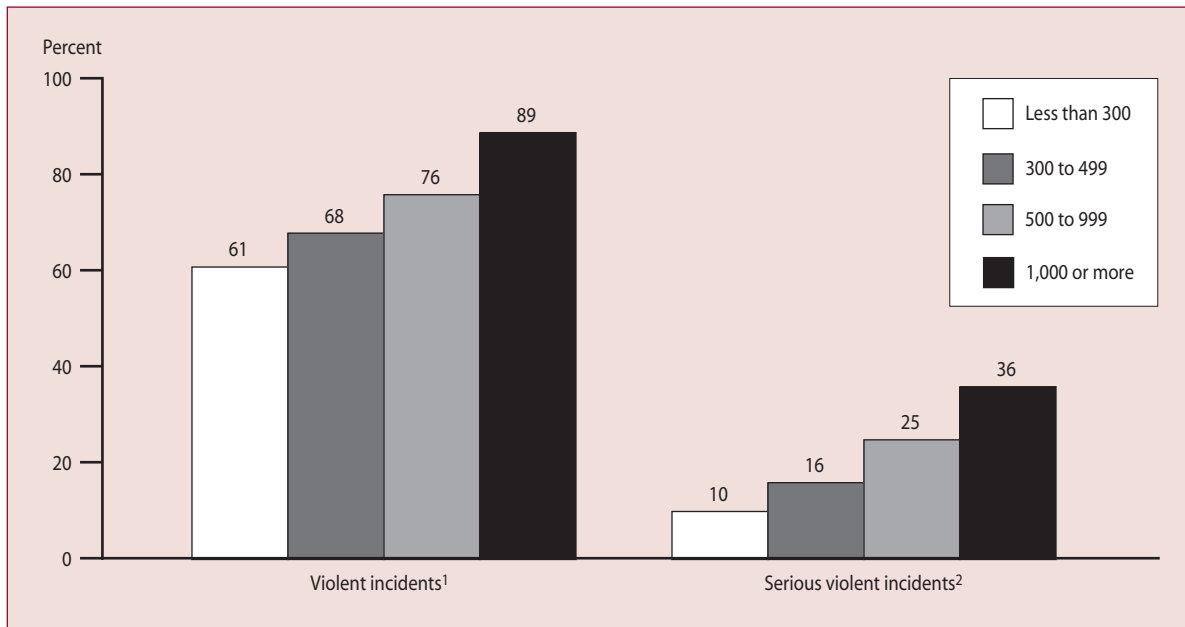


<sup>1</sup>Violent incidents include rape, sexual battery other than rape, physical attack or fight with or without a weapon, threat of physical attack with or without a weapon, and robbery with or without a weapon.

<sup>2</sup>Serious violent incidents include rape, sexual battery other than rape, physical attack or fight with a weapon, threat of physical attack with a weapon, and robbery with or without a weapon.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School Survey on Crime and Safety (SSOCS), 2000. (Originally published as figure 1 on p. 7 of the complete report from which this article is excerpted.)

**Figure B. Percentage of public schools reporting at least one violent or serious violent incident, by enrollment size: 1999–2000**



<sup>1</sup>Violent incidents include rape, sexual battery other than rape, physical attack or fight with or without a weapon, threat of physical attack with or without a weapon, and robbery with or without a weapon.

<sup>2</sup>Serious violent incidents include rape, sexual battery other than rape, physical attack or fight with a weapon, threat of physical attack with a weapon, and robbery with or without a weapon.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School Survey on Crime and Safety (SSOCS), 2000. (Originally published as figure 2 on p. 8 of the complete report from which this article is excerpted.)

**Figure C. Percentage of public schools reporting at least one violent or serious violent incident, by urbanicity: 1999–2000**



<sup>1</sup>Violent incidents include rape, sexual battery other than rape, physical attack or fight with or without a weapon, threat of physical attack with or without a weapon, and robbery with or without a weapon.

<sup>2</sup>Serious violent incidents include rape, sexual battery other than rape, physical attack or fight with a weapon, threat of physical attack with a weapon, and robbery with or without a weapon.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School Survey on Crime and Safety (SSOCS), 2000. (Originally published as figure 3 on p. 9 of the complete report from which this article is excerpted.)



- The percentage of students who principals felt considered academics to be very important was inversely related to the prevalence of violent and serious violent incidents. As the percentage of students who considered academics important increased, the likelihood of schools experiencing a violent or serious violent incident decreased.

### School Administrative Practices

- During the 1999–2000 school year, schools in which students have a larger number of classroom changes in a typical school day were more likely to experience at least one violent or serious violent incident.

### School Disorder

- Schools in which a greater number of serious discipline problems (three or more problems) occurred were more likely to experience a violent or serious violent incident than schools with fewer discipline problems (zero to two problems).
- Schools that reported at least one disruption (such as a bomb or anthrax threat) were more likely to experience a violent or serious violent incident than those that did not have any disruptions during the 1999–2000 school year.

### Relationship Between School Characteristics and Violence and Serious Violence

- While controlling for other factors, six school characteristics were related to the prevalence of violent incidents in public schools during the 1999–2000 school year, including school level, urbanicity, academic importance, number of classroom changes, number of serious discipline problems, and number of schoolwide disruptions.

- Five school characteristics were related to the likelihood that a school would experience at least one serious violent incident, while controlling for all other factors: enrollment size, urbanicity, percentage of males, number of serious discipline problems, and number of schoolwide disruptions.

### Patterns of School Violence

- During the 1999–2000 school year, 7 percent of public schools accounted for 50 percent of the total violent incidents that were reported (table A). Approximately 2 percent of schools accounted for 50 percent of the serious violent incidents (table B).
- When comparing the characteristics of those schools with a high number of incidents (those schools in which 50 percent of violent incidents occurred) to those schools with no incidents or a low to moderate number of incidents, school level, enrollment size, urbanicity, crime where students live, number of classroom changes, number of serious discipline problems, and number of schoolwide disruptions were related to the number of violent incidents.
- When compared to schools with either no incidents or a low to moderate number of incidents, schools with a high level of serious violent incidents differ by enrollment size, percentage of students below the 15th percentile on standardized tests, student-to-teacher ratio, number of serious discipline problems, number of students transferring from the school, and number of schoolwide disruptions.

### Reference

Elliott, D.S., Hamburg, B.A., and Williams, K.R. (1998). Violence in American Schools: An Overview. In D.S. Elliott, B.A. Hamburg, and K.R. Williams (Eds.), *Violence in American Schools* (pp. 3–28). New York, NY: Cambridge University Press.

**Table A. Percent and number of public schools, by percentage of violent incidents: 1999–2000**

Percent of violent incidents <sup>1</sup>	Percent of schools	Number of schools	Number of incidents
25	1.6	1,300	360,000
50	6.6	5,400	735,000
75	18.0	14,800	1,090,000
100	71.4	58,500	1,466,000

<sup>1</sup>Violent incidents include rape, sexual battery other than rape, physical attack or fight with or without a weapon, threat of physical attack with or without a weapon, and robbery with or without a weapon.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School Survey on Crime and Safety (SSOCS), 2000. (Originally published as table B on p. 28 of the complete report from which this article is excerpted.)

**Table B. Percent and number of public schools, by percentage of serious violent incidents: 1999–2000**

Percent of serious violent incidents <sup>1</sup>	Percent of schools	Number of schools	Number of incidents
25	0.5	434	14,900
50	1.9	1,600	30,100
75	6.5	5,400	46,100
100	19.7	16,200	60,700

<sup>1</sup>Serious violent incidents include rape, sexual battery other than rape, physical attack or fight with a weapon, threat of physical attack with a weapon, and robbery with or without a weapon.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School Survey on Crime and Safety (SSOCS), 2000. (Originally published as table C on p. 29 of the complete report from which this article is excerpted.)

**Data source:** The 2000 NCES School Survey on Crime and Safety (SSOCS).

**For technical information,** see the complete report:

Miller, A.K. (2003). *Violence in U.S. Public Schools: 2000 School Survey on Crime and Safety* (NCES 2004–314).

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**To obtain the complete report (NCES 2004–314),** call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# Crime and Safety Indicators

## Indicators of School Crime and Safety: 2003

Jill F. DeVoe, Katharin Peter, Phillip Kaufman, Sally A. Ruddy,  
Amanda K. Miller, Mike Planty, Thomas D. Snyder, and Michael R. Rand

**This article was originally published as the Executive Summary of the report of the same name. The report is a joint effort of the Bureau of Justice Statistics (BJS) and the National Center for Education Statistics (NCES). The numerous data sources, most of which are sample surveys, are listed at the end of this article.**

For youth to fulfill their potential in school, schools should be safe and secure places for all students, teachers, and staff members. Without a safe learning environment, teachers may have difficulty teaching and students may have difficulty learning. Gauging the safety of the school environment, however, may be difficult given the large amount of attention devoted to isolated incidents of extreme school violence nationwide.

Ensuring safer schools requires establishing good indicators of the current state of school crime and safety across the nation and periodically monitoring and updating these indicators. *Indicators of School Crime and Safety* is designed to provide an annual snapshot of specific crime and safety indicators, covering topics such as victimization, fights, bullying, disorder, teacher injury, weapons, student perceptions of school safety, and others. In addition to covering a wide range of topics, the indicators are based on information drawn from surveys of students, teachers, and principals, and data collections by federal agencies such as the Federal Bureau of Investigation and the Centers for Disease Control and Prevention.

Students ages 12–18 were victims of about 2 million nonfatal crimes of violence or theft at school in 2001, with the majority (62 percent) of all victimizations at school being thefts. However, this report is not only concerned with the safety of students in schools. Where comparable data are available for crimes that occur outside of school grounds, these data are offered as a point of comparison. In fact, as the data in this report show, a larger number of serious violent victimizations (i.e., rape, sexual assault, robbery, and aggravated assault) take place away from school than at school.<sup>1</sup>

Data on homicides and suicides at school show there were 32 school-associated violent deaths in the United States between July 1, 1999, and June 30, 2000, including 24 homicides, 16 of which involved school-age children. In

each school year from 1992 to 2000, youth ages 5–19 were at least 70 times more likely to be murdered away from school than at school.

Trends in school crime over time are also of interest to researchers, educators, and families. Data show that the percentage of students being victimized at school has declined over recent years. Between 1995 and 2001, the percentage of students who reported being victims of crime at school decreased from 10 percent to 6 percent. This included a decrease in theft (from 7 percent to 4 percent) and a decrease in violent victimization (from 3 percent to 2 percent) over the same time period.

For some other types of crime at school, the frequency of these behaviors has shown no detectable pattern of increase or decrease over time. These include the percentage of suicides of school-age youth between 1992 and 1999; the percentage of students being threatened or injured with a weapon such as a gun, knife, or club on school property between 1993 and 2001; and the percentage of teachers being physically attacked by a student between 1993–94 and 1999–2000. Hate-related graffiti between 1999 and 2001, and measures of marijuana use, alcohol use, and drug distribution at school between 1993 and 2001 have also shown no detectable pattern of change over their respective survey periods.

The prevalence of one problem behavior at school has increased. In 2001, 8 percent of students reported that they had been bullied at school in the last 6 months, up from 5 percent in 1999.

### Organization of This Report

This report, the sixth in a series of annual reports on school crime and safety from the Bureau of Justice Statistics (BJS) and the National Center for Education Statistics (NCES), presents the latest available data on school crime and student safety. The report repeats some indicators from the 2002 report and also provides updated data on nonfatal student victimization; nonfatal victimization of teachers; principal reports of select crimes; and principal reports of

<sup>1</sup>These data are not adjusted by the number of hours that students spend on school property and the number of hours they spend elsewhere.

disciplinary problems and actions at school. This year's report also includes data from last year's *Indicators* on fatal student victimization and students' reports of being threatened or injured with a weapon, being in fights, being bullied, avoiding places, being called hate-related words, and seeing hate-related graffiti. Data are also included on students' perceptions of personal safety, gangs, carrying weapons at school, using alcohol and marijuana, and drug availability on school property.

The report is organized as a series of indicators, with each indicator presenting data on a different aspect of school crime and safety. It starts with a description of the most serious violence. There are five sections to the report: Violent Deaths at School; Nonfatal Student Victimization—Student Reports; Violence and Crime at School—Public School Reports; Nonfatal Teacher Victimization at School—Teacher Reports; and School Environment. Each section contains a set of indicators that, taken together, describe a distinct aspect of school crime and safety.

Rather than relying on data from a large omnibus survey of school crime and safety, this report uses a variety of independent data sources from federal departments and agencies, including the BJS, NCES, and the Centers for Disease Control and Prevention. Each data source has an independent sample design, data collection method, and questionnaire design. By combining multiple and independent sources of data, this report aims to present a more complete portrait of school crime and safety than would be possible using any single source of information.

However, because the report relies on so many data sets, the age groups, time periods, and types of respondents analyzed can vary from indicator to indicator. Readers should keep these variations in mind when they compare data from different indicators. Readers should also note that trends in the data are discussed when possible. Where trends are not discussed, either the data are not available in earlier surveys or survey question wording changed from year to year, eliminating the ability to discuss any trend. Furthermore, while every effort has been made to keep key definitions consistent across indicators, readers should always use caution in making comparisons between results from different data sets for several reasons: the data sets may contain definitional differences, such as those used for specific crimes and crimes that occur “at school,” and respondent differences, such as examining student reports of victimization (at the individual level) and a school

reporting one or more victimizations schoolwide. Appendix A of the full report contains descriptions of all the data sets used in the report.

## Key Findings

The following section presents the key findings of the report:

### Violent deaths at school

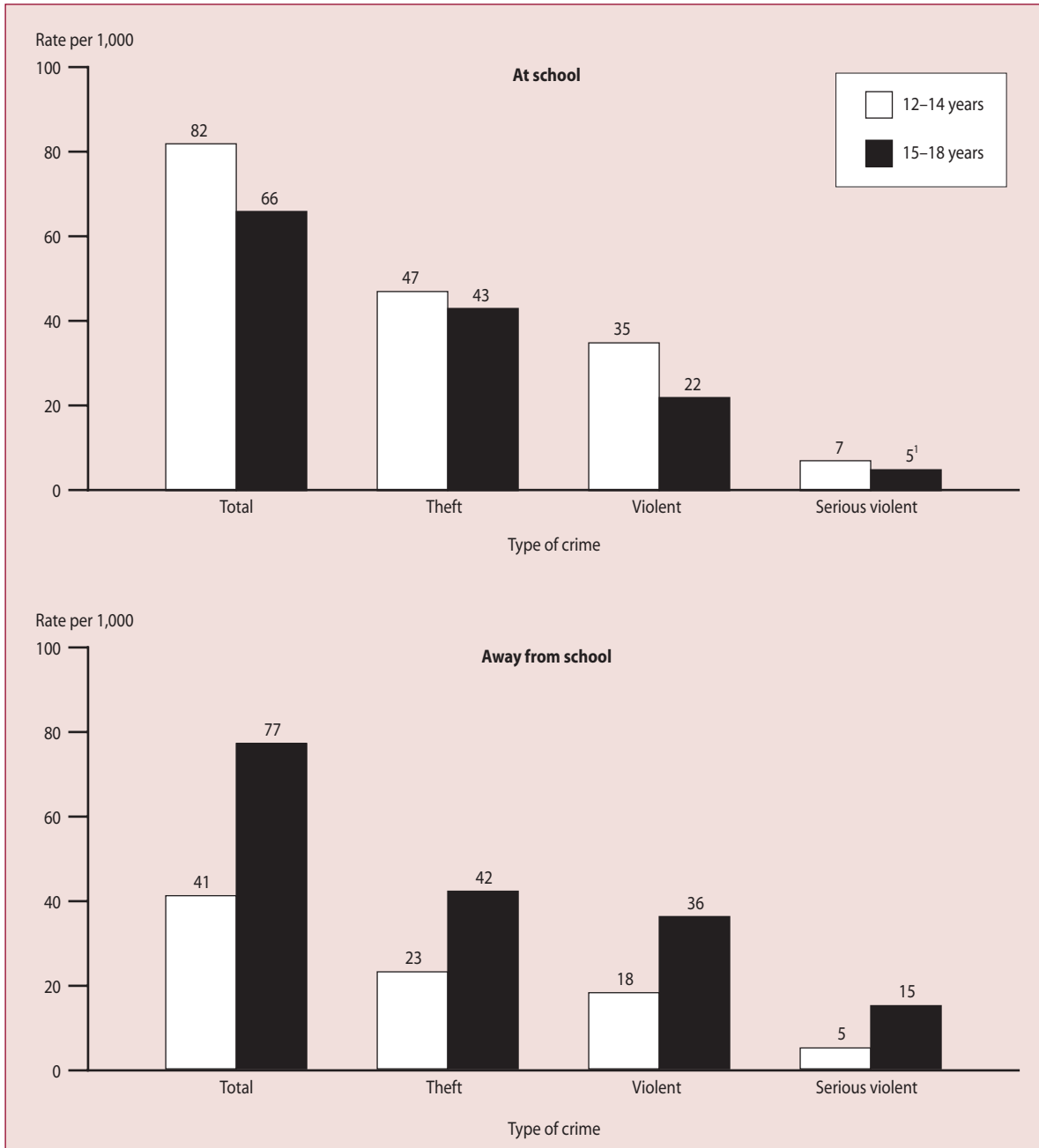
From July 1, 1999, through June 30, 2000, 32 school-associated violent deaths occurred in the United States. Twenty-four of these violent deaths were homicides and 8 were suicides. Sixteen of the 24 school-associated homicides involved school-age children. These 16 homicides are relatively few (1 percent of all homicides of youth) when comparing them with a total of 2,124 children ages 5–19 who were victims of homicide in the United States over the same period. Six of the 8 school-associated suicides from July 1, 1999, through June 30, 2000, involved school-age children. Away from school, there were a total of 1,922 suicides of children ages 5–19 during the 2000 calendar year.

### Nonfatal student victimization—student reports

Students ages 12–18 were more likely to be victims of nonfatal serious violent crime—including rape, sexual assault, robbery, and aggravated assault—when they were away from school than at school. In 2001, students in this age range were victims of about 290,000 serious violent crimes away from school, compared with about 161,000 at school.

- Between 1992 and 2001, the violent crime victimization rates (i.e., serious violent crime plus simple assault) for students ages 12–18 both at school and away from school decreased from 48 violent crimes per 1,000 students in 1992 to 28 violent crimes per 1,000 students in 2001. While this trend indicates an overall decline during this time frame, no difference was detected between 2000 and 2001 in the number of violent victimizations.
- In 2001, younger students (ages 12–14) were more likely to be victimized at school than older students (ages 15–18) (figure A); however, away from school, older students were more likely to be victimized than their younger counterparts.
- The percentages of students in grades 9–12 who have been threatened or injured with a weapon on school

**Figure A. Rate of nonfatal crimes against students ages 12–18 occurring at school or going to or from school, and away from school, per 1,000 students, by type of crime and age of student: 2001**



<sup>1</sup>Estimate based on fewer than 10 cases.

NOTE: Serious violent crimes include rape, sexual assault, robbery, and aggravated assault. Violent crimes include serious violent crimes and simple assault. Total crimes include violent crimes and theft. "At school" includes inside the school building, on school property, or on the way to or from school. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Justice, Bureau of Justice Statistics, National Crime Victimization Survey (NCVS), 2001. (Based on figures 2.2 and 2.3 on pp. 8 and 9 of the complete report from which this article is excerpted.)

property<sup>2</sup> have shown no measurable differences in recent years. In 1993, 1995, 1997, 1999, and 2001, between 7 and 9 percent of students reported being threatened or injured with a weapon such as a gun, knife, or club on school property in the preceding 12 months.

- The percentage of students who reported being in a fight anywhere declined between 1993 and 2001, from 42 percent to 33 percent. Similarly, the percentage of students who reported fighting on school property also declined over this period, from 16 percent to 13 percent.
- In 2001, 8 percent of 12- through 18-year-old students reported being bullied at school in the last 6 months, up from 5 percent in 1999.

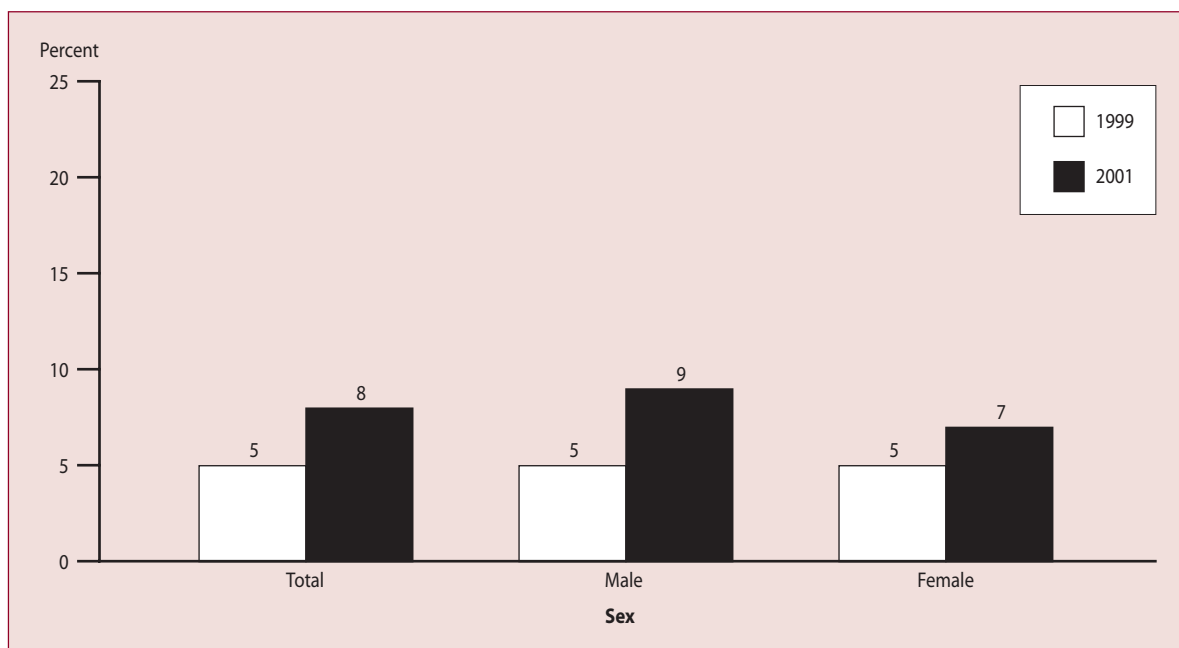
- Both males and females were more likely to report being bullied in 2001 than in 1999 (figure B). In 2001, males were more likely than females to report being bullied (9 and 7 percent, respectively); however, in 1999, no such difference could be detected (5 percent each).

#### Violence and crime at school—public school reports

In 1999–2000, 20 percent of all public schools experienced one or more serious violent crimes such as rape, sexual assault, robbery, and aggravated assault. Seventy-one percent of schools reported at least one violent incident. Forty-six percent of public schools reported property crimes, or thefts. This report also provides the number of disciplinary actions taken by school principals for reasons not related to academics. About 54 percent of public schools reported taking a serious disciplinary action in the 1999–2000 school year. Of those disciplinary actions, 83 percent were suspensions lasting 5 days or more, 11 percent were removals with no services (i.e., expulsions), and 7 percent were transfers to specialized schools.

<sup>2</sup>Definitions for “on school property” and “at school” may differ. See appendix B of the full report for specific definitions.

**Figure B. Percentage of students ages 12–18 who reported being bullied at school during the previous 6 months, by sex: 1999 and 2001**



NOTE: In the 1999 survey, “at school” was defined as in the school building, on the school grounds, or on a school bus. In the 2001 survey, “at school” was defined as in the school building, on school property, on a school bus, or going to and from school.

SOURCE: U.S. Department of Justice, Bureau of Justice Statistics, School Crime Supplement (SCS) to the National Crime Victimization Survey (NCVS), 1999 and 2001. (Originally published as figure 6.1 on p. 17 of the complete report from which this article is excerpted.)

- Secondary schools were more likely than other schools to experience a violent incident during the 1999–2000 school year (92 vs. 61–87 percent for elementary, middle, and combined schools). Likewise, larger schools were more likely to experience a violent incident than smaller schools. About 89 percent of schools with 1,000 or more students experienced a violent incident, compared with 61 percent of schools with less than 300 students.
- Two percent of public schools took a serious disciplinary action for the use of a firearm or explosive device, and 4 percent did so for the possession of such a weapon.

### Nonfatal teacher victimization at school—teacher reports

Over the 5-year period from 1997 through 2001, teachers were victims of approximately 1.3 million nonfatal crimes at school, including 817,000 thefts and 473,000 violent crimes (rape or sexual assault, robbery, and aggravated and simple assault).

- From 1997 through 2001, senior high school and middle/junior high school teachers were more likely to be victims of violent crimes (most of which were simple assaults) than elementary school teachers (figure C).
- Teachers were differentially victimized by violent crimes at school according to where they taught. From 1997 through 2001, urban teachers were more likely to be victims of violent crimes than suburban and rural teachers (figure C).
- In the 1999–2000 school year, 9 percent of all elementary and secondary school teachers were threatened with injury by a student, and 4 percent were physically attacked by a student. This represented about 305,000 teachers who were victims of threats of injury by students that year and 135,000 teachers who were victims of attacks by students.

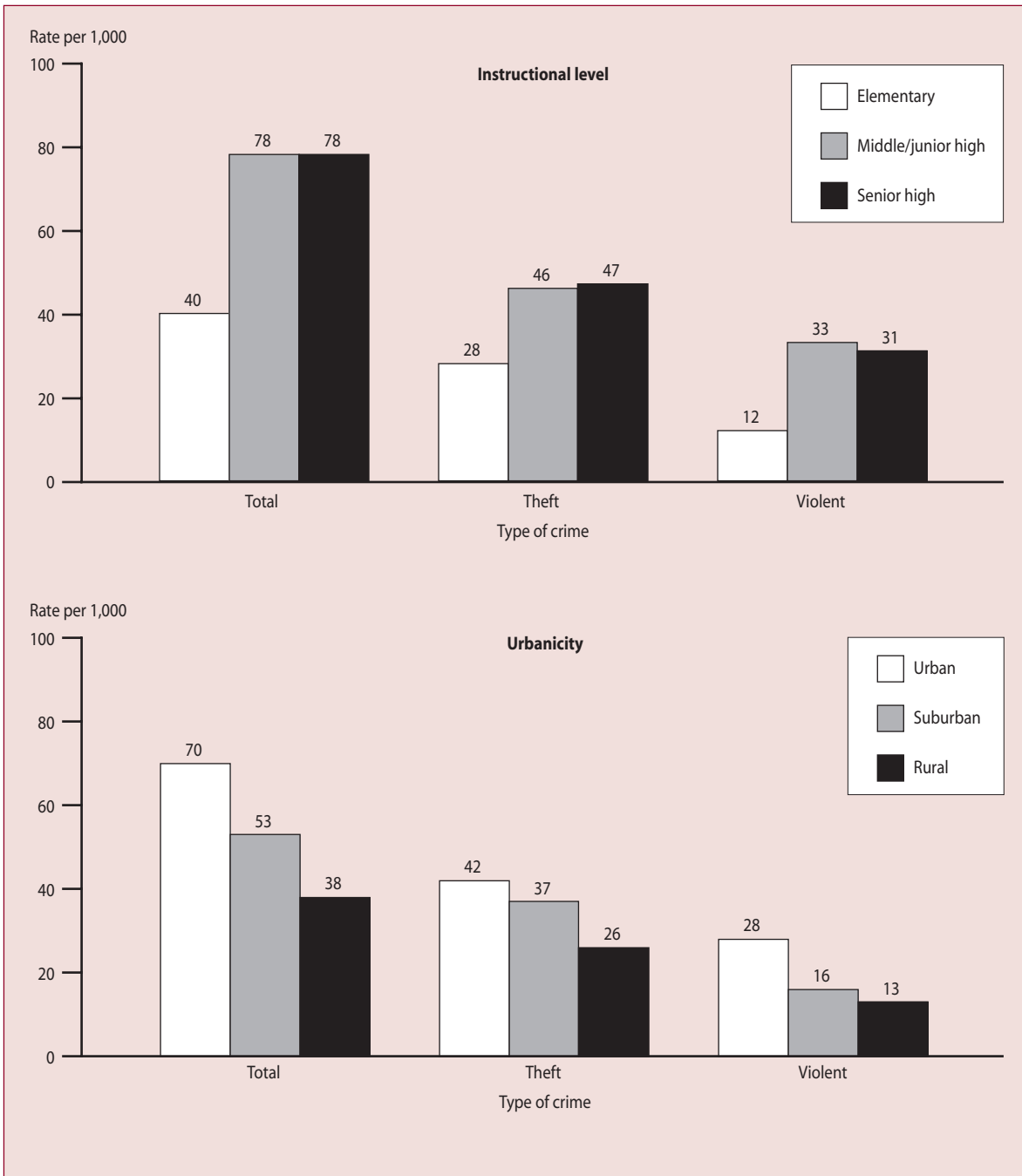
### School environment

Between 1995 and 1999, the percentage of students ages 12–18 who felt unsafe while they were at school or on the way to and from school decreased. However, between 1999 and 2001, no change was found in the percentage of students who felt unsafe. In both 1999 and 2001, students

were more likely to be afraid of being attacked when they were at school than away from school.

- Between 1993 and 2001, the percentage of students in grades 9–12 who reported carrying a weapon such as a gun, knife, or club on school property within the previous 30 days declined from 12 percent to 6 percent.
- Between 1999 and 2001, no differences were detected in the percentage of students ages 12–18 who avoided one or more places at school (about 5 percent in each year). These estimates represented a decrease from 1995, when 9 percent of students avoided places at school.
- In 2001, 12 percent of students ages 12–18 reported that someone at school had used hate-related words against them. That is, in the previous 6 months, someone at school had called them a derogatory word related to race, religion, ethnicity, disability, gender, or sexual orientation. During the same period, about 36 percent of students saw hate-related graffiti at school.
- In 2001, 20 percent of students reported that street gangs were present at their schools. Students in urban schools were more likely to report the presence of street gangs at their schools (29 percent) than were suburban and rural students (18 and 13 percent, respectively).
- In 1999–2000, public school principals were asked to report how often certain disciplinary problems occurred at their schools. Twenty-nine percent of public schools reported that student bullying occurred on a daily or weekly basis and 19 percent reported student acts of disrespect for teachers occurred at the same frequency. Additionally, 13 percent reported student verbal abuse of teachers and 3 percent reported occurrences of student racial tensions and widespread disorder in the classrooms with the same frequency.
- Between 1993 and 2001, no consistent patterns of increase or decrease were found in the percentage of students who had consumed alcohol, both anywhere and on school property. In 2001, 5 percent of students in grades 9–12 had at least one drink of alcohol on school property in the 30 days prior to the survey.

**Figure C. Average annual rate of nonfatal crimes against teachers at school per 1,000 teachers, by type of crime and selected teacher and school characteristics: 1997–2001**



NOTE: Violent crimes include rape, sexual assault, robbery, aggravated assault, and simple assault. Total crimes include violent crimes and theft. "At school" includes inside the school building, on school property, at the work site, or while working. For thefts, "while working" was not considered, since thefts of teachers' property kept at school can occur when teachers are not present. The data were aggregated from 1997–2001 due to the small number of teachers in each year's sample. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Justice, Bureau of Justice Statistics, National Crime Victimization Survey (NCVS), 1997–2001. (Originally published as figure 9.1 on p. 29 of the complete report from which this article is excerpted.)



Forty-seven percent of students had at least one drink anywhere during the same period.

- Between 1993 and 2001, no consistent patterns of increase or decrease were found in the percentage of students who had used marijuana—both anywhere and on school property. In 2001, 24 percent of students reported using marijuana anywhere during

the previous 30 days, and 5 percent reported using marijuana on school property.

- In 2001, 29 percent of students in grades 9–12 reported that someone had offered, sold, or given them an illegal drug on school property in the 12 months prior to the survey.

**Data sources:**

NCES: Schools and Staffing Survey (SASS), "Public School Questionnaire," "Private School Questionnaire," "Charter School Questionnaire," "Public Teacher Questionnaire," "Private Teacher Questionnaire," and "Charter Teacher Questionnaire," 1993–94 and 1999–2000; School Survey on Crime and Safety (SSOCS), 2000.

Bureau of Justice Statistics (BJS): National Crime Victimization Survey (NCVS), 1992–2001.

Joint NCES and BJS: School Crime Supplement (SCS) to the NCVS, 1995, 1999, and 2001.

Centers for Disease Control and Prevention (CDC): national school-based Youth Risk Behavior Survey (YRBS), selected years 1993–2001; 1992–2002 School-Associated Violent Deaths Surveillance System (SAVD), previously unpublished tabulation, August 2003; and web-based Injury Statistics Query and Reporting System Fatal (WISQARS Fatal), 2003.

Federal Bureau of Investigation (FBI): Supplementary Homicide Reports (SHR), 1976–2001.

**For technical information**, see the complete report:

DeVoe, J.F., Peter, K., Kaufman, P., Ruddy, S.A., Miller, A.K., Planty, M., Snyder, T.D., and Rand, M.R. (2003). *Indicators of School Crime and Safety: 2003* (NCES 2004–004).

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**To obtain the complete report (NCES 2004–004)**, call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# Dropouts and Completers

## Public High School Dropouts and Completers From the Common Core of Data: School Year 2000–01

Beth Aronstamm Young

*This article was originally published as the Statistical Analysis Report of the same name. The universe data are from the Common Core of Data (CCD). Technical notes and some tables from the original report have been omitted.*

Two of the most important indicators of the educational system's success are the rates at which young people drop out of and complete high school each year. The Common Core of Data (CCD) survey system of the National Center for Education Statistics (NCES) annually collects information about public school dropouts and completers. This report presents the number and percentage of students dropping out of and completing public school (among states that reported dropouts) for the 2000–01 school year.

### Background

The CCD consists of five surveys that are completed each year by state education agencies (SEAs). Three of these surveys provide basic statistical information about public elementary/secondary institutions, students, and staff. Although all information is reported directly by SEAs, the surveys include data about individual states, local education agencies, and schools. The numbers of students who complete high school with a regular diploma or some alternative credential have been reported at the state and local education agency levels since the 1987–88 CCD collection. A dropout statistic was added to the *Local Education Agency Universe* beginning with the 1992–93 collection (reporting 1991–92 dropouts).

### Limitations in This Report

The high school 4-year completion rate presented here differs in its calculation from other published rates, and readers should be alert to this when making comparisons with other studies (Kaufman, Alt, and Chapman 2001; Young 2002; Young and Hoffman 2002). The inclusion of both regular and other high school completions, and the exclusion of General Educational Development (GED) recipients, may also lead to differences with other reports. (See the “High School Completers” section for a further description.)

Also, state and local policies and data collection administration may have profound effects on the count of dropouts and completers reported by a state. One example of a discrepancy is that not all states provide multiple types of high school completions. Some states award regular diplomas to all students while others award some form of

alternative credential to special education students. Another example of a discrepancy is the degree of rigor with which states or districts verify the enrollment status of students who have transferred out of state. Dropout and completion data collected by the CCD are reported from the administrative records of SEAs. Some states collect their data through student-level records systems, while others collect aggregate data from schools and districts. Although state CCD coordinators verify each year that they have followed the CCD dropout definition, states vary in their ability to track students who move in and out of districts, and it is probable that some students have been misclassified.

### High School Dropouts

#### Determining dropout status

The CCD definition determines whether an individual is a dropout by his or her enrollment status at the beginning of the school year (the same day used for the enrollment count). Beginning in 1990, NCES defined a dropout as an individual who

- 1) was enrolled in school at some time during the previous school year (e.g., 1999–2000); and
- 2) was not enrolled at the beginning of the current school year (e.g., 2000–01); and
- 3) has not graduated from high school or completed a state- or district-approved educational program; and
- 4) does not meet any of the following exclusionary conditions:
  - a) transfer to another public school district, private school, or state- or district-approved educational program (including correctional or health facility programs);
  - b) temporary absence due to suspension or school-excused illness; or
  - c) death.

Individuals who complete 1 year of school but fail to enroll at the beginning of the subsequent year (“summer dropouts”) are counted as dropouts from the school year and grade in which they fail to enroll. Those who leave secondary education but are enrolled in an adult education

program at the beginning of the school year are considered dropouts. However, note that dropout status is determined by a student's status on October 1. Students who receive their GED certificate by October 1 are not counted as dropouts if the state or district recognizes this as an approved program. Although a student whose whereabouts are unknown is considered a dropout, states are not required to count students who leave the United States as dropouts even if there is no information about such students' subsequent enrollment status. A student can be counted as a dropout only once for a single school year but can, if he or she repeatedly drops out and re-enrolls, appear as a dropout in more than 1 year.

### Dropout rate

This is an annual event dropout rate: the number of dropouts for a school year divided by the number of students enrolled at the beginning of that school year. For example, to compute the 9th- through 12th-grade dropout rate, the calculation is

$$\frac{\text{Number of October 1st 9th- through 12th-grade dropouts}}{\text{October 1st 9th- through 12th-grade enrollment count}}$$

## High School Dropout Results

### The 2000–01 school year

In the 2000–01 school year, 45 states reported dropouts using the CCD definition.<sup>1</sup> The 9th- through 12th-grade dropout rate in the reporting states ranged from 2.2 percent in North Dakota to 10.9 percent in Arizona (table A).

The majority of reporting states in 2000–01 (26 of the 45) had dropout rates ranging from 4.0 to 7.0 percent. The median dropout rate of reporting states was 4.2. There were four states that had a dropout rate of less than 3.0: Iowa, New Jersey, North Dakota, and Wisconsin. Three states had a dropout rate of more than 8.0 percent: Alaska, Arizona, and Louisiana.

Because of differences in public school-age population size, the numbers of dropouts varied greatly among reporting states. In the 2000–01 school year, while Texas had the greatest number of dropouts (46,973) among reporting states, it did not have the highest dropout rate. On the other hand, North Dakota had the smallest number of dropouts (784) among reporting states and also the lowest dropout rate.

<sup>1</sup>The following four states' 2000–01 dropout data were not available: California, Colorado, Indiana, and Michigan. (The District of Columbia's dropout data were also not available.) These states, as well as the District of Columbia, did not report dropouts that were consistent with the NCES definition.

### Over time

Dropout rates are available for the aggregate of grades 9 through 12 from 1991–92 through 2000–01. During the first 2 years of the dropout statistic collection, no more than 15 states reported publishable data. Because the data are most complete for the period 1993–94 through 2000–01, discussion of changes over time is limited to this time period for states reporting in both 1993–94 and 2000–01.

A total of 33 states reported publishable data for both 1993–94 and 2000–01. (Louisiana's data were not comparable between these 2 years and were also not included in this analysis.) Among this group, the range of dropout rates generally decreased from 1993–94 to 2000–01. Dropout rates for reporting states in 1993–94 ranged from a low of 2.7 percent in North Dakota to a high of 13.7 percent in Arizona. Seven years later, the reported rates ranged from 2.2 percent in North Dakota to 10.9 percent in Arizona.

Of those 33 states that had dropout rates in 1993–94 and 2000–01, 8 states (24 percent) reported dropout rates of less than 4 percent in 1993–94; this increased to 12 states (36 percent) in 2000–01. In 1993–94, dropout rates for 20 of the 33 states ranged from 4 to 7 percent. In 2000–01, 19 of the 33 states had dropout rates that ranged from 4 to 7 percent. Of those 33 states, 6 states reported dropout rates of higher than 7 percent in 1993–94, and only 3 states reported dropout rates of higher than 7 percent in 2000–01.

Dropout rates were more likely to decline than increase over the 7-year interval: only 4 of the 33 reporting states' dropout rates increased and none by more than 1 percentage point. In this period, the dropout rates decreased by at least 2 percentage points in Arizona, Idaho, Missouri, Nevada, New Mexico, and Oregon.

### By race/ethnicity

High school dropout rates for each of five racial/ethnic groups<sup>2</sup> were calculated by dividing the number of grade 9 through 12 dropouts in a racial/ethnic group by the grade 9 through 12 membership for that group. Of the 46 states that reported dropouts for the 2000–01 school year, 43 were able to do so by race/ethnicity. Caution should be used when interpreting results by race/ethnicity as some of the racial/ethnic group populations are quite small in some states.

<sup>2</sup>The groups were American Indian/Alaska Native; Asian/Pacific Islander; Hispanic; Black, non-Hispanic; and White, non-Hispanic. Non-White includes all groups except White, non-Hispanic.

Table A. Dropout numbers and rates in grades 9–12, by state: School year 2000–01

State	9th through 12th grades			Rates by grade			
	Membership <sup>1</sup>	Number of dropouts	Dropout rate	9th	10th	11th	12th
Alabama <sup>2</sup>	200,923	8,238	4.1	3.4	4.4	4.7	4.1
Alaska <sup>2</sup>	38,914	3,177	8.2	6.6	8.4	8.5	9.8
Arizona <sup>2</sup>	234,367	25,632	10.9	11.3	10.2	11.0	11.3
Arkansas	131,898	6,987	5.3	3.4	4.9	6.7	6.6
California	†	—	—	—	—	—	—
Colorado	†	—	—	—	—	—	—
Connecticut	155,731	4,649	3.0	2.9	3.0	3.2	2.8
Delaware	33,875	1,420	4.2	4.9	4.6	3.7	3.1
District of Columbia	†	—	—	—	—	—	—
Florida <sup>2</sup>	674,817	29,965	4.4	4.8	4.1	4.0	4.7
Georgia	384,954	27,543	7.2	6.5	7.3	7.2	8.1
Hawaii <sup>2</sup>	52,053	2,968	5.7	3.9	5.8	6.2	7.8
Idaho	74,357	4,143	5.6	4.1	5.7	6.6	6.0
Illinois <sup>2</sup>	564,633	34,008	6.0	6.0	6.0	6.2	5.9
Indiana	†	—	—	—	—	—	—
Iowa	158,050	4,193	2.7	1.5	2.4	3.2	3.7
Kansas	143,763	4,565	3.2	1.7	3.1	3.9	4.2
Kentucky	185,003	8,557	4.6	3.9	5.1	5.0	4.6
Louisiana	196,040	16,361	8.3	9.1	8.2	7.7	8.2
Maine	61,426	1,926	3.1	1.8	3.1	4.3	3.6
Maryland <sup>2</sup>	242,502	9,930	4.1	4.1	4.2	4.1	4.0
Massachusetts	272,497	9,380	3.4	3.3	3.4	4.0	3.0
Michigan	†	—	—	—	—	—	—
Minnesota	275,502	11,014	4.0	1.4	3.1	4.6	7.1
Mississippi	131,787	6,108	4.6	4.3	4.9	4.8	4.7
Missouri	271,455	11,447	4.2	3.1	4.4	5.2	4.4
Montana	49,668	2,095	4.2	3.2	4.3	4.7	4.9
Nebraska	90,344	3,614	4.0	3.0	4.1	4.5	4.6
Nevada	90,125	4,730	5.2	3.4	1.7	5.2	12.2
New Hampshire <sup>3</sup>	51,592	2,763	5.4	2.3	4.6	7.6	8.0
New Jersey <sup>2</sup>	351,496	9,882	2.8	2.9	2.8	2.9	2.6
New Mexico	95,427	5,092	5.3	5.4	5.8	5.7	4.1
New York <sup>2</sup>	809,036	30,898	3.8	2.7	4.0	5.5	3.6
North Carolina	346,424	21,773	6.3	6.3	6.9	6.4	5.2
North Dakota	36,230	784	2.2	1.1	2.4	2.5	2.7
Ohio	590,120	22,822	3.9	3.6	3.4	3.7	4.8
Oklahoma <sup>2</sup>	177,577	9,202	5.2	5.1	5.1	5.7	4.7
Oregon	163,106	8,696	5.3	3.1	4.5	5.8	8.6
Pennsylvania	548,125	19,568	3.6	2.1	3.3	4.5	4.7
Rhode Island	44,499	2,212	5.0	5.0	5.0	4.9	5.0
South Carolina	183,896	6,089	3.3	3.5	3.7	3.1	2.6
South Dakota	40,784	1,571	3.9	2.9	3.8	4.2	4.6
Tennessee <sup>2</sup>	244,897	10,499	4.3	2.8	3.6	5.1	6.6
Texas	1,116,518	46,973	4.2	3.4	4.4	4.0	5.5
Utah	147,086	5,449	3.7	1.2	2.5	4.1	7.1
Vermont <sup>2</sup>	31,138	1,476	4.7	2.9	4.6	5.8	5.9
Virginia	329,575	11,415	3.5	3.3	3.3	3.4	3.9
Washington	†	—	—	—	—	—	—
West Virginia	85,100	3,570	4.2	3.5	4.8	4.6	4.0
Wisconsin	259,047	6,002	2.3	1.8	1.6	1.9	4.2
Wyoming	29,758	1,900	6.4	3.0	6.5	8.0	8.4

See footnotes at end of table (on next page).

**Table A. Dropout numbers and rates in grades 9–12, by state: School year 2000–01—Continued**

State	9th through 12th grades			Rates by grade			
	Membership <sup>1</sup>	Number of dropouts	Dropout rate	9th	10th	11th	12th
<b>Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas</b>							
DoD schools (overseas)	†	—	—	—	—	—	—
DoD schools (domestic)	†	—	—	—	—	—	—
Bureau of Indian Affairs	†	—	—	—	—	—	—
American Samoa	3,773	73	1.9	1.2	1.5	2.3	3.2
Guam	8,775	1,001	11.4	7.6	17.6	13.5	8.6
Northern Marianas	2,206	134	6.1	8.6	7.4	2.4	2.9
Puerto Rico <sup>2</sup>	166,476	1,737	1.0	0.7	1.4	1.3	0.8
Virgin Islands	5,454	215	3.9	6.8	2.4	2.8	2.2

— Not available. These states do not report dropouts that are consistent with the NCES definition.

† Not applicable. Total 9th- through 12th-graders not reported for states without conforming dropout data.

<sup>1</sup>Ungraded students are prorated into the 9th- through 12th-grade total for dropout rate calculation purposes. For those states that did not report dropouts, no prorated 9th-through 12th-grade enrollment was calculated.

<sup>2</sup>These states reported on an alternative July through June cycle rather than the specified October through September cycle.

<sup>3</sup>New Hampshire is missing reported dropouts for 14 of its 76 school districts that operate high schools (16.3 percent of enrollment in the 76 school districts).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency Universe Dropout and Completion Data File: School Year 2000–01," Version 1a. (Originally published as table 1 on p. 7 of the complete report from which this article is excerpted.)

In the 2000–01 school year, dropout rates were generally lowest for White, non-Hispanic and Asian/Pacific Islander students and highest for American Indian/Alaska Native; Black, non-Hispanic; and Hispanic students in reporting states. Relative to groups other than White, non-Hispanic students, dropping out was rare for Asian/Pacific Islander high school students in reporting states. The Asian/Pacific Islander dropout rate was less than 4 percent in more than two-thirds (30) of reporting states. No state reported a dropout rate of 10 percent or more for this group.

More than 15 percent of American Indian/Alaska Native high school students dropped out in Arizona, Minnesota, and South Dakota. Twelve states had a dropout rate of 10 percent or higher for American Indian/Alaska Native students. Only one state (Wyoming) reported a Black, non-Hispanic dropout rate of more than 15 percent. However, there were eight states that reported dropout rates of 10 percent or more among Black, non-Hispanic high school students. Among Hispanic high school students, dropout rates were 10 percent or higher in 11 reporting states.

### By district locale code

The CCD assigns each school a locale code that identifies its location relative to a population center; the codes range from "large city" to "rural." The school locale codes have been aggregated to the school districts with which the

schools are associated and the dropout rates among the different types of locales computed. Not all states have one or more school districts in every locale. Hawaii, for example, consists of a single urban fringe school district while South Dakota has no large city school districts. Because of this, caution should be used when interpreting state differences.

Relatively high dropout rates were most often observed in reporting school districts that served large or midsize cities and least frequently in rural areas. Nine reporting states had dropout rates of more than 10 percent in large city school districts, while only one state had a dropout rate of more than 10 percent for its rural school districts inside of a Metropolitan Statistical Area (MSA).

### High School Completers

The term "high school completer" includes both diploma recipients and other high school completers. Thus, the CCD 4-year high school completion rate includes both diploma recipients and other high school completers. (This rate includes other high school completers but does not reflect those receiving a GED-based equivalency credential.)

### Diploma recipients

These are individuals who are awarded, in a given year, a high school diploma or a diploma that recognizes some

higher level of academic achievement. They can be thought of as students who meet or exceed the coursework and performance standards for high school completion established by the state or other relevant authorities.

### Other high school completers

These individuals receive a certificate of attendance or some other credential in lieu of a diploma. Students awarded this credential typically meet requirements that differ from those for a high school diploma. Some states do not issue an “other high school completion” type of certificate, but award all students who complete school a diploma regardless of what academic requirements the students have met. Thus, in order to make data as comparable as possible across states, this report includes both regular and other diploma recipients in its high school 4-year completion rate.

### Exclusion of high school equivalency recipients

High school equivalency recipients are awarded a credential certifying that they have met state or district requirements for high school completion by passing an examination or completing some other performance requirement. High school equivalency diplomas are considered valid completion credentials, but high school equivalency recipients are not included in the CCD completion rate. There are two reasons for this exclusion. First, high school equivalency recipients are reported on the CCD only at the state level and cannot be disaggregated to the district level. Second, not all states report high school equivalency counts on the CCD, and the statistic is therefore not comparable across states.

### High school 4-year completion rate

Put simply, this rate asks, “Of those students who have left school, what proportion have done so as completers?” This rate does not include those students who are still enrolled. The rate incorporates 4 years’ worth of data and thus is an estimated cohort rate. It is calculated by dividing the number of high school completers by the sum of dropouts for grades 9 through 12, respectively, in consecutive years, plus the number of completers. If a hypothetical graduating class began as 9th-graders in year 1, this 4-year completion rate would look like

$$\frac{\text{High school completers year 4}}{\text{Dropouts (grade 9 year 1 + grade 10 year 2 + grade 11 year 3 + grade 12 year 4) + high school completers year 4}}$$

Note that the completion rate is not the same as a cohort graduation rate that shows the proportion of 9th-grade students who graduate 4 years later. To get a more detailed description of the development and limitations of the dropout and completion rates, see *Public High School Dropouts and Completers From the Common Core of Data: School Years 1991–92 Through 1997–98* (Young and Hoffman 2002).

## High School Completer Results

### The 2000–01 school year

As with states’ numbers of high school dropouts, states’ numbers of high school completers varied widely, in part because of the sizes of states’ public school populations. As might be expected, in 2000–01, the state with the largest public school population, California, had the most high school completers (316,124), and the District of Columbia, with the smallest public school population,<sup>3</sup> had the fewest high school completers (3,043). Seven states had more than 100,000 high school completers: California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas (table B).

In the 2000–01 school year, the 4 years of dropout data needed to calculate a high school 4-year completion rate were available for 39 states. The high school 4-year completion rates ranged from a high of 90.1 percent in North Dakota to a low of 65.0 percent in Louisiana for those states with data. In 2000–01, seven of the reporting states had 4-year completion rates above 85 percent: Connecticut, Iowa, Maine, Massachusetts, New Jersey, North Dakota, and Wisconsin. Five states had 4-year completion rates below 75 percent: Arizona, Georgia, Louisiana, Nevada, and New Mexico.

The majority of high school completion credentials are in the form of a diploma. There were 37 reporting states with data available to calculate a 2000–01 high school 4-year completion rate that either reported other high school completer data (i.e., certificates of completion) or did not award any type of other high school completer credentials. (Wisconsin and Wyoming’s other high school completers were missing and were therefore not included.) Other high school completers made up only 1.8 percent of all high school completers in these 37 reporting states (derived from table B). Twenty-eight of these states awarded other high school completion credentials (the other nine states did not award these credentials) and had data necessary to calculate

<sup>3</sup>Total students by state is from the CCD state-level survey and can be found in *Public School Student, Staff, and Graduate Counts by State: School Year 2001–02* (Young 2003).

Table B. Numbers and rates of high school completers, by state: School year 2000–01

State	Number of completers <sup>1</sup>			4-year completion rate <sup>2</sup>		
	Total	Total diplomas	Other completers <sup>3</sup>	Total	Total diplomas	Other completers
United States	2,616,570	2,569,413	47,157	—	—	—
Alabama	39,613	37,082	2,531	80.0	74.9	5.1
Alaska	6,829	6,812	17	75.2	75.0	0.2
Arizona <sup>4</sup>	47,543	46,773	770	68.3	67.2	1.1
Arkansas	29,019	27,100	1,919	79.1	73.9	5.2
California	316,124	316,124	†	—	—	—
Colorado	39,370	39,241	129	—	—	—
Connecticut	30,435	30,388	47	86.6	86.5	0.1
Delaware	6,712	6,614	98	81.6	80.4	1.2
District of Columbia <sup>5</sup>	3,043	2,808	235	—	—	—
Florida <sup>5</sup>	115,522	110,858	4,664	—	—	—
Georgia	69,215	62,499	6,716	71.1	64.2	6.9
Hawaii	10,323	10,102	221	77.7	76.0	1.7
Idaho <sup>4</sup>	16,101	16,021	80	76.9	76.5	0.4
Illinois	110,624	110,624	†	75.8	75.8	†
Indiana	60,464	58,323	2,141	—	—	—
Iowa	33,909	33,774	135	89.2	88.9	0.4
Kansas	29,360	29,360	†	—	—	—
Kentucky <sup>5</sup>	37,293	36,957	336	79.9	79.2	0.7
Louisiana	39,296	38,314	982	65.0	63.4	1.6
Maine	12,129	12,110	19	86.5	86.4	0.1
Maryland	49,569	49,222	347	83.2	82.6	0.6
Massachusetts	54,393	54,393	†	86.3	86.3	†
Michigan	97,124	96,490	634	—	—	—
Minnesota	56,550	56,550	†	82.5	82.5	†
Mississippi	25,762	23,748	2,014	77.3	71.3	6.0
Missouri	54,198	54,099	99	81.0	80.9	0.1
Montana	10,628	10,628	†	82.1	82.1	†
Nebraska	19,738	19,565	173	83.9	83.2	0.7
Nevada	15,880	15,200	680	73.5	70.3	3.1
New Hampshire <sup>5</sup>	12,294	12,294	—	—	—	—
New Jersey	75,948	75,948	†	88.0	88.0	†
New Mexico	18,354	18,199	155	74.4	73.8	0.6
New York	147,305	141,884	5,421	81.6	78.6	3.0
North Carolina <sup>5</sup>	63,954	63,288	666	—	—	—
North Dakota	8,445	8,445	†	90.1	90.1	†
Ohio	113,973	108,722	5,251	81.0	77.3	3.7
Oklahoma	37,448	37,448	†	79.2	79.2	†
Oregon	33,713	31,076	2,637	76.4	70.4	6.0
Pennsylvania	114,436	114,436	†	84.0	84.0	†
Rhode Island	8,617	8,603	14	79.8	79.7	0.1
South Carolina <sup>5</sup>	30,577	29,742	835	—	—	—
South Dakota	8,881	8,881	†	84.6	84.6	†
Tennessee	44,663	40,642	4,021	79.5	72.4	7.2
Texas <sup>5</sup>	215,316	215,316	†	—	—	—
Utah	31,214	31,054	160	82.6	82.2	0.4
Vermont	6,876	6,856	20	81.9	81.6	0.2
Virginia	68,593	66,067	2,526	83.8	80.7	3.1
Washington <sup>5</sup>	55,337	54,885	452	—	—	—
West Virginia	18,452	18,440	12	83.4	83.3	0.1
Wisconsin	59,341	59,341	—	90.0	90.0	—
Wyoming	6,067	6,067	—	76.5	76.5	—

See footnotes at end of table (on next page).

**Table B. Numbers and rates of high school completers, by state: School year 2000–01—Continued**

State	Number of completers <sup>1</sup>			4-year completion rate <sup>2</sup>		
	Total	Total diplomas	Other completers <sup>3</sup>	Total	Total diplomas	Other completers
<b>Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas</b>						
DoD schools (overseas)	2,621	2,621	†	—	—	—
DoD schools (domestic)	568	568	†	—	—	—
Bureau of Indian Affairs	—	—	—	—	—	—
American Samoa	726	724	2	90.0	89.7	0.2
Guam	1,371	1,371	†	51.2	51.2	†
Northern Marianas	361	361	†	64.5	64.5	†
Puerto Rico	32,574	30,154	2,420	94.6	87.5	7.0
Virgin Islands	966	966	†	72.3	72.3	†

— Not available.

† Not applicable.

<sup>1</sup>Includes regular and other diplomas as well as other completers, but does not include high school equivalencies (e.g., GED). Total completers may be different than reported on the state-level file.

<sup>2</sup>The 4-year completion rate is calculated by dividing the number of high school completers in a given year by the number of high school completers in that year and dropouts over a 4-year period.

<sup>3</sup>Other completers data are missing for the following states: New Hampshire, Wisconsin, and Wyoming.

<sup>4</sup>Values for 1 year of the 4-year completion rate denominator are imputed.

<sup>5</sup>States that reported completers but not 4 consecutive years of dropout data cannot have a 4-year high school completion rate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency Universe Dropout and Completion Data File: School Year 2000–01," Version 1a. (Originally published as table 5 on p. 11 of the complete report from which this article is excerpted.)

a 2000–01 4-year completion rate for other high school completers (e.g., recipients of certificates of completion). In 6 of these 28 states—Alabama, Arkansas, Georgia, Mississippi, Oregon, and Tennessee—the percent of all students who completed by means of another high school completion credential was 5 percent or more.

### Over time

The rate of high school completions over time includes diplomas and other high school completers, but excludes high school equivalencies. It is important to note that states have different policies in regard to awarding high school diplomas versus other high school credentials. Caution should be used when comparing states.

This report includes 4-year completion rates for the 1994–95 through 2000–01 school years. Since 4 years of dropout data are required to calculate a 4-year high school completion rate, fewer than 15 states had completion rates in 1994–95 or 1995–96. For this reason, discussions of the 4-year completion rate over time are based on the 1996–97 and 2000–01 school years; there are 32 states that had 4-year high school completion rates in these 2 years. Seven of the states' 4-year completion rates went down between 1996–97 and 2000–01. The changes (increases and decreases) were relatively small: less than 2 percentage points

in 18 states. Two states, Idaho and Nevada, increased their 4-year high school completion rates by over 9 percentage points between 1996–97 and 2000–01.

### By race/ethnicity

Four-year completion rates by race/ethnicity can be presented for 36 states in the 2000–01 school year. Caution should be used when interpreting results by race/ethnicity as some of the racial/ethnic group populations are quite small in some states.

As might be expected given the dropout rates, Asian/Pacific Islander and White, non-Hispanic students were more likely to have higher completion rates than Black, non-Hispanic; Hispanic; and American Indian/Alaska Native students. High school 4-year completion rates were below 60 percent in six reporting states for Black, non-Hispanic students; in seven reporting states for Hispanic students; and in eight reporting states for American Indian/Alaska Native students. No state had a 4-year completion rate below 60 percent for Asian/Pacific Islander or White students.

The 4-year completion rate was over 80 percent in 78 percent (28) of reporting states for White, non-Hispanic students and in 75 percent (27) of reporting states for Asian/Pacific Islander students.



### By district locale code

Reporting states' large city school districts were more likely than other districts to have a relatively low high school 4-year completion rate of less than 60 percent. In 2000–01, no reporting state's large city school districts had 4-year completion rates of 80 percent or more. The reporting states' districts in urban fringes of large cities fared much better, with 19 (66 percent) with completion rates of 80 percent or more. The same was true for 25 (74 percent) of districts in urban fringes of midsize cities.

Four-year completion rates of 80 percent or higher were more likely to occur in reporting states' rural school districts than in any other district locale. In fact, more than three-fourths of the reporting states had a 4-year completion rate of 80 percent or more in their rural school districts (78 percent in rural districts outside of MSAs and 80 percent in rural districts inside of MSAs).

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**Data sources:** The NCES Common Core of Data (CCD): "Local Education Agency Universe Dropout and Completion Data File: School Years 1991–92 through 1996–97 and 2000–01," Version 1a; and "Local Education Agency Universe Dropout and Completion Data File: School Years 1997–98, 1998–99, and 1999–2000," Version 1b.

**For technical information,** see the complete report:

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**To obtain the complete report (NCES 2004–310),** visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# 100 Largest School Districts

## Characteristics of the 100 Largest Public Elementary and Secondary School Districts in the United States: 2001–02

Jennifer Sable and Beth Aronstamm Young

*This article was originally published as the Introduction and summary sections of the Statistical Analysis Report of the same name. The universe data are from the Common Core of Data (CCD). Detailed data tables and the Methodology section from the original report have been omitted.*

### Introduction

This publication provides basic descriptive information about the 100 largest school districts (ranked by student membership) in the United States and jurisdictions (Bureau of Indian Affairs, Department of Defense schools, and five outlying areas: American Samoa, Guam, the Northern Marianas, Puerto Rico, and the Virgin Islands). When discussing characteristics, the term “United States and jurisdictions” refers to all 50 states, the District of Columbia, Bureau of Indian Affairs, Department of Defense schools, and five outlying areas. This is different from most National Center for Education Statistics (NCES) reports, which include only the 50 states and the District of Columbia in U.S. totals. Readers interested in examining data for the 50 states and District of Columbia only can refer to *Public School Student, Staff, and Graduate Counts by State: School Year 2001–02* (Young 2003) and *Overview of Public Elementary and Secondary Schools and Districts: School Year 2001–02* (Hoffman 2003).

Approximately one in four public school students in the United States and jurisdictions is served by one of the 100 largest school districts (table A). These districts are distinguished from other school districts by characteristics other than the size of their membership, such as average and median school size, number of high school graduates, number of pupils receiving special education services, and minority enrollment as a proportion of total enrollment.

Information about the characteristics listed above is found in 18 “basic tables” (tables 1–18) in the full report. The report also includes six tables (tables 19–21 and appendixes E–G) with supplemental data from the 2000 School District Tabulations (STP2) from the Bureau of the Census, which present decennial census data on household poverty, educational attainment of adults, and English language proficiency of children. For the purpose of establishing a meaningful context for the information on the 100 largest districts, four text tables that are in this article (tables A–D)

**Table A. Selected statistics for the United States and jurisdictions, the 100 largest, and the 500 largest school districts: School year 2001–02**

Data item	National total <sup>1</sup>	100 largest districts <sup>1</sup>		500 largest districts <sup>1</sup>	
		Total	Percentage of national total	Total	Percentage of national total
Districts	17,140	100	0.6	500	2.9
Schools	96,193	15,838	16.5	30,662	31.9
Students	48,521,731	11,168,631	23.0	20,912,064	43.1
Teachers (full-time-equivalent)	3,051,638	662,162	21.7	1,239,595	40.6
High school completers (2000–01) <sup>2</sup>	2,723,872	517,898	19.0	1,024,853	37.6
Median pupil/teacher ratio <sup>3</sup>	15.9	16.9	†	16.9	†
Average school size	504.4	705.2	†	682.0	†
High school completers <sup>2</sup> as percentage of all students	5.6	4.6	†	4.9	†

† Not applicable.

<sup>1</sup>The universe for this table includes outlying areas, Bureau of Indian Affairs, and Department of Defense schools. The 500 largest school districts include 23 school districts that are some other configuration besides prekindergarten (PK)– or K–12, although all of the 100 largest school districts are PK– or K–12.

<sup>2</sup>Includes high school diploma recipients as well as other high school completers (e.g., certificates of attendance).

<sup>3</sup>Includes only schools where student membership was greater than zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “Local Education Agency Universe Survey,” 2001–02, Version 1a, and “State Nonfiscal Survey of Public Elementary/Secondary Education,” 2001–02, Version 1a.

precede the basic tables in the full report and provide national data and data for the 100 and 500 largest school districts. Appendix A in the complete report lists the 500 largest school districts, with some identifying information. Appendix B is an alphabetical list of the 500 largest districts ranked by membership size. Appendix C provides a count of the number of 100 largest districts by state. Appendix D provides selected data for the 100 largest school districts in the 1991–92 school year for comparison. In all basic tables and appendixes, with the exception of appendixes B and C, districts are presented in decreasing order of membership size.

### Overview of the 100 Largest Districts

In the 2001–02 school year, there were 17,140 public school districts,<sup>1</sup> 96,193 public schools, and 48.5 million students in public schools in the United States and jurisdictions (table A). There were over 3.1 million full-time-equivalent (FTE) teachers in the 2001–02 school year and 2.7 million high school completers in the 2000–01 school year. The 100 largest school districts comprised less than 1 percent of all public school districts but served 23 percent of all public elementary and secondary students. The 100 largest school districts contained 16 percent of public schools and employed 22 percent of FTE teachers. The 500 largest school districts comprised 3 percent of all public school districts and 32 percent of public schools; they served 43 percent (20.9 million) of all public elementary and secondary students in the United States and jurisdictions.

The 100 largest school districts ranged in size from 44,859 to 1,049,831 students in 2001–02. Twenty-six of the 100 largest districts served over 100,000 students. The largest public school district was New York City Public Schools, New York, with 1,049,831 students enrolled in 1,218 schools. Following the New York City Public Schools district was the Los Angeles Unified district, California, with 735,058 students in 663 schools. The enrollment of each of these 2 largest districts was greater than enrollment for 27 states and the District of Columbia, each of the

5 outlying areas, the Bureau of Indian Affairs schools, and the Department of Defense schools.<sup>2</sup>

### Where Were the 100 Largest School Districts?

There were 33 states and jurisdictions that had at least 1 of the 100 largest school districts (figure 1) in the 2001–02 school year. Texas had 15 districts among the 100 largest, and California and Florida had 13 each. Several other states had more than 1 district represented in the 100 largest: Georgia and Maryland each had 6; North Carolina had 5; Louisiana, Utah, and Virginia each had 4; Tennessee had 3; and Arizona, Colorado, Nevada, and Ohio each had 2. The following states each had 1 school district among the 100 largest: Alabama, Alaska, the District of Columbia, Hawaii, Illinois, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, Nebraska, New Mexico, New York, Oregon, Pennsylvania, Puerto Rico, South Carolina, Washington, and Wisconsin. (The District of Columbia, Hawaii, and Puerto Rico have only one school district each for their entire jurisdiction.)

The 100 largest school districts tended to be in cities and counties with large populations, with administrative offices typically located in large cities and their environs. Many of the districts were in states where the school districts have the same boundaries as counties. However, caution should be used when interpreting the areas that these school districts cover. School district boundaries are not necessarily the same as county, city, or town boundaries. Finally, 73 percent of these districts were located in coastal and gulf coast states (see appendix C of the full report for the number of the 100 largest districts by state).

### How Did These Districts Compare With the Average School District?

#### General characteristics

In the 2001–02 school year, each of the 100 largest school districts had at least 44,000 students, whereas 73 percent of regular school districts had fewer than 2,500 students (table B). Although 13 percent of regular school districts had 5,000 or more students, 68 percent of all students were served by these districts.

The average school district in the United States and jurisdictions had 5.6 schools; in comparison, the 100 largest school districts averaged 158.4 schools per district (derived from table A). Two of the three largest districts, New York

<sup>1</sup>In this report, the terms “public school districts,” “school districts,” and “regular school districts” are used. “Public school districts,” also known as “school districts,” include regular school districts; local supervisory unions that provide management services for a group of associated school districts; regional education service agencies that typically provide school districts with research, testing, and data processing services; state and federally operated school districts; and other agencies that do not fall into these groupings (e.g., charter schools reported as “placeholder” agencies). A “regular school district” is an agency responsible for providing free public education for school-age children residing within its jurisdiction, and is a subset of the category “public school districts/school districts.”

<sup>2</sup>State enrollment can be found in *Public School Student, Staff, and Graduate Counts by State: School Year 2001–02* (Young 2003).

**Figure 1. The 100 largest school districts in the United States and jurisdictions: School year 2001–02**



NOTE: The universe for this figure includes outlying areas, Bureau of Indian Affairs, and Department of Defense (overseas) schools. The markings on the map denote the approximate location of the school district. The District of Columbia, Hawaii, and Puerto Rico are all one-district jurisdictions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency Universe Survey," 2001–02, Version 1a.

City Public Schools, New York, and the Puerto Rico Department of Education, Puerto Rico, each had over 1,200 schools. The 100 largest school districts, on average, served more students (111,686 vs. 2,831) and employed more teachers (6,622 vs. 178) than the average school district in the United States and jurisdictions (derived from table A).

### School characteristics

The 100 largest school districts had more students per school than the average school district, 705 compared with 504 students (table A). Eleven of the 100 largest school districts had an average regular school<sup>3</sup> size of over 1,000 students. In addition to larger average school sizes, the 100 largest school districts also had a higher median<sup>4</sup> pupil/

teacher ratio, 16.9 to 1 compared with 15.9 to 1 for the average school district (table A). Among the 100 largest public school districts, Jefferson County, Kentucky, had the largest median pupil/teacher ratio at 27.6 to 1 and Forsyth County Schools, North Carolina, had the smallest at 12.7 to 1.

**High school completers.** The number of high school completers (diploma recipients and other high school completers) as a percentage of all students was lower in the 100 largest school districts than in the average school district (table A).

**School staff.** At the national level, 51 percent of staff were teachers,<sup>5</sup> and in the 100 largest districts, 52 percent of staff were teachers. Sixty-two districts reported that 50 percent or more of their staff were teachers, 5 districts had over 60

<sup>3</sup>A regular school is a public elementary/secondary school that does not focus primarily on vocational, special, or alternative education.

<sup>4</sup>If all the pupil/teacher ratios were listed in order of size, the midpoint on the list would be the median.

<sup>5</sup>Staff data can be found in *Public School Student, Staff, and Graduate Counts by State: School Year 2001–02* (Young 2003). The national staff ratio does not include the Bureau of Indian Affairs schools and the Virgin Islands.

**Table B. Number and percentage of districts and students by district membership size for regular public elementary and secondary school districts in the United States and jurisdictions: School year 2001–02**

District size (number of students)	Districts			Students			Cumulative totals	
	Number	Percentage	Cumulative percentage	Number	Percentage	Cumulative percentage	Districts	Students
Total <sup>1</sup>	14,564	100.0	†	47,587,932	100.0	†	†	†
100,000 or more	26	0.2	0.2	6,483,998	13.6	13.6	26	6,483,998
25,000 to 99,999	219	1.5	1.7	9,509,038	20.0	33.6	245	15,993,036
10,000 to 24,999	576	4.0	5.6	8,801,933	18.5	52.1	821	24,794,969
7,500 to 9,999	342	2.3	8.0	2,967,975	6.2	58.3	1,163	27,762,944
5,000 to 7,499	725	5.0	13.0	4,425,262	9.3	67.6	1,888	32,188,206
2,500 to 4,999	2,031	13.9	26.9	7,129,358	15.0	82.6	3,919	39,317,564
2,000 to 2,499	801	5.5	32.4	1,793,708	3.8	86.4	4,720	41,111,272
1,500 to 1,999	1,071	7.4	39.8	1,861,142	3.9	90.3	5,791	42,972,414
1,000 to 1,499	1,557	10.7	50.5	1,921,658	4.0	94.3	7,348	44,894,072
800 to 999	790	5.4	55.9	709,648	1.5	95.8	8,138	45,603,720
600 to 799	954	6.6	62.4	665,923	1.4	97.2	9,092	46,269,643
450 to 599	897	6.2	68.6	469,837	1.0	98.2	9,989	46,739,480
300 to 449	1,118	7.7	76.3	415,224	0.9	99.1	11,107	47,154,704
150 to 299	1,435	9.9	86.1	316,819	0.7	99.8	12,542	47,471,523
1 to 149	1,692	11.6	97.7	116,409	0.2	100.0	14,234	47,587,932
Zero <sup>2</sup>	102	0.7	98.4	0	0	100.0	14,336	47,587,932
Not applicable	228	1.6	—	†	†	100.0	14,336	47,587,932

† Not applicable.

<sup>1</sup>Not included in this table are local supervisory unions, regional education service agencies, and state and federally operated agencies.

<sup>2</sup>Membership may be 0 in two situations: (1) where the school district does not operate schools but pays tuition for its students in a neighboring district, and (2) where the district provides services for students who are accounted for in some other district(s). The number of regular districts represented in this table differs from the number of districts in table A, which represents all types of districts.

NOTE: The universe for this table includes outlying areas, Bureau of Indian Affairs, and Department of Defense schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency Universe Survey," 2001–02, Version 1a.

percent teachers, and 2 districts had less than 40 percent. In 3 of the 100 largest school districts (Clark County School District, Nevada; San Francisco Unified, California; and Alpine School District, Utah), 60 percent or more of all staff were teachers. (This does not include the City of Chicago, Illinois, or Greenville County, South Carolina, school districts, where nonteaching staff categories may be under-represented due to nonresponse for these categories.) Twenty-five percent of the 100 largest school districts had 1 percent or more of their staff assigned to district administration.

**Title I participation.** Ninety-five of the 100 largest school districts reported data for Title I eligible schools and programs for the 2001–02 school year. The percentage of Title I eligible schools in the 95 districts ranged from 10.9 percent in the Charlotte-Mecklenburg, North Carolina, district to 98.9 percent in the Philadelphia City School

District, Pennsylvania. Of the 95 of the 100 largest districts that reported Title I data, an average of 51 percent of students attended a Title I eligible school. In contrast, 47 percent of all students, nationally, attended a Title I eligible school.<sup>6</sup> In the 95 of the 100 largest school districts with Title I data, the percentages of students in Title I eligible schools ranged from 6.7 percent in the Charlotte-Mecklenburg, North Carolina, district to 99.9 percent in the Aldine Independent School District, Texas.

**Charter schools.** There were 422 charter schools administered by the 100 largest school districts in the 2001–02 school year. A little over 1 percent of students in the 100 largest school districts attended 1 of these 422 charter schools. There were 2,348 charter schools attended by

<sup>6</sup>National Title I school data can be found in *Overview of Public Elementary and Secondary Schools and Districts: School Year 2001–02* (Hoffman 2003).

3 percent of students in the 50 states and District of Columbia in 2001–02.<sup>7</sup> The largest number of charter schools (83) was in the Puerto Rico Department of Education, Puerto Rico, up from 36 charter schools in 2000–01.<sup>8</sup>

### Student body

The 100 largest school districts were not homogeneous, and certain student characteristics, such as race/ethnicity, poverty level, and disability status, varied across the districts.

**Race/ethnicity.** American Indians/Alaska Natives, Asians/Pacific Islanders, Hispanics, and Black, non-Hispanics make up the groups other than White, non-Hispanic when assessing race at the national level. In some of the 100 largest districts, these four groups comprise the majority of student membership. The 100 largest school districts, with 23 percent of the United States and jurisdictions' public school students, served 38 percent of the 19.6 million public school students other than White, non-Hispanic

(derived partially from tables A, C, and other sources; see footnote).<sup>9</sup>

In the 100 largest school districts, 69 percent of students were from groups other than White, non-Hispanic, compared with 41 percent of students in all school districts (table C).<sup>10</sup> More than one-third (37) of the 97 districts where membership information was available for groups other than White, non-Hispanic had over 75 percent other than White, non-Hispanic membership, and 8 of the 10 largest school districts had an other than White, non-Hispanic student membership percentage of this size.

Even with the relatively high other than White, non-Hispanic membership in the 100 largest school districts, 36 of the 97 districts reported 50 percent or more of their students as White, non-Hispanic. Of these 36 districts, 6 reported other than White, non-Hispanic membership of less than 25 percent of their student body. In 16 of the 100 largest districts, half or more of the membership was Black,

<sup>7</sup>National charter school data can be found in *Overview of Public Elementary and Secondary Schools and Districts: School Year 2001–02* (Hoffman 2003).

<sup>8</sup>Charter school data for the 100 largest school districts in 2000–01 can be found in *Characteristics of the 100 Largest Public Elementary and Secondary School Districts in the United States: 2000–01* (Young 2002).

<sup>9</sup>For the 100 largest school districts, the numbers of students in different racial/ethnic categories are reported at the school level and are aggregated up to the district level. The total number of students other than White, non-Hispanic in the 100 largest school districts is 7,503,151. The figure for the United States and jurisdictions is from the state-level survey and can be found in *Public School Student, Staff, and Graduate Counts by State: School Year 2001–02* (Young 2003).

<sup>10</sup>See table C for the percentages of districts for which data were reported.

**Table C. Percentage of students eligible for free or reduced-price lunch and percentage enrollment that is other than White in the 100 and 500 largest school districts, and in the United States and jurisdictions: School year 2001–02**

	All school districts	100 largest school districts	500 largest school districts
Percentage of schools reporting free and reduced-price lunch	91.8	94.8	94.2
Membership eligible for free or reduced-price lunch of those who reported free and reduced-price lunch	39.7 <sup>1</sup>	54.3 <sup>1</sup>	48.0 <sup>1</sup>
Percentage of schools reporting other than White membership	98.2	97.6	97.8
Percentage groups other than White, other non-Hispanic enrollment	41.1	68.7	59.2
American Indian/Alaska Native	1.3	0.6	0.7
Asian/Pacific Islander	4.4	7.0	6.3
Hispanic	18.5	32.5	27.7
Black, non-Hispanic	16.9	28.7	24.5
Percentage White, non-Hispanic enrollment	58.9	31.3	40.8

<sup>1</sup>These percentages should be interpreted with caution; four states (Arizona, Connecticut, Tennessee, and Wyoming), the Department of Defense (overseas), the Department of Defense (domestic), Bureau of Indian Affairs, and the Virgin Islands did not report free and reduced-price lunch eligibility and are not included in the national total. Also, states may not have reported students eligible for reduced-price meals, and a number of states reported participation instead of eligibility data, which may not be strictly comparable. See the Methodology section of the full report for further description. Percentages are based on those schools that reported.

NOTE: The universe for this table includes outlying areas, Bureau of Indian Affairs, and Department of Defense schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey," 2001–02, Version 1a, and "Local Education Agency Universe Survey," 2001–02, Version 1a.

non-Hispanic. Sixteen districts reported that the majority of students were Hispanic; 4 of these are among the 10 largest districts. In Hawaii, a one-district state, and the San Francisco Unified District, California, the majority of students were Asian/Pacific Islander.

Data from the 2000 Decennial Census are presented in tables 9 and 10 in the full report. These data provide racial and ethnic breakouts of the population less than 18 years old residing within the school district boundaries for the 100 largest school districts. These data are presented in the report for comparison purposes; see the descriptions there under the Basic Tables heading for more detailed information.

**Free and reduced-price lunch participation.** The 100 largest school districts had a disproportionate percentage of students eligible for the free and reduced-price lunch program relative to all public school districts. Among schools that reported free and reduced-price lunch eligibility, 54 percent of students in the 100 largest school districts were eligible, compared with 40 percent of students in all districts (table C). Among the 95 of the 100 largest school districts that reported data on free and reduced-price lunch, 42 districts reported over 50 percent of their students eligible for the free and reduced-price lunch program.

**Students with disabilities.** Approximately 1.4 million students had individualized education programs (IEPs) in the 100 largest school districts. They made up 13 percent of all students in these districts, the same as the percentage for the United States and jurisdictions.<sup>11</sup> These 1.4 million students comprised 22 percent of the 6.3 million students in the 50 states and District of Columbia that had IEPs. In the largest school district, New York City Public Schools, New York, 14 percent, or 146,328 students, had IEPs. About 2 percent of the schools in the 100 largest school districts were special education schools.

**High school dropouts.** In the 1999–2000 school year, 60 of the 100 largest school districts were in states that could report dropouts using the NCES definition of dropouts (see the Methodology section of the full report for more information). The 9th- through 12th-grade dropout rate in those 60 districts ranged from less than 1 to 26 percent. Thirty-seven of the 60 districts that had dropout data had a 9th-through 12th-grade dropout rate between 3 and 10 percent, while 14 were higher and 9 were lower.

<sup>11</sup>IEP data for the United States and jurisdictions can be found in *Overview of Public Elementary and Secondary Schools and Districts: School Year 2001–02* (Hoffman 2003).

## Revenues and Expenditures for Fiscal Year 2000

In the 1999–2000 school year (FY 2000), \$373 billion were collected for public elementary and secondary education in the United States and jurisdictions; 23 percent (\$85 billion) of this revenue was collected by the 100 largest school districts.<sup>12</sup> Of the \$85 billion in revenue to the 100 largest school districts, 30 percent (\$25 billion) was received by the 5 largest school districts (New York City Public Schools, New York; Los Angeles Unified, California; Puerto Rico Department of Education, Puerto Rico; City of Chicago School District, Illinois; and Dade County School District, Florida). The revenues from the federal government received by the 100 largest school districts comprised between 2 percent (Plano Independent School District, Texas) and 28 percent (Puerto Rico Department of Education, Puerto Rico) of all revenues to the district.

The 100 largest school districts spent \$72 billion (22 percent) of the \$324 billion in current expenditures spent in the United States and jurisdictions in 1999–2000.<sup>13</sup> The two largest school districts, New York City Public Schools, New York, and Los Angeles Unified, California, spent a little more than 1 out of every 5 of the current expenditure dollars expended by the 100 largest school districts. The percentage of total current expenditures spent on instruction ranged from 41 percent (District of Columbia Public Schools, District of Columbia) to 74 percent (New York City Public Schools, New York) in the 100 largest school districts.

The current expenditures per pupil were \$6,911 in the United States and jurisdictions,<sup>14</sup> higher than the \$6,606 in the 100 largest school districts. Of the 100 largest school districts, 11 spent more than \$8,000 per pupil (with the Boston School District, Massachusetts, spending \$11,503 per pupil) and 6 spent less than \$5,000 per pupil (with the Puerto Rico Department of Education, Puerto Rico, spending \$3,404 per pupil). (See the Methodology section of the full report for a definition of specific revenues and expenditures.)

<sup>12</sup>National revenue and expenditure data were calculated from the state-level “National Public Education Financial Survey” (NPEFS) and can be found in *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 1999–2000* (Johnson 2002). The percentage distribution is based on school district-level data found on the U.S. Census Bureau’s Annual Survey of Government Finances (F-33 survey). The Department of Defense and Bureau of Indian Affairs are not included in these national totals.

<sup>13</sup>Data on current expenditures can be found in *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 1999–2000* (Johnson 2002).

<sup>14</sup>Data on current expenditures per pupil can be found in *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 1999–2000* (Johnson 2002).

## Changes in the 100 Largest School Districts Between 1991 and 2001

While there has been a lot of movement within the 100 largest school districts over time, between the 1991–92 and 2001–02 school years, the 100 largest school districts remained very similar. Only 11 of the 100 largest school districts in 1991–92 were not among the 100 largest school districts by 2001–02 (see appendix D of the full report for a list of the 100 largest school districts in 1991–92).<sup>15</sup>

The number of students in the 100 largest school districts increased by 14 percent between 1991–92 and 2001–02, the number of teachers increased by 27 percent, and the number of schools increased by 11 percent. However, while the numbers of students, teachers, and schools in the 100 largest school districts increased between these years, the proportion of the national total these numbers represent was essentially unchanged. For example, the number of students in the 100 largest school districts was 23 percent of all districts in both 1991–92 and 2001–02 (table D).

## Household and Population Characteristics of the 100 Largest School Districts

### Household poverty

The percentages of households living in poverty varied widely among the 100 largest school districts. In 1999, the percentages of all households with incomes below the poverty line ranged from about 4 to 47 percent in the 100

largest school districts. The Puerto Rico Department of Education, Puerto Rico, had the largest percentage of households in poverty—47 percent.

The percentages of family households with incomes below the poverty line in the 100 largest school districts ranged from 3 to 45 percent, with the Puerto Rico Department of Education, Puerto Rico, again having the largest percentage of family households with incomes below the poverty line.

### Educational attainment

In 2000, the percentage of adults ages 25 and older with less than a high school diploma<sup>16</sup> in the 100 largest school districts ranged from 7 to 59 percent. The percentage of adults ages 25 and older with a high school education only ranged from 12 to 37 percent. The percentage of adults with some college or higher<sup>17</sup> ranged from 32 to 78 percent in the 100 largest school districts. When looking at the upper end of education attainment (a master's degree or higher), the percentages of adults in the 100 largest school districts ranged from 3 to 28 percent, with Montgomery County Public Schools, Maryland, having the highest percentage of adults ages 25 and older with a master's degree or higher.

### English language proficiency

The percentages of children ages 5–17 who spoke English and no other language ranged from 13 percent (Santa Ana

<sup>15</sup>Please note that between 1991–92 and 2001–02, 1 of the 100 largest school districts that was present in both years changed its district name. This district was Mecklenburg County, North Carolina (1991–92)/Charlotte-Mecklenburg Schools, North Carolina (2001–02).

<sup>16</sup>Includes adults with the following levels of reported educational attainment: less than 9th grade; 9th grade; 10th grade; 11th grade; and 12th grade, no diploma.

<sup>17</sup>Includes adults with the following levels of reported educational attainment: some college, no degree; associate's degree; bachelor's degree; and master's degree or higher.

**Table D. Number of students, teachers, and schools in the United States and jurisdictions in the 100 largest school districts: School years 1991–92 and 2001–02**

	1991–92 <sup>1</sup>			2001–02 <sup>1</sup>			Percentage change (1991–92 to 2001–02)	
	All districts	100 largest districts	100 largest districts as a percentage of national total	All districts	100 largest districts	100 largest districts as a percentage of national total	All districts	100 largest districts
Students	42,800,693	9,823,729	23.0	48,520,706	11,168,631	23.0	13.4	13.7
Teachers (full-time-equivalent)	2,297,463	521,628	22.7	3,051,583	662,162	21.7	32.8	26.9
Schools	86,287	14,235	16.5	96,193	15,838	16.5	11.5	11.3

<sup>1</sup>Data for 2001–02 include outlying areas, Bureau of Indian Affairs, and Department of Defense schools. In 1991–92, these jurisdictions were not collected, and therefore not included. The addition of Bureau of Indian Affairs and Department of Defense schools accounts for 0.3 percent more students, 0.3 percent more teachers, and 0.4 percent more schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency Universe Survey," 1991–92 and 2001–02, Version 1a, and "State Nonfiscal Survey of Public Elementary/Secondary Education," 1991–92, Revised, and 2001–02, Version 1a.



Unified, California) to 97 percent (Knox County School District, Tennessee) in the 100 largest school districts in 2000. The Puerto Rico Department of Education, Puerto Rico, and Santa Ana Unified, California, had the lowest percentages of children ages 5–17 who spoke English and no other language in the 100 largest school districts. Looking at English-language proficiency, 51 percent of children ages 5–17 in the Puerto Rico Department of Education, Puerto Rico, did not speak English at all. Among other of the 100 largest school districts, the percentage of children who spoke no English at all was 2 percent or higher in the following districts: Los Angeles Unified, California; Houston Independent School District, Texas; Dallas Independent School District, Texas; Austin ISD, Texas; Denver County, Colorado; and Santa Ana Unified, California.

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**Data sources:** The following components of the NCES Common Core of Data (CCD): “Local Education Agency Universe Survey,” 1991–92 and 2001–02; “Public Elementary/Secondary School Universe Survey,” 2001–02; and “State Nonfiscal Survey of Public Elementary/Secondary Education,” 1991–92 and 2001–02.

**For technical information,** see the complete report:

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# School District Expenditures

## School District Expenditures for Elementary and Secondary Education: 1997–98

— Joel D. Sherman, Barbra Gregory, Jeffrey M. Poirier, and Xiaolan Ye

*This article was originally published as the Executive Summary of the Statistical Analysis Report of the same name. The sample survey data are from the “School District Financial Survey” (Form F-33), part of the NCES Common Core of Data (CCD), and from the U.S. Census Bureau and Bureau of Economic Analysis, U.S. Department of Commerce.*

### Introduction

The “School District Financial Survey” (Form F-33) is an annual survey of school district financial data that is part of the Common Core of Data (CCD). The F-33 collects data on revenues and expenditures for prekindergarten through grade 12 in public schools in approximately 15,500 local education agencies (LEAs) in the 50 states and the District of Columbia.

This report presents analyses of school district expenditures for the 1997–98 school year. The F-33 data form the core of these analyses, but information is supplemented by data on selected school district demographic and fiscal characteristics from the *1990 School District Data Book*, prepared by the U.S. Census Bureau.\*

Analyses of school district expenditures are presented for the nation and the states. The national analyses focus on expenditures in school districts in different geographical regions, of different size, with different fiscal capacity to support education (measured by median household income and median housing value), with different proportions of minority enrollment and with different poverty rates. The state analyses focus on interdistrict variation in expenditures per pupil, and the relationship between expenditures per pupil and the school district fiscal and demographic characteristics cited in the national analyses.

The analyses of expenditures presented in this report are based on both actual dollars and cost-adjusted dollars. Cost adjustments are designed to take into account differences in the cost of education across school districts in a state. The cost adjustment used in these analyses is the Geographic Cost of Education Index (GCEI), which uses school districts as the geographic area (Fowler and Monk 2001; Chambers 1998). The GCEI was developed using data from the 1993–94 Schools and Staffing Survey and works with

\*While more current census data on district characteristics are now available, the 1990 census data were used in these analyses because they were the most current data available at the time the report was planned and written. The national analyses include districts in all states, even when the percentage of districts with demographic and fiscal data was less than 50 percent of the total districts in the state. The state analyses, however, only included the 40 states in which at least 50 percent of the districts had demographic and fiscal data.

three categories of school inputs: certified school personnel, noncertified school personnel, and nonpersonnel school items. The index reflects how much more or less it costs in different geographic locations to recruit and employ comparable school personnel, as well as the varying cost of nonpersonnel items such as purchased services, supplies and materials, furnishings and equipment, travel, utilities, and facilities.

All analyses presented in this report are for the 1997–98 school year. Although most school finance relationships tend to be relatively stable over time, changes often occur as a result of changes in state funding formulas. The relationships observed for the 1997–98 school year may therefore differ from those observed in earlier or later years.

In the next section, the major findings of the report are presented using cost-adjusted expenditures. Findings based on actual expenditures are included in the body of the report.

### National Findings

The national findings focus on three areas: total expenditures and expenditures in different geographic regions, expenditures in school districts of different size, and the relationship between expenditures and selected school district fiscal and demographic characteristics.

#### Total expenditures and expenditures in different geographic regions

Cost-adjusted school district expenditures for elementary and secondary education totaled \$324.7 billion in the 1997–98 school year, or about \$7,138 per pupil. The largest share of total school expenditures was for current expenditures—\$273.1 billion, or about 84 percent of the total. Capital expenditures of \$35.3 billion made up almost 11 percent of the total. The remaining \$16.4 billion was used for nonelementary and nonsecondary programs and expenditures by LEAs (NCES 1998).

Cost-adjusted expenditures per pupil for education were highest in the Northeast for seven of the eight expenditure measures. Expenditures for administration were highest in

the Midwest. With the exception of expenditures for plant maintenance and operation, which were lowest in the South, expenditures per pupil for all other education functions were consistently lowest in the West.

#### **Expenditures in school districts of different size**

Cost-adjusted expenditures per pupil for most school functions were generally highest in small school districts and lowest in large districts. Per pupil expenditures were highest in districts with fewer than 1,000 students for all functions except student and instructional staff support. This was the one function for which expenditures per pupil were highest in the largest districts (with 10,000 or more students) and lowest in the smallest districts (with fewer than 1,000 students). The other expenditure measure for which expenditures per pupil were not lowest in the largest districts, administration expenditures per pupil, was lowest in districts with between 5,000 and 9,999 students.

#### **Relationship between expenditures and school districts' fiscal capacity**

For the nation as a whole, there was a weak relationship between school districts' fiscal capacity (measured by median household income and median value of owner-occupied housing) and cost-adjusted expenditures per pupil. The correlation between median household income and cost-adjusted current expenditures per pupil was +0.03; the correlation between median housing value and current expenditures per pupil was statistically insignificant. Correlations between these two measures of district fiscal capacity and all other measures of cost-adjusted expenditures per pupil were also weak or statistically insignificant.

#### **Relationship between expenditures and school districts' demographic characteristics**

Minority enrollment in a school district and the district poverty rate also showed weak relationships with cost-adjusted expenditures per pupil. Correlations between these two school district demographic characteristics and all measures of cost-adjusted expenditures per pupil were either weak or statistically insignificant.

### **State Findings**

The state findings focus on two areas: interdistrict variation in expenditures per pupil, and the relationship between expenditures and selected school district fiscal and demographic characteristics.

#### **Interdistrict variation in expenditures per pupil**

States differ substantially in the amount of interdistrict variation in expenditures per pupil. Using the synthesized

measure of variation, 12 states had the largest overall variation in cost-adjusted expenditures per pupil. Of these 12 states, 4 (Alaska, Idaho, Montana, and Wyoming) were in the West, 2 (Massachusetts and New Hampshire) were in the Northeast, and 6 (Illinois, Kansas, Missouri, Nebraska, North Dakota, and South Dakota) were in the Midwest. No state in this group was from the South.

Illinois, Montana, and North Dakota were in the quartile of states with the greatest interdistrict variation on all components of expenditures per pupil, while Alaska was in this quartile for six measures of expenditures per pupil.

At the other end of the spectrum were 12 states with the weakest interdistrict variation in cost-adjusted current expenditures per pupil. Of these 12 states, 9 (Alabama, Delaware, Florida, Kentucky, Louisiana, Maryland, North Carolina, South Carolina, and West Virginia) were in the South, 2 (Iowa and Wisconsin) were in the Midwest, and 1 (Nevada) was in the West.

Four states (Delaware, Florida, Nevada, and North Carolina) were in the quartile of states with the weakest overall variation on all measures of expenditures per pupil, and two other states (Alabama and West Virginia) were in this quartile for six components of expenditures per pupil.

#### **Relationship between expenditures and school districts' fiscal capacity**

*Median household income.* Among the 40 states with adequate data for analysis, 5 states (Illinois, Louisiana, New York, Pennsylvania, and Virginia) showed a moderate positive correlation between median household income and cost-adjusted current expenditures per pupil; no state had a strong positive correlation between income and current expenditures. On the other hand, median household income was negatively related to cost-adjusted current expenditures per pupil in 24 states, with 5 states (Alaska, Arizona, Iowa, Utah, and Washington) having a strong negative correlation between these variables.

In cost-adjusted dollars, 11 states showed a positive relationship between median household income and at least one measure of expenditure. Household income was related to all eight expenditure measures in one state (New York) and to seven of the eight expenditure measures in four other states (Illinois, Louisiana, Pennsylvania, and Virginia). In contrast, there was a negative relationship between median household income and at least one expenditure measure in 27 states. Five states (Arizona, Indiana, Missouri, Montana, and Nebraska) showed a

negative relationship between household income and all eight measures of expenditure. Another 13 states (Alaska, California, Florida, Iowa, Kansas, Maine, Minnesota, North Dakota, Oregon, Texas, Utah, Washington, and West Virginia) showed a negative relationship between household income and at least six expenditure measures.

**Median housing value.** District property values, as measured by median housing value, were positively related to cost-adjusted current expenditures per pupil in more states than median household income. For the 40 states with adequate data, 5 states (Illinois, Massachusetts, Ohio, Pennsylvania, and Vermont) had a moderate positive correlation between median housing value and current expenditures per pupil, and 1 state (Virginia) had a strong positive correlation. On the other hand, median housing value was negatively related to current expenditures per pupil in 17 states, with 5 states (Alaska, Iowa, Montana, Nebraska, and West Virginia) having a strong negative correlation between these variables.

Twenty-three states showed a positive relationship between median housing value and at least one measure of expenditure. Median housing value was positively related to all eight expenditure measures in one state (Virginia) and to at least six of the eight expenditure measures in four other states (Illinois, Maryland, Ohio, and Pennsylvania). In contrast, there was a negative relationship between median household income and at least one expenditure measure in 25 states. One state (Arizona) had a negative relationship between median housing value and all eight measures of expenditure. Another 13 states (Alaska, California, Indiana, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Texas, Utah, and Washington) showed a negative relationship between household income and at least six expenditure measures.

### Relationship between expenditures and school districts' demographic characteristics

**Minority enrollment.** For the 40 states with adequate data, 19 states had a positive correlation between minority enrollment and cost-adjusted current expenditures per pupil. Five states (Kansas, Nebraska, New Hampshire, New York, and Pennsylvania) had a moderate negative correlation between minority enrollment and cost-adjusted current expenditures.

In cost-adjusted dollars, 35 states showed a positive relationship between minority enrollment and at least one measure of expenditure. Minority enrollment was positively related to all eight measures of expenditure in seven states

(Arizona, Indiana, Massachusetts, Minnesota, Missouri, Montana, and Ohio) and to at least six of the eight expenditure measures in another six states (Alaska, Michigan, North Dakota, Oregon, South Carolina, and Wisconsin).

**District poverty rate.** For the 40 states with adequate data, 27 states had a positive correlation between the district poverty rate and cost-adjusted current expenditures per pupil. Three states had a negative correlation between the district poverty rate and cost-adjusted current expenditures per pupil.

Thirty-three states showed a positive relationship between the district poverty rate and at least one cost-adjusted measure of expenditure per pupil. The district poverty rate was positively related to all 8 expenditure measures in 10 states (Arizona, Indiana, Kansas, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Utah, and Washington) and to at least 6 of the 8 expenditure measures in another 11 states (Alaska, California, Florida, Michigan, Nebraska, Oregon, South Carolina, Tennessee, Texas, Wisconsin, and Wyoming). Eight states (Illinois, Louisiana, Maryland, Michigan, New York, Pennsylvania, Rhode Island, and West Virginia) had a negative relationship between the district poverty rate and at least one measure of expenditure.

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**Data sources:** The NCES Common Core of Data (CCD), "School District Financial Survey" (Form F-33), school year 1997-98; U.S. Census Bureau; and Bureau of Economic Analysis.

**For technical information,** see the complete report:

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# POSTSECONDARY EDUCATION

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## Postsecondary Enrollment

### Enrollment in Postsecondary Institutions, Fall 2001 and Financial Statistics, Fiscal Year 2001

*Laura G. Knapp, Janice E. Kelly, Roy W. Whitmore, Shiyong Wu, Burton Levine, and Seungho Huh*

***This article was originally published as the Summary of the E.D. TAB report of the same name. The universe data are from the NCES Integrated Postsecondary Education Data System (IPEDS).***

#### Introduction

This report presents findings from the Integrated Postsecondary Education Data System (IPEDS) spring 2002 data collection, which included enrollment data for fall 2001, financial statistics for fiscal year 2001, and student financial aid data for the 2000–01 academic year. These data were collected through the IPEDS web-based data collection system.

IPEDS began collecting data in 1985 from all postsecondary institutions in the United States (the 50 states and the District of Columbia) and its outlying areas.<sup>1</sup> For IPEDS, a postsecondary institution is defined as an organization that is open to the public and has as its primary mission the provision of postsecondary education. IPEDS defines

postsecondary education as formal instructional programs with a curriculum designed primarily for students who are beyond the compulsory age for high school. This includes academic, vocational, and continuing professional education programs and excludes institutions that offer only avocational (leisure) and adult basic education programs.

Participation in IPEDS is a requirement for the 6,615 institutions that participated in Title IV federal student financial aid programs such as Pell Grants or Stafford Loans during the 2001–02 academic year.<sup>2</sup> In addition, some of the 81 central and system offices included in IPEDS are required to respond to the Finance component of the survey

<sup>1</sup>The outlying areas are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

<sup>2</sup>Institutions participating in Title IV programs are accredited by an agency or organization recognized by the U.S. Department of Education, have a program of over 300 clock hours or 8 credit hours, have been in business for at least 2 years, and have a signed Program Participation Agreement (PPA) with the Office of Postsecondary Education (OPE), U.S. Department of Education.

if they have their own operating budgets (separate from the budgets of the individual campuses). Institutions that do not participate in Title IV programs may participate in the IPEDS data collection on a voluntary basis.

Tabulations in this report present data collected from the 6,615 Title IV institutions in spring 2002. Institutions provided enrollment, finance, student financial aid, and graduation rate data. Graduation rate data are not included in this report because the Title IV 4-year institutions were not required to provide these data in spring 2002.<sup>3</sup>

### Characteristics of Enrolled Students

In fall 2001, Title IV institutions in the United States and its outlying areas enrolled 16.6 million students (table A). Of these, 86.5 percent were enrolled in undergraduate programs, 11.6 percent were enrolled in graduate programs, and 1.9 percent were enrolled in first-professional programs. The majority of students, 60.0 percent, were enrolled full time, while 40.0 percent were enrolled part time.

Women accounted for 56.6 percent of all postsecondary students enrolled in Title IV institutions in fall 2001. White, non-Hispanic students constituted 62.2 percent, and students in groups other than White constituted 28.5 percent of fall 2001 enrollment in Title IV institutions. The remaining enrollment in Title IV institutions was made up of students whose race/ethnicity was unknown and nonresident aliens (5.8 percent and 3.4 percent, respectively).

### Characteristics of Students at Degree-Granting and Non-Degree-Granting Institutions<sup>4</sup>

During fall 2001, 16.3 million students attended Title IV institutions located within the United States (table B). Almost all of these students (15.9 million) attended degree-granting institutions, while about 406,000 students attended non-degree-granting institutions.

A majority of students attended school full time in both degree-granting and non-degree-granting institutions

<sup>3</sup>According to the regulations implementing the Student Right-to-Know Act, institutions offering athletically related student aid are required to report graduation rates beginning with the group of students who entered the institution between September 1, 1996, and August 31, 1997. Four-year institutions must start providing these data in the IPEDS spring 2003 data collection. All other institutions are required to respond as part of their Program Participation Agreement.

<sup>4</sup>Degree-granting institutions are those that grant associate's, bachelor's, master's, doctor's, or first-professional degrees. Non-degree-granting institutions award only certificates of completion; these institutions are primarily occupational/vocational schools awarding certificates in such programs as cosmetology, nursing, mechanics, aviation systems, computer and information sciences, dental assistant, and law enforcement.

(59.3 percent and 73.4 percent, respectively); likewise, a majority of the students were women in both types of institutions (56.3 percent and 64.7 percent, respectively). However, the proportion of students attending degree-granting or non-degree-granting institutions differed by race/ethnicity. Table B shows that 63.5 percent of the students attending degree-granting institutions were White, non-Hispanic, compared to 48.9 percent of those attending non-degree-granting institutions. Looking at members of groups other than White, they accounted for 27.0 percent of all students at degree-granting institutions and 43.5 percent of the students at non-degree-granting institutions. The remainder were either students whose race/ethnicity was unknown or nonresident aliens.

### Undergraduate Enrollment by Age

During fall 2001, 13.7 million undergraduates attended Title IV degree-granting institutions located within the United States (table C). Of these, 62.6 percent were between 18 and 24 years old, the traditional age for college attendees. Only 3.5 percent were under 18 years old, while 10.2 percent were 25 to 29 years old, 18.3 percent were 30 to 49 years old, and 3.3 percent were 50 or older. Age was unknown for 2.0 percent of undergraduates.

Full-time students were more likely to be traditionally aged undergraduates than their part-time counterparts. Over 80 percent of full-time undergraduates, but only 34.7 percent of part-time undergraduates, were 18 to 24 years old. Considering institution control, undergraduates at private not-for-profit institutions were more likely to be of traditional age. Almost three-fourths of undergraduates at private not-for-profit institutions, 61.4 percent of undergraduates at public institutions, and 42.8 percent of undergraduates at private for-profit institutions were 18 to 24 years old.

### Full-Time, First-Time Undergraduate Financial Aid Recipients<sup>5</sup>

IPEDS collects information on full-time, first-time degree/certificate-seeking undergraduates who receive financial aid. In fall 2000, there were nearly 2.0 million of these undergraduates in Title IV degree-granting institutions located in the United States (table D). About 70.3 percent of these students received financial aid during the 2000–01 academic year. The proportion of full-time, first-time degree/certificate-seeking undergraduates who received financial

<sup>5</sup>Financial aid, as used here, includes federal grants, state and local grants, institutional grants, and student loans; PLUS loans and other loans made directly to parents and college work-study programs are not included.

**Table A. Enrollment in Title IV institutions, by student level, attendance status, gender, and race/ethnicity: United States and outlying areas, fall 2001**

Student level, attendance status, gender, and race/ethnicity	United States and outlying areas		United States	
	Total students	Percent	Total students	Percent
Total students	16,582,108	100.0	16,334,134	100.0
Student level				
Undergraduate	14,346,797	86.5	14,120,740	86.4
Graduate	1,923,146	11.6	1,904,721	11.7
First-professional <sup>1</sup>	312,165	1.9	308,673	1.9
Attendance status				
Full time	9,942,376	60.0	9,745,598	59.7
Part time	6,639,732	40.0	6,588,536	40.3
Gender				
Men	7,204,353	43.4	7,104,212	43.5
Women	9,377,755	56.6	9,229,922	56.5
Race/ethnicity				
White, non-Hispanic	10,320,247	62.2	10,318,832	63.2
Black, non-Hispanic	1,839,470	11.1	1,837,837	11.3
Hispanic	1,767,347	10.7	1,534,051	9.4
Asian/Pacific Islander	964,606	5.8	955,322	5.8
American Indian/Alaska Native	153,845	0.9	153,826	0.9
Race/ethnicity unknown	967,345	5.8	965,690	5.9
Nonresident alien	569,248	3.4	568,576	3.5

<sup>1</sup>A first-professional student is one who is enrolled in any of the following degree programs: chiropractic, dentistry, law, medicine, optometry, osteopathic medicine, pharmacy, podiatry, theology, or veterinary medicine.

NOTE: Detail may not sum to totals because of rounding. The outlying areas are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002.

aid varied by institution level and control. About 56.5 percent of this cohort of undergraduates at public 2-year institutions and 71.3 percent at public 4-year institutions received financial aid, while larger proportions received aid at private institutions. At private not-for-profit institutions, 82.6 percent received aid—82.9 percent at 4-year institutions and 77.5 percent at 2-year institutions. At private for-profit institutions, 76.2 percent received aid—63.8 percent of full-time, first-time degree/certificate-seeking undergraduates in 4-year institutions compared to 84.3 percent in 2-year institutions.

Overall, the proportions of these undergraduates receiving financial aid did not change dramatically between 1999–2000 and 2000–01.<sup>6</sup> The percentage of full-time, first-time degree/certificate-seeking undergraduates receiving financial

aid rose from 69.0 percent in 1999–2000 to 70.3 percent in 2000–01. The largest difference was in private not-for-profit 2-year institutions, where the percentage of students receiving aid increased from 66.4 percent in 1999–2000 to 77.5 percent in 2000–01.

In addition to aggregate numbers of financial aid recipients, data were collected on four specific types of financial aid: federal grants, state and local government grants, institutional grants, and student loans. On average, 45.0 percent of full-time, first-time degree/certificate-seeking undergraduate financial aid recipients received one or more federal grants during the 2000–01 academic year (table E). This percentage varied somewhat by institutional control. Nearly 65 percent of these undergraduate aid recipients attending private for-profit institutions received federal grants, compared to 45.9 percent at public institutions and 34.4 percent at private not-for-profit institutions.

<sup>6</sup>Student financial aid data were not imputed; percentages are based on responding institutions only and may be subject to nonsampling error.

**Table B. Enrollment in Title IV institutions, by degree-granting status, level and control of institution, attendance status, gender, and race/ethnicity: United States, fall 2001**

Level and control of institution, attendance status, gender, and race/ethnicity	All institutions		Degree-granting		Non-degree-granting	
	Total students	Percent	Total students	Percent	Total students	Percent
Total students	16,334,134	100.0	15,927,987	100.0	406,147	100.0
Level of institution						
4-year	9,678,426	59.3	9,677,408	60.8	1,018	0.3
2-year	6,352,269	38.9	6,250,579	39.2	101,690	25.0
Less-than-2-year	303,439	1.9	†	†	303,439	74.7
Control of institution						
Public	12,370,079	75.7	12,233,156	76.8	136,923	33.7
Private not-for-profit	3,198,354	19.6	3,167,330	19.9	31,024	7.6
Private for-profit	765,701	4.7	527,501	3.3	238,200	58.6
Attendance status						
Full time	9,745,598	59.7	9,447,502	59.3	298,096	73.4
Part time	6,588,536	40.3	6,480,485	40.7	108,051	26.6
Gender						
Men	7,104,212	43.5	6,960,815	43.7	143,397	35.3
Women	9,229,922	56.5	8,967,172	56.3	262,750	64.7
Race/ethnicity						
White, non-Hispanic	10,318,832	63.2	10,120,366	63.5	198,466	48.9
Black, non-Hispanic	1,837,837	11.3	1,756,684	11.0	81,153	20.0
Hispanic	1,534,051	9.4	1,460,088	9.2	73,963	18.2
Asian/Pacific Islander	955,322	5.8	937,953	5.9	17,369	4.3
American Indian/Alaska Native	153,826	0.9	149,764	0.9	4,062	1.0
Race/ethnicity unknown	965,690	5.9	938,523	5.9	27,167	6.7
Nonresident alien	568,576	3.5	564,609	3.5	3,967	1.0

† Not applicable.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002.

The proportions of full-time, first-time degree/certificate-seeking undergraduates receiving each type of aid varied by institutional control. Those aid recipients at public institutions were more likely to receive state and local grants than those attending private not-for-profit or private for-profit institutions (51.2 percent vs. 38.5 percent and 19.9 percent, respectively). Whereas students at 4-year private not-for-profit institutions were more likely (84.6 percent) to receive institutional grants than students at other types of institutions, 13.1 percent and 5.7 percent of students at 4-year and 2-year private for-profit institutions, respectively, received institutional grants. Full-time, first-time degree/certificate-seeking undergraduate students at private for-profit institutions were more likely than those attending

public or private not-for-profit institutions to borrow money to attend college; 83.4 percent of these aid recipients at private for-profit institutions had student loans, compared to 46.9 percent at public institutions and 69.9 percent at private not-for-profit institutions.

### Revenues of Degree-Granting Institutions

The Finance component of the spring 2002 IPEDS collected information on the revenues and expenditures of Title IV institutions during fiscal year (FY) 2001. Revenue data were collected by source of revenue, such as tuition and fees and government appropriations, while expenditure data were collected by purpose of expenditure, including instruction, research, and public service.



**Table C. Undergraduate enrollment in Title IV degree-granting institutions, by attendance status, control of institution, and age of student: United States, fall 2001**

Age of student	All students	Full time	Part time	Public	Private	
					Not-for-profit	For-profit
<b>Number enrolled</b>						
All institutions	13,715,610	8,327,640	5,387,970	10,985,871	2,257,718	472,021
Under 18	485,530	136,173	349,357	423,386	52,632	9,512
18–19	3,353,652	2,867,445	486,207	2,597,804	687,469	68,379
20–21	3,118,763	2,518,302	600,461	2,395,850	656,812	66,101
22–24	2,107,903	1,323,528	784,375	1,748,470	292,045	67,388
25–29	1,402,187	591,967	810,220	1,169,387	151,707	81,093
30–34	890,776	289,489	601,287	733,249	103,115	54,412
35–39	673,977	184,201	489,776	553,012	83,694	37,271
40–49	944,442	217,791	726,651	785,657	116,202	42,583
50–64	380,201	58,181	322,020	334,758	35,348	10,095
65 and over	78,655	3,912	74,743	75,337	2,828	490
Age unknown	279,524	136,651	142,873	168,961	75,866	34,697
<b>Percent distribution</b>						
All institutions	100.0	100.0	100.0	100.0	100.0	100.0
Under 18	3.5	1.6	6.5	3.9	2.3	2.0
18–19	24.5	34.4	9.0	23.6	30.4	14.5
20–21	22.7	30.2	11.1	21.8	29.1	14.0
22–24	15.4	15.9	14.6	15.9	12.9	14.3
25–29	10.2	7.1	15.0	10.6	6.7	17.2
30–34	6.5	3.5	11.2	6.7	4.6	11.5
35–39	4.9	2.2	9.1	5.0	3.7	7.9
40–49	6.9	2.6	13.5	7.2	5.1	9.0
50–64	2.8	0.7	6.0	3.0	1.6	2.1
65 and over	0.6	#	1.4	0.7	0.1	0.1
Age unknown	2.0	1.6	2.7	1.5	3.4	7.4

# Rounds to zero.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002.

As shown in table F, the largest source of revenues differed by level and control of institution. Public 4-year institutions received close to one-third (31.9 percent) of their revenues from government appropriations, while public 2-year institutions received over half (54.9 percent) of their revenues from government appropriations. Both public 4-year and public 2-year institutions received nearly one-fifth of their revenues from tuition and fees (17.8 percent and 19.5 percent, respectively).

Private not-for-profit 4-year institutions received 38.0 percent of their revenues from tuition and fees. Due to a poor investment market, the 4-year private not-for-profit institutions realized negative investment returns in FY 2001. In previous years, investment return provided an important

source of funds for these institutions, whereas for FY 2001, they depended more on private gifts, grants, and contracts, and government grants and contracts (18.4 percent and 13.1 percent, respectively). In addition to revenues from tuition and fees (53.1 percent), the 2-year private not-for-profit institutions relied on government grants and contracts for 12.1 percent of their revenues and on private gifts, grants, and contracts for another 9.7 percent.

Private for-profit institutions, regardless of level, received the largest proportion of their revenues from tuition and fees. Four-year private for-profit institutions received 87.5 percent of their revenues from tuition and fees, and 2-year private for-profit institutions received 87.2 percent of their revenues from tuition and fees.

**Table D. Full-time, first-time degree/certificate-seeking undergraduate students enrolled and those receiving financial aid in Title IV degree-granting institutions, by control and level of institution: United States, academic years 1999–2000 and 2000–01**

Control and level of institution	Academic year 1999–2000 <sup>1</sup>			Academic year 2000–01 <sup>2</sup>		
	Number enrolled	Number of financial aid recipients	Percent receiving financial aid	Number enrolled	Number of financial aid recipients	Percent receiving financial aid
Total students	1,815,469	1,253,022	69.0	1,976,600	1,390,527	70.3
Public	1,293,335	829,698	64.2	1,333,236	872,109	65.4
4-year	770,443	538,883	69.9	804,793	573,430	71.3
2-year	522,892	290,815	55.6	528,443	298,679	56.5
Private not-for-profit	422,828	344,740	81.5	439,369	363,044	82.6
4-year	405,426	333,179	82.2	419,499	347,638	82.9
2-year	17,402	11,561	66.4	19,870	15,406	77.5
Private for-profit	99,306	78,584	79.1	203,995	155,374	76.2
4-year	38,931	28,894	74.2	81,075	51,739	63.8
2-year	60,375	49,690	82.3	122,920	103,635	84.3

<sup>1</sup>The numbers shown reflect those institutions that reported having financial aid recipients in academic year 1999–2000.

<sup>2</sup>The numbers shown reflect those institutions that reported having financial aid recipients in academic year 2000–01.

NOTE: Student financial aid data are not imputed. The item response rates for all cells on this table range from 91.8 percent to 100.0 percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2001 and Spring 2002.

**Table E. Types and average amounts of financial aid received by full-time, first-time undergraduate students in Title IV degree-granting institutions, by control and level of institution: United States, academic year 2000–01**

Control and level of institution	Number of financial aid recipients	Number receiving	Percent receiving	Average amount <sup>1</sup>	Federal grants		State/local grants	
					Number receiving	Percent receiving	Number receiving	Percent receiving
Total students	1,390,527	625,443	45.0	\$2,487	617,139	44.4	\$2,039	
Public	872,109	399,918	45.9	2,408	446,272	51.2	1,707	
4-year	573,430	213,814	37.3	2,569	293,958	51.3	2,068	
2-year	298,679	186,104	62.3	2,222	152,314	51.0	1,010	
Private not-for-profit	363,044	124,925	34.4	2,880	139,918	38.5	2,999	
4-year	347,638	115,149	33.1	2,931	135,173	38.9	3,002	
2-year	15,406	9,776	63.5	2,272	4,745	30.8	2,898	
Private for-profit	155,374	100,600	64.7	2,312	30,949	19.9	2,498	
4-year	51,739	29,249	56.5	2,296	9,671	18.7	2,897	
2-year	103,635	71,351	68.8	2,319	21,278	20.5	2,317	
					Institutional grants		Student loans <sup>2</sup>	
Total students	1,390,527	614,405	44.2	\$4,740	791,976	57.0	\$3,765	
Public	872,109	302,525	34.7	2,275	408,692	46.9	3,050	
4-year	573,430	238,454	41.6	2,616	327,676	57.1	3,212	
2-year	298,679	64,071	21.5	1,005	81,016	27.1	2,397	
Private not-for-profit	363,044	299,198	82.4	7,368	253,724	69.9	4,020	
4-year	347,638	294,089	84.6	7,458	243,895	70.2	4,000	
2-year	15,406	5,109	33.2	2,175	9,829	63.8	4,514	
Private for-profit	155,374	12,682	8.2	1,555	129,560	83.4	5,518	
4-year	51,739	6,758	13.1	1,621	46,794	90.4	5,750	
2-year	103,635	5,924	5.7	1,479	82,766	79.9	5,387	

<sup>1</sup>Each average grant (or loan) value was calculated by dividing the total grants (or loans) awarded by the total number of recipients.

<sup>2</sup>Student loans include only loans made directly to students; federal loans to parents (PLUS) and other loans made directly to parents are not included.

NOTE: Student financial aid data are not imputed. The item response rates for all cells on this table range from 90.5 percent to 99.3 percent. The numbers shown reflect only those institutions that reported the number of recipients by types of financial aid and the average amounts received.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002.

Table F. Revenues of Title IV degree-granting institutions, by level and control of institution and source of funds: United States, fiscal year 2001

Source of funds	4-year		2-year	
	Revenues (in thousands)	Percent	Revenues (in thousands)	Percent
<b>Public institutions<sup>1</sup></b>				
Total revenues and investment return	\$145,182,096	100.0	\$31,463,119	100.0
Tuition and fees	25,784,677	17.8	6,134,934	19.5
Government appropriations	46,305,760	31.9	17,265,480	54.9
Government grants and contracts	20,722,758	14.3	4,462,620	14.2
Private gifts, grants, and contracts	8,571,836	5.9	376,486	1.2
Endowment income/investment return	1,324,192	0.9	27,797	0.1
Sales and services of educational activities	4,759,931	3.3	228,442	0.7
Sales and services of auxiliary enterprises	14,804,051	10.2	1,697,784	5.4
Hospital revenue	16,759,921	11.5	0	0
Independent operations revenue	801,778	0.6	134,893	0.4
Other revenue <sup>2</sup>	5,347,193	3.7	1,134,683	3.6
<b>Private not-for-profit institutions</b>				
Total revenues and investment return	\$81,568,928	100.0	\$605,564	100.0
Tuition and fees	30,996,381	38.0	321,724	53.1
Government appropriations	770,523	0.9	8,912	1.5
Government grants and contracts	10,708,529	13.1	73,435	12.1
Private gifts, grants, and contracts	14,978,461	18.4	58,617	9.7
Contributions from affiliated entities	810,408	1.0	11,827	2.0
Investment return	-3,623,323	-4.4	20,996	3.5
Sales and services of educational activities	3,452,731	4.2	15,949	2.6
Sales and services of auxiliary enterprises	8,703,316	10.7	39,294	6.5
Hospital revenue	7,125,648	8.7	694	0.1
Independent operations revenue	3,499,024	4.3	2,020	0.3
Other revenue <sup>2</sup>	4,147,227	5.1	52,096	8.6
<b>Private for-profit institutions</b>				
Total revenues and investment return	\$2,952,254	100.0	\$2,015,446	100.0
Tuition and fees	2,583,644	87.5	1,756,833	87.2
Government appropriations, grants, and contracts	141,801	4.8	132,901	6.6
Private grants and contracts	1,659	0.1	1,189	0.1
Investment income and investment gains (losses)	12,574	0.4	7,163	0.4
Sales and services of educational activities	40,081	1.4	23,311	1.2
Sales and services of auxiliary enterprises	106,327	3.6	66,660	3.3
Other revenue <sup>2</sup>	66,168	2.2	27,389	1.4

<sup>1</sup>Categories are combined for public institutions that use Government Accounting Standards Board (GASB) standards and public institutions that use Financial Accounting Standards Board (FASB) standards to prepare their financial statements.

<sup>2</sup>A change in the definition of "other revenue" resulted in a decrease in the proportion of revenues classified as "other revenue," relative to earlier E.D.TAB reports.

NOTE: Public and private institutions use different accounting standards; thus, the categories differ. When reporting standards for private not-for-profit institutions changed under statements 116 and 117 of the FASB, accounting for scholarships changed, requiring that most scholarships be netted against tuition revenue. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002.

**Data source:** The NCES Integrated Postsecondary Education Data System (IPEDS), Spring 2001 and Spring 2002.

**For technical information,** see the complete report:

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**To obtain the complete report (NCES 2004-155),** visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# Postsecondary Institution Staff

## Staff in Postsecondary Institutions, Fall 2001, and Salaries of Full-Time Instructional Faculty, 2001–02

Laura G. Knapp, Janice E. Kelly, Roy W. Whitmore, Shiyong Wu, Seungho Huh, and Burton Levine

*This article was originally published as the Summary of the E.D. TAB report of the same name. The universe data are from the NCES Integrated Postsecondary Education Data System (IPEDS).*

### Introduction

This report presents findings from the Integrated Postsecondary Education Data System (IPEDS) winter 2001–02 data collection that included both race/gender information for staff employed in fall 2001 and salaries and fringe benefits of full-time instructional faculty<sup>1</sup> for academic year 2001–02. IPEDS also introduced a new component during the winter 2001–02 collection, Employees by Assigned Position. Response to this component was optional for the first year, so these data are not included in this report. The data included in this publication were collected through the IPEDS web-based data collection system.

IPEDS collects data from postsecondary institutions in the United States (the 50 states and the District of Columbia) and its outlying areas.<sup>2</sup> IPEDS defines a postsecondary institution as an organization that is open to the public and has a primary mission of providing education or training beyond the high school level. This includes institutions that offer academic, vocational, and continuing professional education programs and excludes institutions that offer only avocational (leisure) and adult basic education programs.

Participation in IPEDS is a requirement for the 6,696 institutions<sup>3</sup> that participated in Title IV federal student financial aid programs such as Pell Grants or Stafford Loans during the 2001–02 academic year.<sup>4</sup> In addition, institutions that do not participate in Title IV programs are offered the opportunity to participate in the IPEDS data

collection. IPEDS does not collect fall staff and salaries data from all Title IV institutions. Title IV institutions that employ 15 or more full-time staff are required to complete the Fall Staff component of IPEDS. For 2001–02, 4,763 institutions were required to complete the Fall Staff component. Moreover, the collection of salaries data is limited to Title IV 4-year institutions<sup>5</sup> (both degree-granting and non-degree-granting) and 2-year degree-granting institutions. In addition, institutions are not required to respond to the Salaries component if all instructional faculty are part time or if all contribute their services, are in the military, or teach clinical or preclinical medicine. For 2001–02, 4,143 institutions were required to complete the Salaries component. There were 4,990 Title IV institutions that were required to complete the Fall Staff and/or the Salaries component.

Tabulations in this report present selected data collected during the winter 2001–02 IPEDS collection about faculty and staff employed at Title IV institutions<sup>6</sup> in the United States. Degree-granting institutions (those offering associate's, bachelor's, master's, doctor's, and first-professional degrees) are displayed separately in some tables.

### Employees in Title IV Institutions

In fall 2001, Title IV institutions in the United States employed more than 3.1 million individuals (table A). Two-thirds of all staff (66 percent) were employed full time and 53 percent were women. Faculty<sup>7</sup> constituted 36 percent of all employees, other professional staff<sup>8</sup> accounted for 33 percent, and the remaining 31 percent were nonprofessional staff.<sup>9</sup>

<sup>1</sup>Instructional faculty are those whose specific assignments customarily are made for the purpose of providing instruction or teaching, or for whom it is not possible to differentiate between teaching, research, and public service, because each of these functions is an integral component of their regular assignment.

<sup>2</sup>Outlying areas include American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

<sup>3</sup>Includes 6,615 institutions and 81 central or system offices.

<sup>4</sup>Institutions participating in Title IV programs are accredited by an agency or organization recognized by the U.S. Department of Education, have a program of over 300 clock hours or 8 credit hours, have been in business for at least 2 years, and have a signed Program Participation Agreement (PPA) with the Office of Postsecondary Education (OPE), U.S. Department of Education.

<sup>5</sup>Title IV 4-year institutions include both degree-granting institutions offering bachelor's, master's, doctor's, and first-professional degrees and those institutions offering only postbaccalaureate and higher certificates.

<sup>6</sup>Title IV institutions described in this report represent the 4,990 Title IV institutions required to complete the Fall Staff and/or the Salaries component.

<sup>7</sup>Faculty include those staff whose principal activity is instruction, research, or public service.

<sup>8</sup>Other professional staff include those staff in executive, administrative, and managerial positions; instruction/research assistants; and others in administrative and professional (support/services) positions.

<sup>9</sup>Nonprofessional staff include those in technical/paraprofessional, clerical/secretarial, skilled crafts, or service/maintenance positions.

**Table A. Employees in all Title IV institutions, by gender, employment status, faculty status, professional status, and control and level of institution: United States, fall 2001**

Control and level of institution	Total number	Men	Women	Full time	Part time	Faculty	Other professional	Non-professional
<b>Number</b>								
Total	3,134,008	1,472,832	1,661,176	2,077,910	1,056,098	1,138,734	1,031,503	963,771
Public	2,161,790	1,015,212	1,146,578	1,388,752	773,038	786,435	709,784	665,571
4-year	1,558,576	744,554	814,022	1,089,547	469,029	438,459	630,702	489,415
2-year	587,591	263,711	323,880	289,204	298,387	338,762	76,877	171,952
Less-than-2-year	15,623	6,947	8,676	10,001	5,622	9,214	2,205	4,204
Private not-for-profit	889,356	416,621	472,735	640,036	249,320	308,046	296,380	284,930
4-year	875,371	411,245	464,126	629,897	245,474	302,776	291,723	280,872
2-year	12,746	4,859	7,887	9,224	3,522	4,762	4,153	3,831
Less-than-2-year	1,239	517	722	915	324	508	504	227
Private for-profit	82,862	40,999	41,863	49,122	33,740	44,253	25,339	13,270
4-year	40,386	22,208	18,178	19,004	21,382	23,085	11,413	5,888
2-year	28,246	13,082	15,164	19,868	8,378	13,993	9,177	5,076
Less-than-2-year	14,230	5,709	8,521	10,250	3,980	7,175	4,749	2,306
<b>Percent</b>								
Total	3,134,008	47.0	53.0	66.3	33.7	36.3	32.9	30.8
Public	2,161,790	47.0	53.0	64.2	35.8	36.4	32.8	30.8
4-year	1,558,576	47.8	52.2	69.9	30.1	28.1	40.5	31.4
2-year	587,591	44.9	55.1	49.2	50.8	57.7	13.1	29.3
Less-than-2-year	15,623	44.5	55.5	64.0	36.0	59.0	14.1	26.9
Private not-for-profit	889,356	46.8	53.2	72.0	28.0	34.6	33.3	32.0
4-year	875,371	47.0	53.0	72.0	28.0	34.6	33.3	32.1
2-year	12,746	38.1	61.9	72.4	27.6	37.4	32.6	30.1
Less-than-2-year	1,239	41.7	58.3	73.8	26.2	41.0	40.7	18.3
Private for-profit	82,862	49.5	50.5	59.3	40.7	53.4	30.6	16.0
4-year	40,386	55.0	45.0	47.1	52.9	57.2	28.3	14.6
2-year	28,246	46.3	53.7	70.3	29.7	49.5	32.5	18.0
Less-than-2-year	14,230	40.1	59.9	72.0	28.0	50.4	33.4	16.2

NOTE: Faculty include those staff whose principal activity is instruction, research, or public service. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2001–02.

Considering institution control, patterns similar to those for Title IV institutions as a whole were observed at public institutions and private not-for-profit institutions, where approximately 53 percent of employees were women, 36 percent were faculty, and 33 percent were other professional staff. The percentage of staff employed full time differed somewhat: 64 percent of staff at public institutions were employed full time, whereas at private not-for-profit institutions, 72 percent were full time. At private for-profit institutions, a greater proportion of staff were faculty (53 percent) and a smaller proportion were nonprofessional (16 percent) than at public or private not-for-profit institutions. Also at private for-profit institutions, a larger proportion of staff, 41 percent, were employed part time than at public or private not-for-profit institutions.

### Faculty in Title IV Degree-Granting Institutions

About 1.14 million faculty were employed in Title IV institutions in fall 2001. Of these, about 55 percent were employed full time and 45 percent were employed part time (table B). More men than women were employed as faculty in 2001, 58 percent compared to 42 percent. Of the 1.14 million faculty employed in all Title IV institutions, 1.11 million were employed in degree-granting institutions.

Considering only Title IV degree-granting institutions, there were about 618,000 full-time faculty employed in fall 2001 (table C). More men than women were employed as full-time faculty (62 percent and 38 percent, respectively). This proportion varied somewhat by length of contract; men

**Table B. Faculty in all Title IV institutions, by degree-granting status, gender, employment status, and control of institution: United States, fall 2001**

Gender, employment status, and control of institution	Faculty in all institutions		Faculty in degree-granting institutions	
	Number	Percent	Number	Percent
Total	1,138,734	100.0	1,113,183	100.0
Men	657,199	57.7	644,514	57.9
Women	481,535	42.3	468,669	42.1
Full time	631,824	55.5	617,868	55.5
Part time	506,910	44.5	495,315	44.5
Public	786,435	69.1	771,124	69.3
Private not-for-profit	308,046	27.1	306,487	27.5
Private for-profit	44,253	3.9	35,572	3.2

NOTE: Faculty include those staff whose principal activity is instruction, research, or public service. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2001–02.

**Table C. Full-time faculty in Title IV degree-granting institutions, by contract length, gender, and race/ethnicity: United States, fall 2001**

Gender and race/ethnicity	Total		Less-than-9-month contracts		9/10-month contracts		11/12-month contracts	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	617,868	100.0	7,063	100.0	423,800	100.0	187,005	100.0
Men	380,485	61.6	3,600	51.0	256,091	60.4	120,794	64.6
Women	237,383	38.4	3,463	49.0	167,709	39.6	66,211	35.4
White, non-Hispanic	499,557	80.9	4,478	63.4	350,762	82.8	144,317	77.2
Black, non-Hispanic	31,681	5.1	347	4.9	22,490	5.3	8,844	4.7
Hispanic	18,514	3.0	358	5.1	12,973	3.1	5,183	2.8
Asian/Pacific Islander	38,026	6.2	322	4.6	22,417	5.3	15,287	8.2
American Indian/Alaska Native	2,775	0.4	45	0.6	2,139	0.5	591	0.3
Race/ethnicity unknown	6,560	1.1	1,157	16.4	3,351	0.8	2,052	1.1
Nonresident alien	20,755	3.4	356	5.0	9,668	2.3	10,731	5.7

NOTE: Faculty include those staff whose principal activity is instruction, research, or public service. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2001–02.

constituted 51 percent of full-time faculty with less-than-9-month contracts, 60 percent of full-time faculty with 9/10-month contracts, and 65 percent of full-time faculty with 11/12-month contracts.

The majority of full-time faculty at Title IV degree-granting institutions were White, non-Hispanic (about 81 percent), while 15 percent were minority, 3 percent were nonresident aliens, and 1 percent were race/ethnicity unknown. These proportions varied somewhat for faculty with 9/10-month

contracts and faculty with 11/12-month contracts; however, for faculty with less-than-9-month contracts, the proportions have been affected by the high percentage (16 percent) reported as race/ethnicity unknown.

About 45 percent, or 278,825, of all full-time faculty at Title IV degree-granting institutions were tenured in fall 2001 (table D). A greater proportion of men had tenure than women. Approximately one-half, 51 percent, of male full-time faculty had tenure, while 36 percent of female

**Table D. Full-time faculty in Title IV degree-granting institutions, by tenure status, gender, and control and level of institution: United States, fall 2001**

Control and level of institution	Total faculty	Faculty with tenure	Percent faculty with tenure	Total men	Men with tenure	Percent men with tenure	Total women	Women with tenure	Percent women with tenure
Total	617,868	278,825	45.1	380,485	193,321	50.8	237,383	85,504	36.0
4-year	498,286	229,720	46.1	319,719	167,496	52.4	178,567	62,224	34.8
2-year	119,582	49,105	41.1	60,766	25,825	42.5	58,816	23,280	39.6
Public	426,589	203,878	47.8	258,774	139,243	53.8	167,815	64,635	38.5
4-year	315,829	155,261	49.2	203,233	113,716	56.0	112,596	41,545	36.9
2-year	110,760	48,617	43.9	55,541	25,527	46.0	55,219	23,090	41.8
Private not-for-profit	179,435	74,455	41.5	114,179	53,731	47.1	65,256	20,724	31.8
4-year	177,388	74,274	41.9	113,088	53,651	47.4	64,300	20,623	32.1
2-year	2,047	181	8.8	1,091	80	7.3	956	101	10.6
Private for-profit	11,844	492	4.2	7,532	347	4.6	4,312	145	3.4
4-year	5,069	185	3.6	3,398	129	3.8	1,671	56	3.4
2-year	6,775	307	4.5	4,134	218	5.3	2,641	89	3.4

NOTE: Faculty include those staff whose principal activity is instruction, research, or public service. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2001–02.

full-time faculty had tenure. Similarly, a greater proportion of full-time faculty at 4-year public and private not-for-profit institutions had tenure than at 4-year private for-profit institutions. About 49 percent of full-time faculty at 4-year public institutions and 42 percent of faculty at 4-year private not-for-profit institutions had tenure, while only 4 percent of faculty at 4-year private for-profit institutions had tenure. At public 2-year degree-granting institutions, 44 percent of full-time faculty had tenure, while 9 percent were tenured at 2-year private not-for-

profit institutions, and 5 percent were tenured at 2-year private for-profit institutions.

### Salaries of Full-Time Instructional Faculty

During the 2001–02 academic year, full-time instructional faculty on 9/10-month contracts earned an average salary of about \$60,000, while full-time instructional faculty on 11/12-month contracts earned an average salary of about \$67,000 (table E).

**Table E. Average salaries of full-time instructional faculty on 9/10- and 11/12-month contracts in Title IV degree-granting institutions, by gender and academic rank: United States, academic year 2001–02**

Academic rank	9/10-month contracts			11/12-month contracts		
	Total	Men	Women	Total	Men	Women
Total, all ranks	\$59,742	\$64,320	\$52,662	\$67,233	\$72,296	\$58,693
Professor	80,792	83,356	72,542	96,288	99,269	84,689
Associate professor	58,724	60,300	56,186	72,233	74,147	68,805
Assistant professor	48,796	50,518	46,824	62,529	65,338	59,188
Instructor	46,959	48,844	45,262	45,458	45,767	45,105
Lecturer	41,798	44,519	39,538	50,530	53,083	47,890
No academic rank	46,569	48,049	45,003	48,935	49,816	47,691

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2001–02.

As expected, salaries varied by rank and by gender, with faculty holding higher ranks earning higher average salaries. Among full-time instructional faculty on 9/10-month contracts, professors earned an average salary of \$81,000 and associate professors earned an average salary of \$59,000, while assistant professors averaged \$49,000, instructors averaged \$47,000, and lecturers earned an average salary of \$42,000. Those on 11/12-month contracts earned the following average salaries: professors—\$96,000; associate professors—\$72,000; assistant professors—\$63,000; instructors—\$45,000; and lecturers—\$51,000.

In general, men earned higher average salaries than women regardless of contract length or rank. Male faculty with 9/10-month contracts earned an average salary of \$64,000, while female faculty with contracts of the same length earned an average salary of \$53,000. Likewise, male faculty with 11/12-month contracts earned an average salary of \$72,000, while female faculty with 11/12-month contracts

earned an average salary of \$59,000. Similarly, male professors with 9/10-month contracts earned an average salary of \$83,000, while female professors with 9/10-month contracts earned an average salary of \$73,000. Male professors with 11/12-month contracts earned an average salary of \$99,000, while female professors with 11/12-month contracts earned an average salary of \$85,000.

**Data source:** The NCES Integrated Postsecondary Education Data System (IPEDS), Winter 2001–02.

**For technical information,** see the complete report:

Knapp, L.G., Kelly, J.E., Whitmore, R.W., Wu, S., Huh, S., and Levine, B. (2003). *Staff in Postsecondary Institutions, Fall 2001, and Salaries of Full-Time Instructional Faculty, 2001–02* (NCES 2004–159).

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**To obtain the complete report (NCES 2004–159),** visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).



# Institutions and Degrees

## Postsecondary Institutions in the United States: Fall 2002 and Degrees and Other Awards Conferred: 2001–02

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*This article was originally published as the Summary of the E.D. TAB report of the same name. The universe data are from the Integrated Postsecondary Education Data System (IPEDS).*

### Introduction

This report presents findings from the Integrated Postsecondary Education Data System (IPEDS) fall 2002 data collection, which included institutional characteristics data for the 2002–03 academic year and completions<sup>1</sup> data covering the period July 1, 2001, through June 30, 2002. These data were collected through the IPEDS web-based data collection system.

Since 1985, IPEDS has collected data from postsecondary institutions in the United States (the 50 states and the District of Columbia) and its outlying areas.<sup>2</sup> For IPEDS, a postsecondary institution is defined as an organization that is open to the public and has as its primary mission the provision of postsecondary education. IPEDS defines postsecondary education as formal instructional programs with a curriculum designed primarily for students who are beyond the compulsory age for high school. This includes academic, vocational, and continuing professional education programs and excludes institutions that offer only avocational (leisure) and adult basic education programs.

Participation in IPEDS was a requirement for the 6,508 institutions that participated in Title IV federal student financial aid programs such as Pell Grants or Stafford Loans during the 2002–03 academic year.<sup>3</sup> Title IV schools are a widely varied group of institutions that include traditional colleges and universities, 2-year institutions, schools of cosmetology, and for-profit degree-granting institutions, among others. In addition, the 80 central and system offices listed in the IPEDS universe are expected to provide minimal data through a shortened version of the Institutional Characteristics component. Institutions that

do not participate in Title IV programs may participate in the IPEDS data collection on a voluntary basis.

Tabulations in this report present selected data items collected from the 6,354 Title IV institutions in the United States and the 154 Title IV institutions in the outlying areas in fall 2002. Additional detailed information is available through the various IPEDS web tools.<sup>4</sup> Institutions provided institutional characteristics and price data for the 2002–03 academic year and completions data (degrees and other formal awards conferred) for the 2001–02 academic year. This report presents data for all Title IV institutions.

### Institutional Characteristics

The National Center for Education Statistics (NCES) and other researchers use data from the Institutional Characteristics component of IPEDS to classify postsecondary institutions based on a variety of characteristics. Data on sector, level, control, and affiliation allow classification within general categories. More specific categories of institutions can be defined by using additional data, such as types of programs offered, levels of degrees and awards, accreditation, calendar system, admission requirements, student charges, and basic enrollment information.

Institutions were classified as degree-granting if they awarded at least one associate's or higher degree in academic year 2001–02. Of the 6,508 Title IV institutions, 4,251 institutions, or 65 percent of all Title IV institutions, granted a degree during this period (table A).

Institutions may be further classified by their highest level of offering (level) and control. Among the 4,168 Title IV degree-granting institutions located in the United States, 59 percent were classified as 4 years and above, meaning they offered a bachelor's or higher degree; the remaining 41 percent offered the associate's as the highest degree (figure 1). Considering the 2,186 Title IV institutions in the United States that award certificates only (non-degree-granting), 77 percent offered certificates for completing

<sup>1</sup> Completions include degrees (associate's, bachelor's, master's, doctor's, and first-professional), certificates (at all levels: undergraduate, graduate, and first-professional), and other formal awards (such as diplomas).

<sup>2</sup> The outlying areas are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

<sup>3</sup> Institutions participating in Title IV programs are accredited by an agency or organization recognized by the U.S. Department of Education, have a program of over 300 clock hours or 8 credit hours, have been in business for at least 2 years, and have a signed Program Participation Agreement (PPA) with the Office of Postsecondary Education (OPE), U.S. Department of Education.

<sup>4</sup> See <http://nces.ed.gov/ipeds>.

**Table A. Title IV institutions, by geographic area, control of institution, degree-granting status, and level of institution: United States and outlying areas, academic year 2002–03**

Degree-granting status and level of institution	Total	United States				Outlying areas			
		Total	Public	Private		Total	Public	Private	
				Not-for-profit	For-profit			Not-for-profit	For-profit
All institutions	6,508	6,354	2,051	1,921	2,382	154	29	48	77
4 years and above	2,551	2,490	632	1,558	300	61	18	36	7
At least 2 but less than 4 years	2,194	2,170	1,155	251	764	24	11	3	10
Less than 2 years	1,763	1,694	264	112	1,318	69	0	9	60
Degree-granting	4,251	4,168	1,712	1,665	791	83	29	39	15
4 years and above	2,527	2,466	631	1,538	297	61	18	36	7
At least 2 but less than 4 years	1,724	1,702	1,081	127	494	22	11	3	8
Less than 2 years	†	†	†	†	†	†	†	†	†
Non-degree-granting	2,257	2,186	339	256	1,591	71	0	9	62
4 years and above	24	24	1	20	3	0	0	0	0
At least 2 but less than 4 years	470	468	74	124	270	2	0	0	2
Less than 2 years	1,763	1,694	264	112	1,318	69	0	9	60

† Not applicable.

NOTE: Data are not imputed. The item response rates for all cells on this table are 100 percent. The outlying areas are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2002.

programs below the baccalaureate level of less than 2 years' duration (less than 2 years), another 21 percent offered certificates requiring at least 2 but less than 4 years of study, and 1 percent offered certificates at the post-baccalaureate level or higher and are classified with the 4-years-and-above institutions.

Further examination of the Title IV degree-granting institutions located in the United States indicates that 41 percent were public institutions, 40 percent were private not-for-profit institutions, and 19 percent were private for-profit institutions. Of the 2,186 non-degree-granting Title IV institutions located in the United States, 16 percent were public institutions, 12 percent were private not-for-profit institutions, and 73 percent were private for-profit institutions.

### Completions

During the 2001–02 academic year, about 2.5 million degrees were awarded by Title IV degree-granting institutions located in the United States (table B). Of the total number of degrees awarded, 24 percent were associate's degrees, 52 percent were bachelor's degrees, 19 percent were

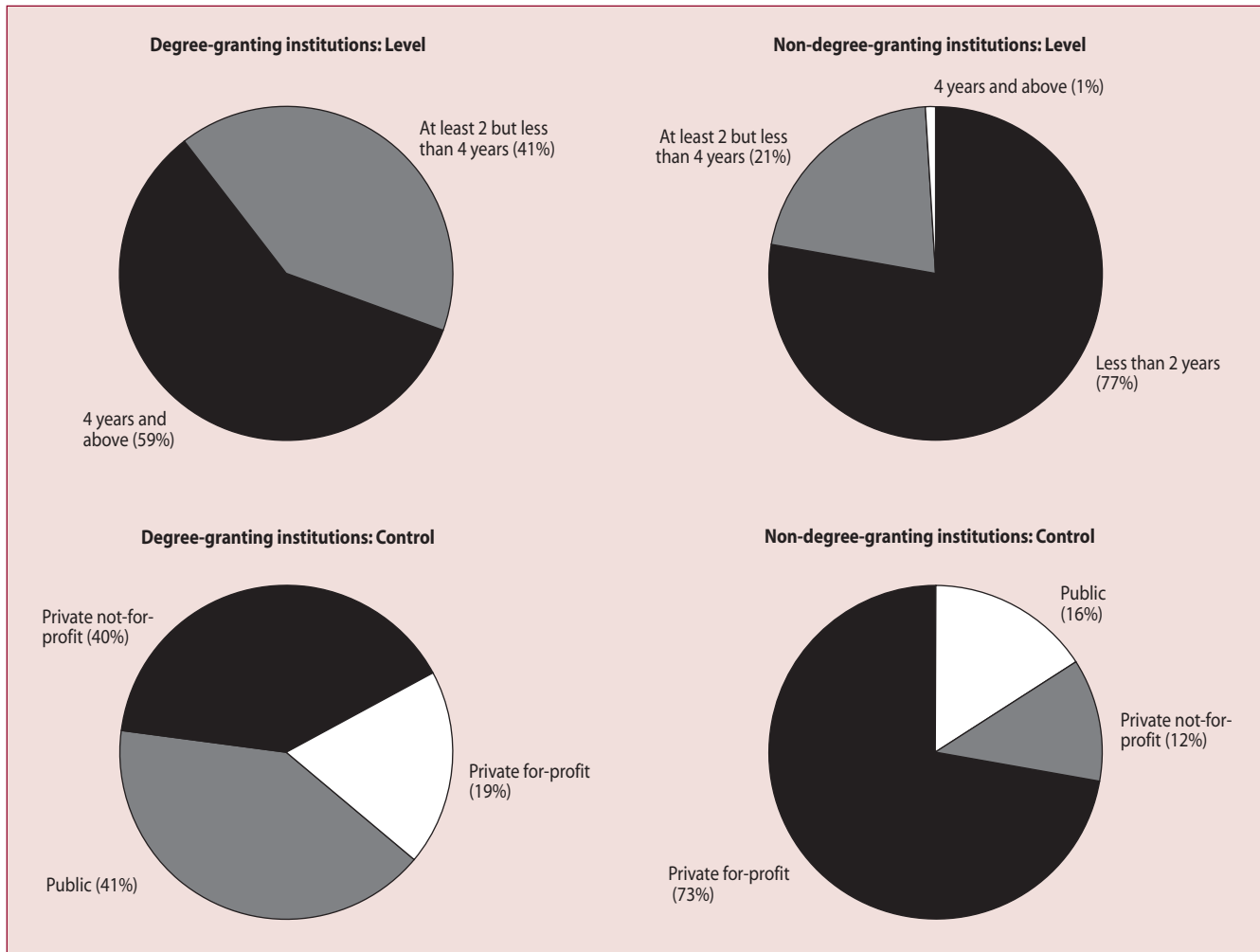
master's degrees, 2 percent were doctoral degrees, and 3 percent were first-professional degrees.<sup>5</sup>

### Control of institutions

Public institutions awarded two-thirds (65 percent) of all degrees from Title IV degree-granting institutions in the United States during the 2001–02 academic year, while private not-for-profit institutions awarded 30 percent and private for-profit institutions accounted for the remaining 5 percent (table C). Public and private not-for-profit institutions awarded more bachelor's degrees than any other type of degree. Bachelor's degrees accounted for 52 percent of all degrees awarded by public institutions and 56 percent of all degrees awarded by private not-for-profit institutions during 2001–02 (table B). Private for-profit institutions, on the other hand, were more likely to award associate's degrees. Associate's degrees accounted for 65 percent of the degrees awarded by private for-profit institutions during the 2001–02 academic year, while bachelor's degrees accounted for about 22 percent.

<sup>5</sup>First-professional degrees are awarded after completion of the academic requirements to begin practice in the following professions: chiropractic (D.C. or D.C.M.); dentistry (D.D.S. or D.M.D.); law (L.L.B. or J.D.); medicine (M.D.); optometry (O.D.); osteopathic medicine (D.O.); pharmacy (Pharm.D.); podiatry (D.P.M., D.P., or Pod.D.); theology (M.Div., M.H.L., B.D., or Ordination); or veterinary medicine (D.V.M.).

**Figure 1. Title IV institutions, by degree-granting status and level and control of institution: United States, academic year 2002–03**



NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2002.

**Gender and race/ethnicity of recipients**

Women continued to earn more degrees than men in academic year 2001–02 (table C). Overall, about 58 percent of all degrees were awarded to women. Women earned more associate’s, bachelor’s, and master’s degrees than men in 2001–02. They received 60 percent of the associate’s degrees, 57 percent of the bachelor’s degrees, and 59 percent of the master’s degrees. While men earned more doctor’s and first-professional degrees, 54 percent and 53 percent, respectively, women earned a higher percentage of these degrees in 2001–02 than in previous years (Knapp et al. 2003).

Over two-thirds (68 percent) of all degrees conferred during the 2001–02 academic year were awarded to White, non-Hispanic students; 22 percent were awarded to members of groups other than White; and 10 percent were awarded to nonresident aliens or individuals whose race/ethnicity was unknown (5 percent each). The majority of degrees at each level were awarded to White, non-Hispanic students: 67 percent of associate’s degrees, 71 percent of bachelor’s degrees, 62 percent of master’s degrees, 57 percent of doctor’s degrees, and 69 percent of first-professional degrees.

**Table B. Number and percentage of degrees conferred by Title IV degree-granting institutions, by control of institution and level of degree: United States, academic year 2001–02**

Level of degree	Total	Public	Private not-for-profit	Private for-profit
Total, all degrees	2,494,009	1,623,721	751,019	119,269
Percent of total	100.0	100.0	100.0	100.0
Associate's degrees	595,133	471,660	45,761	77,712
Percent of total	23.9	29.0	6.1	65.2
Bachelor's degrees	1,291,900	841,180	424,322	26,398
Percent of total	51.8	51.8	56.5	22.1
Master's degrees	482,118	249,820	218,034	14,264
Percent of total	19.3	15.4	29.0	12.0
Doctor's degrees	44,160	27,622	15,882	656
Percent of total	1.8	1.7	2.1	0.6
First-professional degrees <sup>1</sup>	80,698	33,439	47,020	239
Percent of total	3.2	2.1	6.3	0.2

<sup>1</sup>First-professional degrees are awarded after completion of the academic requirements to begin practice in the following professions: chiropractic (D.C. or D.C.M.); dentistry (D.D.S. or D.M.D.); law (L.L.B. or J.D.); medicine (M.D.); optometry (O.D.); osteopathic medicine (D.O.); pharmacy (Pharm.D.); podiatry (D.P.M., D.P., or Pod.D.); theology (M.Div., M.H.L., B.D., or Ordination); or veterinary medicine (D.V.M.).

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2002.

The proportion of degrees awarded to members of groups other than White students was highest at the associate's level, where they received 27 percent of these degrees. These students were also awarded 22 percent of bachelor's degrees, 17 percent of master's degrees, 14 percent of doctor's degrees, and 24 percent of first-professional degrees.

Although the proportion of degrees awarded to nonresident aliens varied by level, they received 13 percent of all master's degrees and 25 percent of all doctor's degrees, much higher proportions than any group other than White, non-Hispanic.

### Tuition and Fees

The overall increase in tuition and fees charged by degree-granting institutions between 1997–98 and 2002–03 varied by institution level and student residency status (table D). Note that these are average institutional charges to all students; the numbers do not reflect average amounts paid by students because charges are *not* weighted by enrollment, nor is financial aid taken into consideration (Choy and Berker 2003). Average charges for undergraduate tuition

and required fees at 4-year public institutions rose 32 percent for in-state students and 29 percent for out-of-state students between 1997–98 and 2002–03. During this same period, average undergraduate tuition and required fees increased 28 percent at 4-year private not-for-profit institutions, and 35 percent at 4-year private for-profit institutions.

Between 1997–98 and 2002–03, average tuition and required fees at 2-year public institutions increased 19 percent for in-state students and 15 percent for out-of-state students. Average undergraduate tuition and required fees increased 22 percent between 1997–98 and 2002–03 at 2-year private not-for-profit institutions, and 41 percent at 2-year private for-profit institutions.

### Price of Attendance

Price of attendance is an estimate of the total amount an incoming undergraduate student should expect to pay to attend college. This price includes tuition and fees, books and supplies, room and board, and certain designated other expenses such as transportation. IPEDS collects price of attendance information for full-time, first-time,

**Table C. Degrees conferred by Title IV degree-granting institutions and percent distribution, by level of degree, control of institution, gender, and race/ethnicity: United States, academic year 2001–02**

Control of institution, gender, and race/ethnicity	Total degrees		Associate's degrees		Bachelor's degrees	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
All institutions	2,494,009	100.0	595,133	100.0	1,291,900	100.0
Control of institution						
Public	1,623,721	65.1	471,660	79.3	841,180	65.1
Private not-for-profit	751,019	30.1	45,761	7.7	424,322	32.8
Private for-profit	119,269	4.8	77,712	13.1	26,398	2.0
Gender						
Men	1,053,260	42.2	238,109	40.0	549,816	42.6
Women	1,440,749	57.8	357,024	60.0	742,084	57.4
Race/ethnicity						
White, non-Hispanic	1,696,327	68.0	401,196	67.4	914,660	70.8
Black, non-Hispanic	220,561	8.8	64,704	10.9	111,177	8.6
Hispanic	162,176	6.5	57,604	9.7	79,029	6.1
Asian/Pacific Islander	143,197	5.7	29,692	5.0	79,130	6.1
American Indian/Alaska Native	18,441	0.7	6,565	1.1	8,743	0.7
Race/ethnicity unknown	123,079	4.9	23,095	3.9	57,705	4.5
Nonresident alien	130,228	5.2	12,277	2.1	41,456	3.2
Control of institution, gender, and race/ethnicity	Master's degrees		Doctor's degrees		First-professional degrees <sup>1</sup>	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
All institutions	482,118	100.0	44,160	100.0	80,698	100.0
Control of institution						
Public	249,820	51.8	27,622	62.5	33,439	41.4
Private not-for-profit	218,034	45.2	15,882	36.0	47,020	58.3
Private for-profit	14,264	3.0	656	1.5	239	0.3
Gender						
Men	199,120	41.3	23,708	53.7	42,507	52.7
Women	282,998	58.7	20,452	46.3	38,191	47.3
Race/ethnicity						
White, non-Hispanic	299,373	62.1	25,319	57.3	55,779	69.1
Black, non-Hispanic	36,906	7.7	2,268	5.1	5,506	6.8
Hispanic	20,450	4.2	1,352	3.1	3,741	4.6
Asian/Pacific Islander	23,015	4.8	2,184	4.9	9,176	11.4
American Indian/Alaska Native	2,405	0.5	175	0.4	553	0.7
Race/ethnicity unknown	36,286	7.5	1,933	4.4	4,060	5.0
Nonresident alien	63,683	13.2	10,929	24.7	1,883	2.3

<sup>1</sup>First-professional degrees are awarded after completion of the academic requirements to begin practice in the following professions: chiropractic (D.C. or D.C.M.); dentistry (D.D.S. or D.M.D.); law (L.L.B. or J.D.); medicine (M.D.); optometry (O.D.); osteopathic medicine (D.O.); pharmacy (Pharm.D.); podiatry (D.P.M., D.P., or Pod.D.); theology (M.Div., M.H.L., B.D., or Ordination); or veterinary medicine (D.V.M.).

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2002.

**Table D. Changes in average institutional charges for undergraduate tuition and required fees to full-time, full-year undergraduates at Title IV degree-granting institutions, by year of undergraduate tuition and required fees, level of institution, control of institution, and residency: United States, academic years 1997–98 and 2002–03**

Control of institution and residency	Undergraduate tuition and required fees					
	1997–98		2002–03		Percent change	
	4 years and above	At least 2 but less than 4 years	4 years and above	At least 2 but less than 4 years	4 years and above	At least 2 but less than 4 years
Public institutions						
In-district						
Average charge	\$3,064	\$1,401	\$3,939	\$1,675	28.6	19.5
Median charge	2,838	1,296	3,702	1,680	30.4	29.6
In-state						
Average charge	3,064	1,719	4,045	2,041	32.0	18.7
Median charge	2,838	1,437	3,707	1,903	30.6	32.4
All other						
Average charge	7,960	4,096	10,244	4,713	28.7	15.1
Median charge	7,904	4,093	9,829	4,502	24.4	10.0
Private not-for-profit institutions						
Average charge	11,184	7,119	14,310	8,656	28.0	21.6
Median charge	10,889	6,595	14,220	8,900	30.6	35.0
Private for-profit institutions						
Average charge	8,457	7,343	11,439	10,321	35.3	40.6
Median charge	7,801	7,104	10,515	9,390	34.8	32.2

NOTE: Tuition data are not imputed. The item response rates for all cells on this table range from 88.9 percent to 100.0 percent. For public institutions, “in district” refers to the charges paid by a student who lives in the locality surrounding the institution, such as county; “all other” reflects out-of-state tuition and fees. Tuition and required fees are average institutional charges, not average amounts paid by students (i.e., charges are not weighted by enrollment).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 1997 and Fall 2002.

degree/certificate-seeking undergraduates from Title IV institutions. These estimates are the amounts provided by the institutions’ financial aid offices and are used to determine a student’s financial need.

Considering differences in price of attendance for full-time, first-time, degree/certificate-seeking undergraduates (referred to here as “undergraduates”) by institutional control, 4-year private not-for-profit institutions were more expensive than either private for-profit or public institutions of the same level (table E). The average price of attendance for undergraduates attending 4-year private not-for-profit institutions in 2002–03 was \$23,100 for those living on campus, \$23,800 for those living off campus and not with family, and \$18,000 for those living off campus with family. This was somewhat higher than the price for these same students at 4-year private for-profit institutions. Public 4-year institutions reported an average price of \$12,500 for in-state undergraduates living on campus and

\$18,900 for out-of-state undergraduates living on campus during the 2002–03 academic year.

Two-year public institutions offered the lowest price of attendance overall during this same period, \$8,600 for in-state students living on campus and \$10,800 for out-of-state students living on campus. For the 2002–03 academic year, students attending private 2-year institutions paid higher prices. At private for-profit 2-year institutions, first-time students could expect to pay \$19,100 if living on campus, while their counterparts at private not-for-profit institutions paid \$16,300.

The average price of attendance for students living off campus and not with a family member was higher than for students living on campus, while students living with family paid less than all other categories of students across all types of institutions.

**Table E. Average price of attendance for full-time, first-time, degree/certificate-seeking students at Title IV degree-granting institutions, by control of institution, residency, and level of institution: United States, academic year 2002–03**

Control of institution, residency, and level of institution	On-campus price	Off-campus (not with family) price	Off-campus (with family) price
Public institutions			
In-state			
4 years and above	\$12,548	\$13,368	\$7,656
At least 2 but less than 4 years	8,566	9,883	5,186
Out-of-state			
4 years and above	18,937	19,757	14,045
At least 2 but less than 4 years	10,787	12,104	7,407
Private not-for-profit institutions			
4 years and above	23,094	23,847	18,007
At least 2 but less than 4 years	16,338	18,630	12,631
Private for-profit institutions			
4 years and above	21,932	20,962	15,732
At least 2 but less than 4 years	19,111	20,297	14,563

NOTE: Price of attendance includes tuition and fees, room and board charges, books and supplies, and other expenses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2002.

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**Data source:** The NCES Integrated Postsecondary Education Data System (IPEDS), Fall 2002.

**For technical information,** see the complete report:

Knapp, L.G., Kelly, J.E., Whitmore, R.W., Wu, S., and Gallego, L.M. (2003). *Postsecondary Institutions in the United States: Fall 2002 and Degrees and Other Awards Conferred: 2001–02* (NCES 2004–154).

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# Remedial Education

## Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000

—Basmat Parsad and Laurie Lewis

*This article was originally published as the Executive Summary of the Statistical Analysis Report of the same name. The sample survey data are from the Postsecondary Education Quick Information System (PEQIS).*

This study was conducted through the National Center for Education Statistics (NCES) Postsecondary Education Quick Information System (PEQIS). It was designed to provide current national estimates of the prevalence and characteristics of remedial courses and enrollments in degree-granting 2-year and 4-year postsecondary institutions that enrolled freshmen in fall 2000, and to report changes in remediation from fall 1995. For the purposes of this study, remedial education courses were defined as courses in reading, writing, or mathematics for college-level students lacking those skills necessary to perform college-level work at the level required by the institution.<sup>1</sup>

### Key Findings

This report presents data from the 2000 PEQIS survey and comparisons with the 1995 PEQIS survey on remedial course offerings, student participation in remedial programs, institutional structure of remedial programs, and the delivery of remedial courses through distance education. This study examined two issues not covered in the 1995 survey: types of technology used in the delivery of remedial education through distance education courses, and the use of computers as a hands-on instructional tool for on-campus remedial education. The data are presented by institutional type: public 2-year, private 2-year, public 4-year, and private 4-year.<sup>2</sup>

### Remedial Course Offerings

In fall 1995 and 2000, institutions provided information about their remedial course offerings in the areas of greatest need for underprepared students—reading, writing, and mathematics<sup>3</sup> (Merisotis and Phipps 2000).

In fall 2000, about three-fourths (76 percent) of the Title IV degree-granting 2- and 4-year institutions that enrolled freshmen offered at least one remedial reading, writing, or mathematics course (table A).<sup>4</sup> A higher proportion of institutions offered remedial courses in mathematics (71 percent) and writing (68 percent) than in reading (56 percent). Remedial course offerings were generally limited to a small number of courses; the average (mean) number of different remedial courses offered by an institution was 2.0 for reading, 2.0 for writing, and 2.5 for mathematics (table B).

Public 2-year colleges were more likely than other types of institutions to provide remedial education. In fall 2000, public 2-year institutions (98 percent) were more likely than other types of institutions (59 to 80 percent) to offer one or more college-level remedial reading, writing, or mathematics courses (table A), and they offered a greater number of different remedial courses, on average (table B).

Public 4-year institutions were also significant providers of remedial education in fall 2000. Compared with private 4-year institutions, public 4-year institutions were more likely to offer one or more remedial reading, writing, or mathematics courses (80 vs. 59 percent) (table A), and they offered a greater number of different remedial reading, writing, and mathematics courses, on average (table B).

Remedial education services or courses were offered to local business and industry by 21 percent of the institutions enrolling freshmen in fall 2000.<sup>5</sup> Among institutions that provided remedial services to business and industry, a higher proportion provided remediation in mathematics (93 percent) than in reading (81 percent). Public 2-year colleges were more likely than public or private 4-year institutions to offer remedial services or courses to local business and industry (56 percent vs. 8 and 3 percent, respectively).

<sup>1</sup> Respondents were asked to include any courses meeting the definition, regardless of the course name. Institutions may use other names for remedial courses, including “developmental,” “compensatory,” or “basic skills.”

<sup>2</sup> Differences by institutional type are reported only when they are statistically significant.

<sup>3</sup> Institutions were instructed on the front of the questionnaire to respond for their regular undergraduate programs, except for question 13, which asked about services/courses to business and industry. Thus, remedial courses offered to business and industry were not considered in the institution’s reporting of remedial course offerings in other sections of the questionnaire.

<sup>4</sup> All analyses in this report are based on institutions that enrolled freshmen at the time of the survey.

<sup>5</sup> Remedial courses offered to local business and industry do not include courses in the institutions’ regular undergraduate programs.



**Table A. Number of degree-granting institutions that enrolled freshmen, and the percentage of those institutions that offered remedial reading, writing, or mathematics courses, by institution type: Fall 1995 and 2000**

Year and institution type	Number of degree-granting institutions with freshmen	Percentage of institutions that offered remedial courses in			
		Reading, writing, or mathematics	Reading	Writing	Mathematics
2000					
All institutions	3,230	76	56	68	71
Public 2-year	1,080	98	96	96	97
Private 2-year	270	63	37	56	62
Public 4-year	580	80	49	67	78
Private 4-year	1,300	59	30	46	49
1995					
All institutions	2,990	77	57	71	72
Public 2-year	940	100	99	99	99
Private 2-year	330	64	30	62	62
Public 4-year	540	80	52	71	78
Private 4-year	1,180	62	33	52	50

NOTE: Data reported for fall 2000 are based on Title IV degree-granting institutions that enrolled freshmen in fall 2000. Data reported for fall 1995 are based on degree-granting institutions that enrolled freshmen in fall 1995. The numbers of institutions have been rounded to the nearest 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Remedial Education in Higher Education Institutions," PEQIS 6, 1995; and "Remedial Education in Higher Education Institutions: Fall 2000," PEQIS 12, 2001. (Originally published as table 1 on p. 8 of the complete report from which this article is excerpted.)

**Table B. Mean number of different remedial courses offered by degree-granting institutions that enrolled freshmen, by subject area and institution type: Fall 1995 and 2000**

Year and institution type	Reading	Writing	Mathematics
2000			
All institutions	2.0	2.0	2.5
Public 2-year	2.5	2.6	3.4
Private 2-year	‡	1.6	1.8
Public 4-year	1.6	1.6	2.1
Private 4-year	1.2	1.3	1.5
1995			
All institutions	2.2	2.0	2.5
Public 2-year	2.7	2.7	3.6
Private 2-year	‡	‡	1.3
Public 4-year	1.6	1.5	2.0
Private 4-year	1.5	1.4	1.5

‡ Reporting standards not met; too few cases for a reliable estimate.

NOTE: Data reported for fall 2000 are based on Title IV degree-granting institutions that enrolled freshmen in fall 2000. Data reported for fall 1995 are based on degree-granting institutions that enrolled freshmen in fall 1995. The means are based on institutions that offered remedial courses in that subject in that year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Remedial Education in Higher Education Institutions," PEQIS 6, 1995; and "Remedial Education in Higher Education Institutions: Fall 2000," PEQIS 12, 2001. (Originally published as table 2 on p. 11 of the complete report from which this article is excerpted.)

Between 1995 and 2000, no differences were detected in the overall proportion of institutions that offered at least one college-level remedial reading, writing, or mathematics course, although the proportion of institutions that offered remedial writing courses declined from 71 percent to 68 percent (table A). No differences were detected in the average number of different remedial reading, writing, or mathematics courses offered during this time period (table B).

### Participation in Remedial Courses

In fall 2000, 28 percent of entering freshmen enrolled in one or more remedial reading, writing, or mathematics courses (table C). The proportion of freshmen who enrolled in remedial courses was larger for mathematics than writing (22 vs. 14 percent), and it was smallest for reading (11 percent). The time that students spent in remediation was generally limited to 1 year or less; in fall 2000, a majority (60 percent) of institutions that offered remedial courses indicated that the average time a student spent in remediation was less than 1 year, about one-third (35 percent) indicated that the average time was 1 year, and

5 percent reported an average time of more than 1 year (table D).<sup>6</sup>

Public 2-year colleges enrolled more of their entering freshmen in remedial courses (table C), and they reported longer average time periods that students spent in remediation (table D), compared with other types of institutions in fall 2000. For example, 42 percent of freshmen at public 2-year colleges and 12 to 24 percent of freshmen at other types of institutions enrolled in at least one remedial reading, writing, or mathematics course. Compared with private 4-year institutions, public 4-year institutions also enrolled a higher proportion of freshmen in one or more remedial reading, writing, or mathematics courses (table C), and they reported longer average time periods that students spent in remediation (table D).

<sup>6</sup>Students may also choose to limit the time they spend in remediation in order to qualify for federal student aid. Based on federal policy, students may not be considered eligible for federal financial aid if they are enrolled solely in remedial programs or if remedial coursework exceeds one academic year (Higher Education Act of 1965, as amended).

**Table C. Number of entering freshmen at degree-granting institutions, and the percentage of entering freshmen enrolled in remedial courses, by subject area and institution type: Fall 1995 and 2000**

Year and institution type	Number of entering freshmen (in thousands)	Percentage of entering freshmen enrolled in remedial courses in			
		Reading, writing, or mathematics	Reading	Writing	Mathematics
2000					
All institutions	2,396	28	11	14	22
Public 2-year	992	42	20	23	35
Private 2-year	58	24	9	17	18
Public 4-year	849	20	6	9	16
Private 4-year	497	12	5	7	8
1995					
All institutions	2,100	28	12	16	22
Public 2-year	936	40	19	24	32
Private 2-year	53	26	11	19	23
Public 4-year	721	21	8	11	17
Private 4-year	389	12	5	7	8

NOTE: Data reported for fall 2000 are based on Title IV degree-granting institutions that enrolled freshmen in fall 2000. Data reported for fall 1995 are based on degree-granting institutions that enrolled freshmen in fall 1995. The PEQIS surveys asked institutions about the *percentage* of entering freshmen enrolled in remedial education. The percentages were used with information from the Integrated Postsecondary Education Data System (IPEDS) 2000 Fall Enrollment file about the total *number* of first-time freshmen (both full and part time) enrolled at the institution. The IPEDS information about the total number of first-time freshmen was used (a) to convert the PEQIS questionnaire data on the *percentage* of entering freshmen enrolled in remedial education to the *number* of entering freshmen enrolled in remedial education at each institution, and (b) as a denominator to calculate the *percentage* of entering freshmen enrolled in remedial education *across all institutions* that enrolled freshmen. Thus, national estimates for the percentage of entering freshmen enrolled in remedial education were obtained by dividing the sum of entering freshmen enrolled in remedial education across all institutions by the sum of all first-time freshman enrollments across all institutions. To maintain comparability with previous estimates of freshman enrollment in remedial education, the information from IPEDS used in this calculation included only first-time, first-year students; other first-year students were not included. It is possible that institutions may have included both types of first-year students in their estimates of entering freshmen enrolled in remedial education. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Remedial Education in Higher Education Institutions," PEQIS 6, 1995; and "Remedial Education in Higher Education Institutions: Fall 2000," PEQIS 12, 2001. (Originally published as table 4 on p. 18 of the complete report from which this article is excerpted.)

**Table D. Among degree-granting institutions that offered remedial courses, percentage distribution indicating the approximate average length of time a student takes remedial courses at the institution, by institution type: Fall 1995 and 2000**

Year and institution type	Less than 1 year	1 year	More than 1 year
2000			
All institutions	60	35	5
Public 2-year	37	53	10
Private 2-year	84	11!	#
Public 4-year	62	35	3
Private 4-year	83	16	#
1995			
All institutions	67	28	5
Public 2-year	45	44	11
Private 2-year	95	5	#
Public 4-year	69	28	3!
Private 4-year	84	14	#

# Rounds to zero.

! Interpret data with caution; coefficient of variation greater than 50 percent.

# Reporting standards not met; too few cases for a reliable estimate.

NOTE: Data reported for fall 2000 are based on Title IV degree-granting institutions that enrolled freshmen in fall 2000. Data reported for fall 1995 are based on degree-granting institutions that enrolled freshmen in fall 1995. Percentages are based on institutions that offered at least one remedial reading, writing, or mathematics course in that year. Detail may not sum to totals because of rounding and not reporting where there are too few cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Remedial Education in Higher Education Institutions," PEQIS 6, 1995; and "Remedial Education in Higher Education Institutions: Fall 2000," PEQIS 12, 2001. (Originally published as table 5 on p. 19 of the complete report from which this article is excerpted.)

Between 1995 and 2000, no differences were detected in the proportion of entering freshmen who enrolled in at least one remedial reading, writing, or mathematics course (table C). Data on the reported time spent in remediation, however, suggest an increase in the average length of time that students spent in remedial education courses. For example, between 1995 and 2000, the proportion of institutions that reported an average of 1 year of remediation for students increased from 28 percent to 35 percent, while the proportion indicating an average of less than 1 year of remediation for students decreased from 67 percent to 60 percent (table D).

### Institutional Structure of Remedial Programs

Institutions were asked about the following strategies for organizing and delivering remedial programs: the approach for selecting students who need remedial coursework, whether enrollment in remedial courses is mandatory or optional for students who were determined to need remediation, the kinds of restrictions placed on remedial coursetaking, the types of credit awarded for remedial coursework, and the primary provider of remedial courses at the institution.

In fall 2000, the most common approach to select students for remedial coursework was to give placement tests to all entering students; 57 to 61 percent of institutions used this approach for remedial reading, writing, and mathematics courses. Institutions also tended to have mandatory placement policies for students who were determined to need remediation. In fall 2000, 75 to 82 percent of the institutions required students who were determined to need remediation to enroll in remedial reading, writing, or mathematics courses.

Most institutions have some kind of restrictions on the extent to which remedial students can participate in regular courses and the type of credit awarded for remedial coursework. In fall 2000, 82 to 88 percent of institutions placed some restrictions on the regular courses that students could take while they were enrolled in remedial reading, writing, or mathematics courses. In addition, the most frequent type of credit given for remedial courses was institutional credit (e.g., counts toward financial aid, campus housing, or full-time student status, but does not count toward degree completion); 73 to 78 percent of the institutions most frequently gave institutional credit for

remedial reading, writing, or mathematics coursework, 10 to 14 percent most often gave elective degree credit, and 2 to 4 percent most often gave subject degree credit.

In fall 2000, about one-fourth (26 percent) of the institutions reported that there was a limit on the length of time a student may take remedial courses at their institution. Time limits on remediation were set by institutional policy in 71 percent of these institutions, and by state policy or law in 24 percent of institutions with such limits. Finally, institutions tended to rely on their traditional academic departments as the primary providers of remedial education in fall 2000; a majority of institutions cited their traditional academic departments as the most frequent providers of remedial writing (70 percent), mathematics (72 percent), and reading courses (57 percent).

Between 1995 and 2000, institutions tended to move toward more restrictive remedial policies on student participation in regular coursework during remediation. For each subject area, there was an increase in the proportion of institutions that had some restrictions on the regular courses that students could take while they were enrolled in remedial courses. In addition, between 1995 and 2000, there was an increase in the proportion of institutions that required students who needed remedial mathematics to participate in such courses (from 75 to 81 percent).

### Use of Advanced Technology in Remedial Education

The institutional strategies for delivering remedial education courses examined in this report include the use of advanced technology in the delivery of remedial courses through distance education and on-campus instruction. In fall 2000, 13 percent of the institutions offered remedial

courses through distance education, compared to 3 percent in 1995, and about one-third (31 to 35 percent) of the institutions reported that computers were used frequently by students as a hands-on instructional tool for on-campus remedial reading, writing, and mathematics courses (table E).

Public 2-year colleges were the primary users of advanced technology in remedial education. In fall 2000, public 2-year colleges were more likely than other types of institutions to offer their remedial courses through distance education (25 percent vs. 8 percent or less). Public 2-year colleges were also more likely than public or private 4-year institutions to report that they frequently used computers as a hands-on instructional tool for their on-campus remedial reading, writing, and mathematics courses (table E).

### Reference

Merisotis, J., and Phipps, R. (2000). Remedial Education in Colleges and Universities: What's Really Going On? *The Review of Higher Education*, 24(1): 67–85.

**Data sources:** The NCES Postsecondary Education Quick Information System (PEQIS), "Remedial Education in Higher Education Institutions," PEQIS 6, 1995; and "Remedial Education in Higher Education Institutions: Fall 2000," PEQIS 12, 2001.

**For technical information,** see the complete report:

Parsad, B., and Lewis, L. (2003). *Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000* (NCES 2004–010).

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**To obtain the complete report (NCES 2004–010),** call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

**Table E. Among Title IV degree-granting institutions that offered remedial courses in the given subjects, percentage distribution indicating how frequently computers are used by students as a hands-on instructional tool for on-campus remedial courses, by subject area and institution type: Fall 2000**

Institution type	Reading			Writing			Mathematics		
	Never or very rarely	Occasionally	Frequently	Never or very rarely	Occasionally	Frequently	Never or very rarely	Occasionally	Frequently
All institutions	26	40	34	24	41	35	29	40	31
Public 2-year	16	41	42	10	44	46	17	44	40
Private 2-year	‡	‡	‡	33	46	21	39	33	28
Public 4-year	28	45	27	33	40	26	34	41	25
Private 4-year	44	33	23	39	36	25	43	33	23

‡ Reporting standards not met; too few cases for a reliable estimate.

NOTE: Data are for Title IV degree-granting institutions that enrolled freshmen in fall 2000. Percents are based on institutions that offered at least one remedial course in that subject in fall 2000. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Remedial Education in Higher Education Institutions: Fall 2000," PEQIS 12, 2001. (Originally published as table 12 on p. 33 of the complete report from which this article is excerpted.)

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## Libraries Academic Libraries: 2000

Nancy Carey and Natalie M. Justh

***This article was originally published as the Introduction and Highlights of the E.D. TAB report of the same name. The universe data are from the NCES Academic Libraries Survey (ALS).***

This report presents detailed tabulations for the 2000 Academic Libraries Survey (ALS). In 2000, the ALS was conducted by the U.S. Department of Education's National Center for Education Statistics (NCES).<sup>1</sup> The ALS has been conducted by NCES since 1966 at irregular intervals. Beginning with the 1990 survey, it has been conducted on a 2-year cycle.

The data in this report cover all academic libraries in 2-year and 4-year degree-granting postsecondary institutions in the United States, including institutions that are eligible for Title IV aid, branch campuses of Title IV-eligible institu-

tions, and institutions that are eligible for Title IV aid, but for deferment only.

The tables in this publication summarize library services (including electronic services), library staff, library collections, and library expenditures for libraries in degree-granting postsecondary institutions in the 50 states and the District of Columbia. Library staff data are for fall 2000. Library circulation and interlibrary loans are for fiscal year (FY) 2000. Other library services are for a typical week in the fall of 2000. Operating expenditures and library collections are for FY 2000. FY 2000 is defined as any 12-month period between June 1, 1999, and September 30, 2000, that corresponds to the institution's fiscal year.

### Number of Academic Libraries

In FY 2000, of the 3,923 2-year and 4-year degree-granting postsecondary institutions in the United States, 3,527 reported in the NCES-sponsored ALS that they had their

<sup>1</sup>From 1988 to 1998, the ALS was a part of the IPEDS (Integrated Postsecondary Education Data System) system. IPEDS is the U.S. Department of Education's vehicle for collecting data from all postsecondary institutions in the United States. Topics included within IPEDS are institutional characteristics, fall enrollment, completions, finance, faculty salaries, and fall staff. Beginning in the year 2000, the ALS began collecting data independent from the IPEDS data collection; however, data from the ALS can still be linked to IPEDS data using the institution's UNITID number. IPEDS also provides the frame used in the ALS.

own academic library.<sup>2</sup> Of these 3,527 libraries, 87 percent responded to the ALS.

## Services

### Circulation

In FY 2000, academic libraries at degree-granting postsecondary institutions in the United States reported a total of about 194.0 million circulation transactions, including reserves.

### Interlibrary loans

In FY 2000, academic libraries provided a total of about 9.5 million interlibrary loans to other libraries (both academic libraries and other types of libraries) and received about 7.7 million loans.

### Public service hours

Twenty-five libraries reported that they were open 168 hours a week, or 24 hours a day, 7 days a week. Overall, the largest percentage of academic libraries (44 percent) reported providing 60 to 79 hours of public service per typical week in fall 2000. In addition, 40 percent provided 80 or more public service hours per typical week. The percentage of institutions providing 80 or more public service hours ranged from 6 percent in less-than-4-year institutions to 81 percent in doctorate-granting institutions.

### Electronic services

In FY 2000, 94 percent of degree-granting postsecondary institutions with an academic library had access from within the library to an electronic catalog of the library's holdings, 99 percent had Internet access within the library, 73 percent had library reference service by e-mail within the library, and 72 percent had access to library reference service by e-mail from elsewhere on campus. Ninety-eight percent had instruction by library staff on the use of Internet resources within the library.

In FY 2000, 58 percent of academic libraries had technology within the library to assist persons with disabilities, and 49 percent had access to this service from elsewhere on campus. Ninety-four percent of academic libraries provided services to distance education students.

More than four-fifths (82 percent) of academic libraries had computers not dedicated to library functions for patron use inside the library. Less than one-fifth (18 percent) had video/desktop conferencing by or for the library within the library, and about one-fourth (26 percent) had access from elsewhere on campus. Twenty-one percent had satellite broadcasting by or for the library within the library, and 29 percent had access from elsewhere on campus.

Nearly one-half (49 percent) of academic libraries provided electronic document delivery to patrons' accounts.

### Other services

- In total, academic libraries reported a gate count of about 16.5 million visitors per typical week in fall 2000 (about 1.6 visits per total full-time-equivalent [FTE] enrollment).<sup>3</sup>
- About 1.6 million reference transactions were reported in a typical week in fall 2000 by all academic libraries.
- In FY 2000, academic libraries reported about 432,000 presentations to groups serving about 7.5 million.

## Collections

### Total number of volumes

All together, the nation's 3,527 academic libraries at degree-granting postsecondary institutions reported inventories totaling 913.5 million paper volumes (books, bound serials, and government documents) at the end of FY 2000.

Of the total paper volumes held at the end of FY 2000, 43 percent (396.8 million) were held by 4 percent (126) of the institutions, which are those categorized under the Carnegie Classification as Research I or Research II institutions. Fifty-five percent of the volumes were at those institutions classified as either Research or Doctoral in the Carnegie Classification.

### Median volumes per FTE student

The median number of paper volumes held per FTE student was 53.2 volumes. Median volumes held ranged from 18.1 per FTE student in less-than-4-year institutions to 116.0 in doctorate-granting institutions.

<sup>2</sup>The remaining 396 2-year and 4-year degree-granting postsecondary institutions in the United States were not identified as having their own library either because they shared a library with 1 or more of 88 other institutions (156 institutions) or because they did not have an academic library as defined by the survey and were therefore out of scope (240 institutions). The 88 institutions that share their libraries are included in the 3,527 institutions that report having their own academic library.

<sup>3</sup>FTE enrollment is calculated by adding one-third of part-time enrollment to full-time enrollment. Enrollment data are from the 1998–99 IPEDS "Fall Enrollment Survey." Calculations are based on a total FTE enrollment of 10,316,579.

In FY 2000, the median number of paper volumes added to collections per FTE student was 1.5. The median number added ranged from 0.7 per FTE student in less-than-4-year institutions to 2.7 in doctorate-granting institutions.

### Staff

There was a total of 95,665 FTE staff working in academic libraries in FY 2000. Of these, 31,016 (32 percent) were librarians or other professional staff; 37,899 (40 percent) were other paid staff; 229 (less than one-half of 1 percent) were contributed services staff; and 26,521 (28 percent) were student assistants.

Excluding student assistants, the median number of academic library FTE staff per 1,000 FTE students was 5.6. The median ranged from 3.7 in less-than-4-year institutions to 8.5 in doctorate-granting institutions.

### Expenditures

In FY 2000, total expenditures for the 3,527 libraries at degree-granting postsecondary institutions were \$5.0 billion. The three largest expenditure items for all academic libraries were salaries and wages at \$2.5 billion (50 per-

cent); current paper and electronic serial subscriptions at \$1.1 billion (23 percent); and paper books and bound serials at \$552.1 million (11 percent).

The 568 libraries at doctorate-granting institutions (16 percent of the total institutions) accounted for \$3.3 billion, or 65 percent of the total expenditure dollars at all academic libraries at degree-granting postsecondary institutions.

In FY 2000, the median amount for total operating expenditures per FTE student was \$326.46, and the median for information resource expenditures was \$90.91.

**Data source:** The NCES Academic Libraries Survey (ALS), 2000.

**For technical information,** see the complete report:

Carey, N., and Justh, N.M. (2003). *Academic Libraries: 2000* (NCES 2004-317).

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## Volunteer Service

### Volunteer Service by Young People From High School Through Early Adulthood

—Mike Planty and Michael Regnier

***This article was originally published as a Statistics in Brief report. The sample survey data are from the National Education Longitudinal Study of 1988 (NELS:88). Technical notes from the original report have been omitted.***

This Statistics in Brief examines the patterns and characteristics of individual involvement in community service activities from high school through early adulthood. Using data from the National Education Longitudinal Study of 1988 (NELS:88), this Brief describes the characteristics of young adults who volunteered, when they volunteered, why they volunteered, and for which types of organizations they volunteered. Based on data from the NELS:88 1992 sample of 12th-grade students—who were asked about their high school volunteer service for the period 1990–92 and then re-interviewed in 1994 and again in 2000—this Brief also examines whether high school volunteer service was related to volunteering 2 years and 8 years after their scheduled high school graduation.

Major findings include the following:

- After high school, young adults as a group were less active as community service volunteers (table 2). Forty-four percent of young adults volunteered in high school compared to 33 percent 8 years later, a 25 percent decline.
- Individual volunteering patterns showed large variation. While about 68 percent of young adults volunteered at least once in the three survey periods, 12 percent volunteered consistently across all survey periods (figure 1 and table 2).
- “Consistent volunteers” were more likely to be female (14 percent) than male (11 percent) and from households of higher socioeconomic status (SES) (table 2).
- Females (50 percent) were more likely than males (38 percent) to volunteer in high school, but no differences were detected between the sexes 2 years out of high school (38 percent for males and 39 percent for females) (table 2). Male volunteering declined (to 29 percent) by the 8th year after scheduled high school graduation; no further change was detected in female volunteering (37 percent).

- White young adults (47 percent) were more likely than Black (36 percent) and Hispanic (38 percent) young adults to volunteer in high school (table 2). Eight years after high school, Blacks (41 percent) were more likely than Whites (32 percent), Hispanics (31 percent), and Asians (27 percent) to report volunteering.
- Students from households of high SES were more likely to volunteer in high school (60 percent) than students from households of both low (28 percent) and middle (41 percent) SES (table 2). Eight years later, however, volunteering by individuals from high SES households had dropped 35 percent compared to a 20 percent drop in participation by individuals from middle SES households. However, individuals from high SES households were still more likely to volunteer in the year 2000 than individuals from both low and middle SES households.
- Volunteering in high school was related to later volunteering:
  - Fifty-four percent of adolescents who performed volunteer service in high school (1990–92) volunteered again 2 years later, in 1994, whereas 27 percent of those who did not volunteer in high school volunteered in 1994 (table 3).
  - Forty-two percent of adolescents who performed volunteer service in high school (1990–92) volunteered again 8 years later, in 2000, whereas 26 percent of those who did not volunteer in high school volunteered in 2000 (table 4).
- No difference in the likelihood of volunteering 8 years after graduation was detected between young adults who performed only mandatory volunteer service in high school and students who performed no high school volunteering (28 vs. 26 percent, respectively) (table 4). Both of these groups—mandatory and nonvolunteers—were less likely to volunteer 8 years after high school than persons who were strongly encouraged to volunteer or did it for strictly voluntary reasons (43 percent).

## Introduction

Encouraging young adults to volunteer to serve their community is widely viewed as beneficial to the individual as well as to society. In volunteering, individuals can take responsibility for their community, learn to understand the conditions that other people face, and appreciate the value of community participation (Calabrese and Schumer 1986;

Youniss, McLellan, and Yates 1997; Nolin et al. 1997; Smith 1999; Metz and Youniss 2003).

Many schools and postsecondary institutions have established programs that promote, and in some cases require, student community service (Frase 1995; Nolin et al. 1997). Education administrators have emphasized student volunteerism by incorporating service experiences into classroom activities and graduation requirements (Kraft 1996; Skinner and Chapman 1999; Stukas, Snyder, and Clary 1999; Eyler 2002). Past research has found that students who participate in these programs tend to have stronger ties to school, peers, and the community, as well as a higher exhibition of other positive social behaviors (Nolin et al. 1997; Youniss, McLellan, and Yates 1997; Smith 1999; Metz and Youniss 2003). Given these potential benefits, it is important to understand the characteristics and patterns of volunteering among young adults.

NELS:88 provides insight into community service from high school through young adulthood. Previous research using the NELS:88 1992 senior class found that 44 percent reported performing community service when asked about the past 2 years (1990–92) (Frase 1995). Females, Whites, Asians, and students from households of higher socioeconomic status were more likely to volunteer than other seniors. In the early 1990s, high school students were most often motivated to volunteer for “strictly voluntary” reasons (table 1). Thirty-eight percent said their participation was strictly voluntary compared to 17 percent who were strongly encouraged by someone else, 7 percent who were required for class, and 9 percent who were required for other reasons.<sup>1</sup>

This Brief extends these cross-sectional findings about high school volunteering and examines the volunteering activities and patterns of the same 1992 senior cohort 2 years and 8 years after most cohort members had graduated from high school. The characteristics of young adult volunteers, their motivation for volunteering, and the types of organizations for which they volunteered may have important implications for their participation in community service later in life; encouraging early involvement with volunteer organizations may lead to an enduring habit of service (Smith 1999; Metz and Youniss 2003). By identifying the patterns of persistence and desistance in volunteering by young adults, a portrait of these initial, formative years is

<sup>1</sup>These responses were not mutually exclusive; students could have volunteered multiple times for different reasons.

**Table 1. Percentage of young adults, by participation in unpaid volunteer or community service activities, motivation for participation, and select student characteristics: 1990–92**

Student characteristic	Participants					Non-participants <sup>1</sup>
	Motivation					
	Strictly voluntary	Court-ordered	Required for a class	Required for other reasons	Strongly encouraged by someone else	
All students	37.7	1.6	7.4	9.2	17.0	54.2
Sex						
Male	31.9	2.1	6.3	8.2	14.8	59.7
Female	43.7	1.1	8.5	10.1	19.3	48.7
Race/ethnicity						
White, non-Hispanic	40.9	1.3	7.4	8.6	18.3	51.9
Black, non-Hispanic	28.5	3.7	6.8	10.8	13.4	62.1
Hispanic	29.8	1.3	7.6	10.7	13.5	59.0
Asian/Pacific Islander	36.4	1.2	9.0	13.8	17.2	52.0
Native American/Alaska Native	17.4	0.8	2.2	1.9	8.0	77.1
SES <sup>2</sup>						
Low quartile	22.3	1.3	4.4	6.7	8.7	69.6
Middle two quartiles	35.4	1.7	6.7	8.4	16.1	57.4
High quartile	52.8	1.6	10.9	12.2	24.3	38.2

<sup>1</sup>Nonparticipants did not report performing volunteer service for the 1990–92 period.

<sup>2</sup>SES = socioeconomic status of household in 1988.

NOTE: Percentages are of the total population for each group. Respondents may have reported more than one motivation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Fourth Follow-up, Student Survey, 2000."

described. To that end, this Brief provides estimates of the prevalence and quality of volunteering activities by individual demographic characteristics in 1990–92, 1994, and 2000. Changes in the level of participation and type of volunteering are described over the 10-year period. Finally, the relationship between high school volunteering in 1990–92 and volunteering 8 years later, in 2000, is examined.

### Changes in Volunteer Service Among Young Adults: 1990–2000

This section examines changes in volunteer service participation by young adults, as a group and individually, starting with their high school years in 1990–92, then in 1994, and again in 2000. Individual patterns of volunteer service onset, persistence, and desistance within these three survey periods are compared to the aggregate group patterns. Prevalence and change across these three time periods are examined by sex, race/ethnicity, and 1988 household SES.

Young adults as a group were less active as community service volunteers after high school. Volunteering among this 12th-grade cohort declined 25 percent 8 years after high school, in 2000 (table 2). Forty-four percent of young adults volunteered in high school compared to 33 percent

8 years later. A decrease occurred just 2 years after high school where volunteering declined from 44 percent in 1990–92 to 39 percent in 1994. For the entire 1990–2000 period, however, 68 percent of all young adults reported participating at least once in unpaid community service.

This aggregate pattern is made up of a variety of individual volunteering patterns as shown by the onset, persistence, and desistance across these three survey periods (figure 1 and table 2). While 44 percent of young adults volunteered in high school, 24 percent volunteered in both high school and 1994, and 18 percent volunteered in both high school and 2000. Twelve percent of young adults volunteered consistently across 1990–92, 1994, and 2000, compared to 68 percent who volunteered at least once during the three survey periods.

Consistent volunteers were more likely to be female (14 percent) than male (11 percent). They were also more likely to be from higher SES households. Twenty percent of young adults from high SES households were consistent volunteers compared to 10 percent from middle SES households and 6 percent from low SES households. No differences in the percentage of consistent volunteers

**Table 2. Percentages of students who reported participating in an unpaid volunteer or community service activity in high school and in subsequent follow-up periods, by select student characteristics: 1990–92, 1994, and 2000**

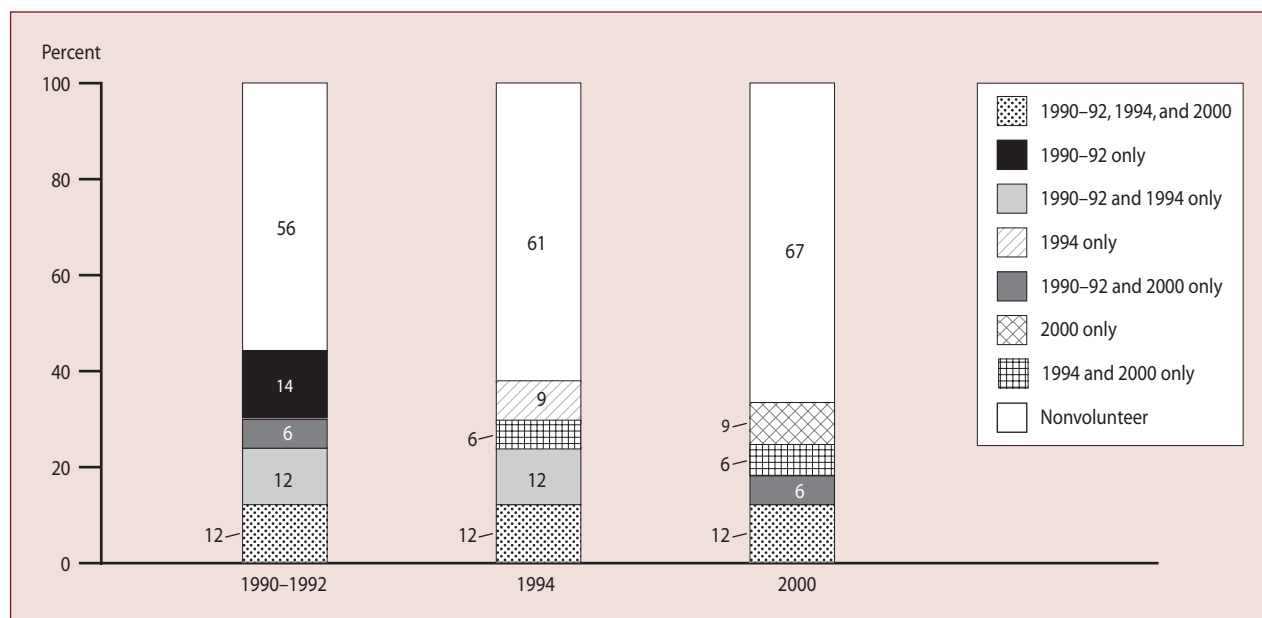
Student characteristic	Volunteer activity												Percent change 1990–92 to 2000 <sup>1</sup>
	1990–92	1994	2000	1990–92 and 1994	1990–92 and 2000	1990–92 only	1994 only	2000 only	1990–92 and 1994 only	1990–92 and 2000 only	1990–92, 1994, and 2000	Any volunteering 1990–92, 1994, or 2000	
All students	44.0	38.7	32.8	23.7	18.3	14.1	9.3	8.9	11.6	6.1	12.2	67.8	-25.4
Sex													
Male	38.2	38.0	29.0	21.0	15.6	12.2	11.3	7.6	10.5	5.1	10.5	62.9	-24.2
Female	49.8	39.4	36.6	26.5	21.0	16.1	7.4	10.2	12.7	7.2	13.8	72.8	-26.4
Race/ethnicity													
White, non-Hispanic	46.6	40.3	32.2	25.9	18.9	14.5	7.6	8.7	13.1	6.1	12.8	68.6	-30.8
Black, non-Hispanic	35.9	35.5	40.9	17.4	17.7	11.7	16.0	10.9	6.5	6.8	10.9	70.0	13.8
Hispanic	37.5	33.3	30.7	18.8	16.7	12.9	9.4	10.0	7.9	5.8	10.8	61.5	-18.3
Asian/Pacific Islander	45.7	34.9	26.7	20.4	16.7	18.8	6.3	10.8	10.1	6.4	10.3	66.5	-41.5
Native American/ Alaska Native	19.1	39.4	26.6	10.4	4.8	7.4	15.7	22.9	6.9	1.3	3.5	63.8	39.3
SES													
Low quartile	27.8	26.1	25.0	12.1	10.7	11.2	10.9	10.6	5.9	4.5	6.2	52.7	-10.1
Middle two quartiles	41.2	35.4	32.9	19.8	16.3	15.1	10.7	9.6	9.8	6.2	10.1	67.4	-20.1
High quartile	59.8	53.0	38.7	38.5	27.4	14.1	4.8	8.0	18.3	7.2	20.2	79.1	-35.4

<sup>1</sup>Percent change, 1990–92 to 2000, is derived by dividing the difference between the percentages of volunteers in 2000 and 1990–92 by the 1990–92 percentage.

NOTE: SES = socioeconomic status of household in 1988.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Fourth Follow-up, Student Survey, 2000."

**Figure 1. Percentage of young adults participating in an unpaid volunteer or community service activity in high school and in subsequent follow-up periods: 1990–92, 1994, and 2000**



NOTE: Detail may not sum to totals because of rounding. Nonvolunteers included those who did not participate in volunteer activities and a small percentage of nonrespondents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Fourth Follow-up, Student Survey, 2000."

were detected between racial/ethnic groups with one exception. All racial/ethnic groups reported higher percentages of consistent volunteers than Native Americans.

A number of young adults volunteered in one period only (table 2). Fourteen percent of young adults volunteered only in high school (1990–92), 9 percent volunteered only in 1994, and another 9 percent only in 2000.

As reported for this same high school senior sample in 1990–92 (Frase 1995), volunteering patterns varied by sex, race/ethnicity, and SES over the 10-year period.

### **Volunteering differences by sex**

Overall, females were more likely than males to volunteer at least once in this 10-year period (73 percent vs. 63 percent, respectively) (table 2). Females were more likely than males to volunteer in high school (50 percent vs. 38 percent, respectively), but no difference in the level of participation by sex was detected 2 years out of high school (39 percent and 38 percent, respectively). By 2000, however, male volunteering had declined and females were more likely to volunteer than males (37 percent vs. 29 percent, respectively). For males, no differences were detected in the percent volunteering between high school and 2 years after high school (38 percent in both cases). Males were less likely to volunteer 8 years out of high school, in 2000 (29 percent), than they were in both 1990–92 and 1994 (38 percent in both cases).

Examining individual patterns, females were more likely to volunteer both in 1990–92 and 1994, and in 1990–92 and 2000 than males. Twenty-seven percent of females volunteered in both high school and 1994 compared to 21 percent of males. Twenty-one percent of females volunteered in both high school and 2000 compared to 16 percent of males.

### **Volunteering differences by race/ethnicity**

Overall, Whites (47 percent) were more likely to volunteer than Blacks (36 percent), Hispanics (38 percent), and Native Americans (19 percent) in high school (1990–92) (table 2). Volunteering among Whites declined 31 percent (from 47 percent to 32 percent) between their high school years (1990–92) and the year 2000. Asians also showed a decrease in volunteering from 1990–92 to 2000 (46 percent vs. 27 percent, respectively).<sup>2</sup> Whites (69 percent) and Blacks (70 percent) were both more likely than Hispanics

(62 percent) to volunteer at least once during the study period.

Examining individual patterns, Whites were more likely to volunteer in 1990–92 and 1994 than Blacks, Hispanics, Asians, and Native Americans. Twenty-six percent of Whites volunteered in high school and 1994 compared to 17 percent of Blacks, 19 percent of Hispanics, 20 percent of Asians, and 10 percent of Native Americans.

### **Volunteering differences by SES**

Overall, young adults from higher SES households were more likely to volunteer than young adults from lower SES households for all time periods (table 2). In high school, 60 percent of students from high SES households volunteered compared to 41 percent from middle SES households and 28 percent from low SES households. By the year 2000, volunteering by individuals in the high SES households had dropped to 39 percent. However, individuals from high SES households were still more likely to volunteer in the year 2000 than those from both low and middle SES households. Volunteering by individuals from low SES households did not show a detectable change from high school through 1994 and 2000 (28, 26, and 25 percent, respectively). Volunteering by individuals from middle SES households decreased from the 1990–92 high school years (41 percent) to 1994 (35 percent), but no differences were detected between 1994 and 2000 (33 percent).

Examining individual patterns, young adults from high SES households were more likely to volunteer both in 1990–92 and 1994, and in 1990–92 and 2000 than young adults from lower SES households. Thirty-nine percent of individuals from high SES households volunteered in both high school and 1994 compared to 12 and 20 percent of individuals from low and middle SES households, respectively. Twenty-seven percent of individuals from high SES households volunteered in both high school and 2000 compared to 11 and 16 percent of individuals from low and middle SES households, respectively.

### **Volunteering Patterns 2 Years After High School**

After high school, many students either go on to a postsecondary educational institution, enter the labor market, or do both.<sup>3</sup> These individuals may marry, have

<sup>2</sup>Although the percentage of Blacks who volunteered appears to increase between 1990–92 and 2000, this increase is not statistically significant.

<sup>3</sup>In 1994, 56 percent of the 1992 senior cohort reported being enrolled in at least one academic course in a 2- or 4- year college, and 63 percent reported being employed in either full- or part-time jobs. Eighty-eight percent reported being involved in at least one of these activities.

children, and live on their own. These life changes place additional constraints on time and finances that may limit involvement in unpaid community service. On the other hand, many colleges and universities provide their students with the opportunities and resources to engage in such service, which may increase the level of participation among young adults. In this section, the characteristics of young adults who perform volunteer service 2 years after high school and the organizations for which they volunteer are examined.<sup>4</sup>

In 1994, 2 years after scheduled high school graduation, 39 percent of the young adult cohort performed some type of unpaid community service (table 3). This was a decline from the 44 percent of the cohort who volunteered in high school (table 2). The type of organization for which young adults volunteered in 1994 was varied (table 3). Twelve percent of young adults volunteered for church-related organizations, 11 percent in hospital settings, and 10 percent for youth organizations.

#### **Volunteering differences by sex: 1994**

As noted earlier, 38 percent of males and 39 percent of females volunteered in 1994 (table 3). In 1994, 12 percent of males volunteered for church-related organizations, 11 percent for youth organizations, and 9 percent each for hospitals and for sports clubs. Thirteen percent of females each volunteered for church-related organizations and for hospitals, and 10 percent volunteered for youth organizations.

#### **Volunteering differences by race/ethnicity: 1994**

In 1994, the only racial or ethnic difference detected was the 7 percentage point gap between Whites and Hispanics (table 3). Forty percent of Whites volunteered compared to 33 percent of Hispanics. In terms of organizational preference, Blacks were more likely to volunteer for church-related organizations (15 percent) than any other type of organization.

#### **Volunteering differences by SES: 1994**

Some high school volunteering patterns were still evident 2 years later. As in high school, young adults from high SES households were more likely to volunteer than those from middle and low SES households in 1994 (53 percent vs. 35 and 26 percent, respectively) (table 3). This SES pattern also held for specific organizations. Young adults from high SES households were more likely to volunteer for church-

related, youth, and hospital organizations than individuals from both middle and low SES households. Young adults from low and middle SES households preferred to volunteer with church-related organizations compared to other types of participation.

#### **Volunteering differences by high school volunteering: 1994**

Many high schools have implemented community service programs seeking immediate benefits to the student and community; another common intention is to spark a lifetime interest in volunteering (Metz and Youniss 2003; Sobus 1995; Stukas, Snyder, and Clary 1999; Youniss, McLellan, and Yates 1997). Examining the relationship between high school volunteering and volunteering later in life, students who volunteered in high school were more likely to volunteer 2 years later (54 percent) than students who did not volunteer in high school (27 percent) (table 3).

Additionally, the relationship between high school volunteering and future volunteering may be related to the motivation behind high school volunteering. Students who volunteered solely because it was required—mandatory volunteers only—were still more likely to volunteer 2 years later than those who did no volunteering in high school (37 percent vs. 27 percent, respectively). However, both mandatory volunteers and students who did not volunteer were less likely to volunteer in 1994 than students who volunteered because they were strongly encouraged or for strictly voluntary reasons (56 percent).

#### **Volunteering Patterns 8 Years After High School**

In the year 2000, 8 years after scheduled high school graduation, many students had graduated from a postsecondary institution and started a career in the labor market.<sup>5</sup> Others had been working since high school. In addition, this period often involves activities related to family formation and child-rearing, among others. Overall, 33 percent of young adults said they performed volunteer work for either a youth or community organization in 2000 (table 4). No difference was detected between the level of volunteering for either youth or community organizations (21 percent and 22 percent, respectively).

#### **Volunteering differences by sex: 2000**

In general, females were more likely than males to volunteer in 2000 (37 percent vs. 29 percent, respectively) (table 4).

<sup>4</sup>The classification of volunteer organizations did not remain constant across the multiple waves of the NELS:88 survey. This prevents any detailed examination of how adolescent volunteering changed by organization types.

<sup>5</sup>In 2000, 35 percent of the 1992 senior cohort reported having at least a bachelor's degree and 89 percent were employed for pay. See Ingels et al. (2002) for a detailed look at the NELS:88 cohort in 2000.

**Table 3. Percentage of young adults participating in unpaid volunteer or community service activities, by organization type and select student characteristics: 1994**

Student characteristic	Youth organizations	Union, farm, trade, or professional association	Political clubs or organizations	Church or church-related activities <sup>1</sup>	Organized volunteer work in hospital	Sports teams or sports clubs	Educational organizations	Other	Any volunteering <sup>2</sup>
All students	10.2	1.7	3.4	12.1	11.1	6.9	6.2	7.8	38.7
Sex									
Male	10.7	1.9	3.4	11.5	9.0	9.2	5.3	7.7	38.0
Female	9.7	1.5	3.4	12.6	13.1	4.5	7.2	7.9	39.4
Race/ethnicity									
White, non-Hispanic	10.6	1.9	3.2	11.7	12.3	7.3	5.9	8.3	40.3
Black, non-Hispanic	8.5	1.0	4.4	15.3	6.6	5.2	6.0	7.6	35.5
Hispanic	10.3	0.7	3.2	10.9	7.0	6.7	8.5	5.5	33.3
Asian/Pacific Islander	7.7	1.5	3.2	9.6	14.5	4.8	7.2	7.3	34.9
Native American/Alaska Native	11.2	3.8	3.4	21.2	3.7	8.9	7.4	1.6	39.4
SES									
Low quartile	6.2	0.5	1.1	9.5	4.6	4.4	3.4	5.6	26.1
Middle two quartiles	9.3	1.6	3.2	11.8	9.1	6.6	5.5	6.9	35.4
High quartile	14.8	2.5	5.1	14.4	18.9	9.4	9.4	11.2	53.0
High school volunteering									
Any <sup>2</sup>	16.1	2.2	5.1	18.7	17.1	8.5	10.1	10.8	54.0
Mandatory only <sup>3</sup>	10.9	1.0	4.8	8.3	11.0	5.4	4.2	6.9	36.8
Strictly voluntary or encouraged <sup>4</sup>	16.7	2.2	5.2	19.7	17.8	8.8	10.8	11.2	55.9
None	5.3	1.3	1.9	6.6	6.3	5.5	2.8	5.5	26.5

<sup>1</sup>Does not include worship.

<sup>2</sup>"Any volunteering" indicates participation with at least one type of organization.

<sup>3</sup>This group reported performing volunteer work that was court-ordered, required for class, and/or required for another reason, and did not also indicate any other motivation.

<sup>4</sup>A percentage of this group reported volunteering that was court-ordered, or required for a class or other reason, in addition to strictly voluntary service.

NOTE: SES = socioeconomic status of household in 1988.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Fourth Follow-up, Student Survey, 2000."

Females were more likely than males to volunteer for both youth organizations (22 percent vs. 19 percent, respectively) and civic/community organizations (24 percent vs. 20 percent, respectively). Within each sex group, there was no observed preference for either youth or community volunteering.

#### Volunteering differences by race/ethnicity: 2000

Blacks were more likely than Whites, Hispanics, and Asians to volunteer in 2000 (41 percent vs. 32, 31, and 27 percent, respectively) (table 4). Among all racial/ethnic groups, only Whites had a volunteering preference for one type of organization over the other. Whites were more likely to volunteer for civic/community organizations than youth organizations (22 percent vs. 20 percent, respectively). In 2000, Blacks (29 percent) were more likely to volunteer for youth organizations than Whites (20 percent), Hispanics (20 percent), and Asians (15 percent). Blacks (27 percent) were also more likely to volunteer for civic or community organizations than Hispanics (19 percent), Asians (19 percent), and Native Americans (13 percent).

#### Volunteering differences by SES: 2000

In the year 2000, as in all time periods, young adults from higher SES households were more likely to volunteer than young adults from lower SES households (table 4). Thirty-nine percent of persons from high SES households volunteered compared to 33 percent from middle SES households and 25 percent from low SES households. Regardless of service type—youth or civic/community—individuals from low SES households volunteered less often than individuals from both middle and high SES households.

#### Volunteering differences by high school volunteering: 2000

As with the 1994 data in table 3, high school volunteer service was examined in relation to volunteer service in 2000, 8 years after scheduled high school graduation. Once again, young adults who volunteered in high school for any reason were more likely to volunteer in some capacity 8 years later than persons who did not volunteer in high school (42 percent vs. 26 percent) (table 4). However, while the 1994 relationship showed that mandatory volunteers were more likely to volunteer 2 years after high school than

**Table 4. Percentage of young adults participating in unpaid volunteer or community service activities, by service type and select student characteristics: 2000**

Student characteristic	Youth organizations	Civic/community volunteer	Any volunteering <sup>1</sup>
All students	20.6	22.0	32.8
Sex			
Male	18.9	19.7	29.0
Female	22.3	24.3	36.6
Race/ethnicity			
White, non-Hispanic	19.7	21.9	32.2
Black, non-Hispanic	29.2	26.9	40.9
Hispanic	19.5	19.1	30.7
Asian/Pacific Islander	14.8	19.2	26.7
Native American/Alaska Native	18.5	13.4	26.6
SES			
Low quartile	16.0	15.5	25.0
Middle two quartiles	20.8	22.5	32.9
High quartile	23.4	26.4	38.7
High school volunteering			
Any <sup>1</sup>	26.0	28.2	41.5
Mandatory only <sup>2</sup>	15.4	19.5	28.2
Strictly voluntary or encouraged <sup>3</sup>	27.2	29.2	43.0
None	16.5	17.0	25.9

<sup>1</sup>"Any volunteering" indicates participation with at least one type of organization.

<sup>2</sup>This group reported performing volunteer work that was court-ordered, required for class, and/or required for another reason, and did not also indicate any other motivation.

<sup>3</sup>A percentage of this group reported volunteering that was court-ordered, or required for a class or other reason, in addition to strictly voluntary service.

NOTE: SES = socioeconomic status of household in 1988.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Fourth Follow-up, Student Survey, 2000."

nonvolunteers, no difference was detected between these groups in 2000. When comparing the 2000 volunteering of persons whose only reported motivation for high school service was that it had been required—by court order, for school, or for another reason—to that of those who did not volunteer in high school between 1990 and 1992, no difference could be detected (28 percent vs. 26 percent, respectively). Any positive impact that mandatory high school service had on facilitating future volunteer service as demonstrated in 1994 was not detected in 2000. Further, compared to those whose high school service was either strictly voluntary or strongly encouraged, both mandatory volunteers and non-high school volunteers were less likely to volunteer in 2000 regardless of organization type (youth or civic/community).

## Discussion

The findings presented here extend previous research on the volunteering behaviors of young adults by following their activities over a 10-year period. While these findings are not exhaustive or definitive, they point to several trends of interest.

One trend is the general decrease in unpaid community service in the years after high school. As young adults moved on from high school into the worlds of post-secondary education and/or employment, fewer chose to take part in volunteering activities. While about 68 percent volunteered at least once, 12 percent volunteered consistently across the three survey periods. Individual patterns of volunteering revealed a range of onset and differing degrees of persistence among young adults in their volunteering activities. The general decrease in volunteering may result from any number of factors; possible causes include the weakening of incentives for service—such as school credit or approval from prospective postsecondary schools—after high school, a reduced number of visible and easily accessible volunteering opportunities in the lives of college students and young working adults, or a simple change in priorities or reduction in free time after leaving high school. A more detailed examination of this phenomenon would be of interest to those who would promote lifelong volunteering in general, or who belong to groups (e.g., religious organizations) seeking to retain young volunteers as they move into adulthood.



Another notable trend is that overall volunteering decreased after high school for most groups. Specifically, volunteering decreased for Whites, Asians, males, females, and persons from middle and high SES households. The decrease in volunteering followed different patterns over time for these groups; however, examining the social, religious, economic, and/or cultural factors that may play a role in shaping these patterns might contribute to a better understanding of what influences young adults to stop volunteering, or to volunteer persistently.

A final trend of interest concerns the motivation to volunteer. Compulsory unpaid service has long been a subject of debate. Many have raised criticisms; Sobus (1995), for example, questioned the psychological wisdom of schools formally requiring prosocial behaviors. Others charge that such requirements cheapen true voluntarism, can act as a guise for school-sponsored political activism, and may in fact reduce future volunteering (Stukas, Snyder, and Clary 1999). On the other hand, the advent of community service requirements in schools is testament to some school officials' belief that requiring community service is a sound educational practice (Eyler 2002; Metz and Youniss 2003). This movement is supported by research that reports many individual and community benefits associated with volunteering (Metz and Youniss 2003). This debate clearly involves considerations beyond the empirical trends discussed here. Still, those trends are worth noting: there is a positive relationship between high school volunteering that was not motivated solely by a requirement, and later service; and no relationship between high school volunteering motivated by a requirement, and later service.

Data from NELS:88 provide a valuable look at volunteering by young people, an activity that is widely heralded but not fully measured or understood. These empirical findings demonstrate that community service is a common part of the American young adult experience—at some point during the decade following their entry into high school, two-thirds of young people volunteered with churches, youth groups, hospitals, schools, sports teams, or some other organizations. Beyond this basic finding, however, is evidence of great variety in who volunteers, when, and for what. As schools and communities continue to promote unpaid service as a means to individual character and societal improvement, the relevance of empirical data about volunteering among young people will only increase.

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**Data source:** The NCES National Education Longitudinal Study of 1988 (NELS:88/2000), Base Year Through Fourth Follow-up.

**For technical information**, see the complete report:

Planty, M., and Regnier, M., (2003). *Volunteer Service by Young People From High School Through Early Adulthood* (NCES 2004–365).

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**To obtain the complete report (NCES 2004–365)**, call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# Status and Trends

## Status and Trends in the Education of Blacks

Kathryn Hoffman and Charmaine Llagas

This article was originally published as the Highlights of the Statistical Analysis Report of the same name. The sample survey and universe data are from many sources, both government and private, which are listed at the end of this article.

### Introduction

*Status and Trends in the Education of Blacks* examines the mix of progress on key education indicators of Black children and adults in the United States. The report released by the National Center for Education Statistics shows that more Black students have completed high school and gone on to college, levels of parental education of Black children have increased, and the number of Black individuals and families below the poverty level has decreased. Despite these gains, progress has been uneven over time and across various measures, and differences persist between Blacks and Whites on key indicators of education performance. The following are highlights from the report.

### Preprimary Education and Parental Education

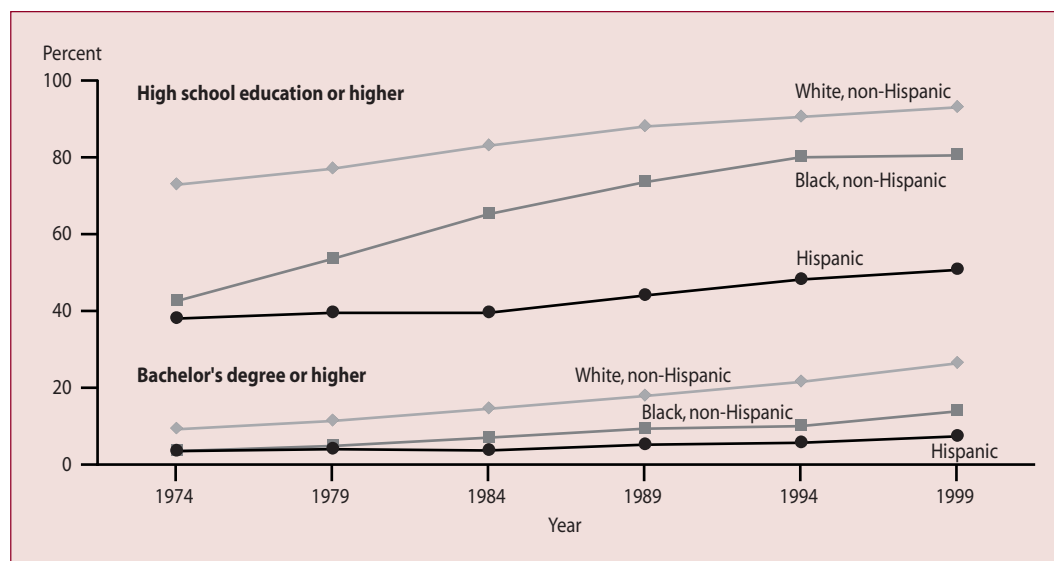
- Black children are more likely than White or Hispanic children to be enrolled in center-based preprimary education at the ages of 3, 4, and 5.

- The gap between the percentages of White and Black children whose mothers attained at least a high school education declined between 1974 and 1999, but some difference remained in 1999. The gap between the percentages of White and Black children whose mothers attained a bachelor's degree has been increasing since 1974 (figure A).

### Elementary/Secondary Education

- Most Black students attend public schools where minorities represent the majority of the student body. Seventy-three percent of Black 4th-grade students were enrolled in schools with more than one-half of the students eligible to receive a free or reduced-price lunch.
- No differences were detected in the percent of Black and White 8th-graders or Black and White 12th-graders absent 3 or more days in the preceding month.

Figure A. Percent of 6- to 18-year-olds, by mothers' highest education level and race/ethnicity: Selected years, 1974 to 1999



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

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 2001*, based on U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys, various years. (Originally published on p. 71 of the complete report from which this article is excerpted.)

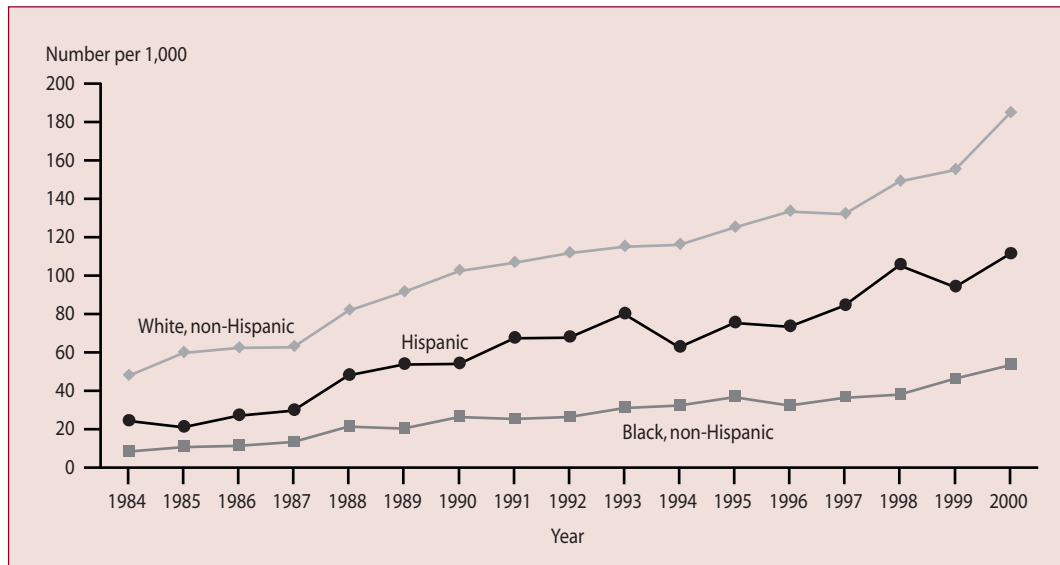
- Blacks have higher dropout rates than Whites but lower dropout rates than Hispanics.
- Long-term trends in National Assessment of Educational Progress (NAEP) scores show increased performance in reading for Black students between 1971 and 1999. Trends in Black performance in NAEP mathematics and sciences also show improvements over the long term.
- In 1998, Black students were less likely than White students to take advanced mathematics courses and some advanced science courses and less likely than Hispanic students to take advanced foreign language classes. Between 1984 and 2000, the number of Black students per 1,000 12th-graders taking Advanced Placement (AP) examinations increased (figure B). However, fewer Black students per 1,000 12th-graders than White or Hispanic students took AP exams in 2000.
- In 1999, a higher percentage of Black and Hispanic children than White children attended public schools chosen by their parents; however, a lower percentage

- of Black and Hispanic children than White children were in private schools.
- In 1999, Black students were more likely than White students to report discussing the national news and watching or listening to the national news with others.
- Blacks ages 12 to 17 were less likely than Whites and Hispanics of the same ages to have used alcohol or tobacco.

### Postsecondary Education

- In 1999–2000, the proportion of associate’s degrees earned by Blacks was greater than the proportion of bachelor’s degrees earned by Blacks.
- Nearly one-quarter of all bachelor’s degrees earned by Blacks in 1999 were earned at historically Black colleges and universities.
- The proportion of Blacks completing college increased between 1975 and 2000; however, Blacks still remained less likely than Whites to earn degrees (table A).

**Figure B. Number of students who took Advanced Placement (AP) examinations (per 1,000 12th-graders), by race/ethnicity: 1984–2000**



NOTE: The number of 11th- and 12th-grade AP test-takers is used as the numerator and the number of students enrolled in the 12th grade are used as the denominator to calculate the ratios presented here. The number of 12th-graders is used as the denominator because this indicator approximates the proportion of each cohort of students for 1984 through 2000. A true measure would use the sum of 12th-grade AP test-takers for a given year and the 11th-grade AP test-takers for the preceding year as the numerator. However, breakdowns of the data by test-takers’ grade are not available for all these years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Indicator of the Month (October 1999): Students Who Took Advanced Placement (AP) Examinations* and unpublished data, based on College Entrance Examination Board, *Advanced Placement Program, National Summary Reports, 1984–2000*, and U.S. Department of Commerce, Bureau of the Census, *October Current Population Surveys, 1984–2000*. (Originally published on p. 61 of the complete report from which this article is excerpted.)

**Table A. Percent of 25- to 29-year-olds who have completed college (bachelor's degree or higher), by race/ethnicity and sex: Selected years 1965 to 2000**

Year	Total			White, non-Hispanic			Black, non-Hispanic			Hispanic		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1965 <sup>1</sup>	12	16	10	13	16	10	7	7	7	—	—	—
1970 <sup>1</sup>	16	20	13	17	21	13	7	7	8	—	—	—
1975	22	25	19	24	27	20	11	11	10	9	10	7
1980	23	24	21	25	27	23	12	11	12	8	8	7
1985	22	23	21	24	26	23	12	10	13	11	11	11
1990	23	24	23	26	27	26	13	15	12	8	7	9
1995	25	25	25	29	28	29	15	17	14	9	8	10
1996	27	26	28	32	31	32	15	12	17	10	10	10
1997	28	26	29	33	31	34	14	12	16	11	10	13
1998	27	26	29	32	31	34	16	14	17	10	10	11
1999	28	27	30	34	32	35	15	13	17	9	8	10
2000	29	28	30	34	32	36	18	18	17	10	8	11

—Data not available.

<sup>1</sup>Data for White and Black include those of Hispanic origin.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2001*, based on U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys, various years. (Originally published on p. 107 of the complete report from which this article is excerpted.)

- In 1999, Black instructional faculty in colleges and universities were more likely to be assistant professors and instructors than professors or associate professors.

### In the Labor Force

- Blacks in 2000 had higher unemployment rates than both Whites and Hispanics at every level of education.
- Fewer Black and Hispanic men and women than White men and women held managerial or professional positions in 2000.

**Data sources:** The data are from numerous sources, including the following:

NCES: Data from several reports, including *The Condition of Education*, *Digest of Education Statistics*, and *Dropout Rates in the United States: 2000*. Data from several surveys, including the Integrated Postsecondary Education Data System (IPEDS), National Household Education Surveys Program (NHES), Common Core of Data (CCD), and National Assessment of Educational Progress (NAEP).

Other: Data from agencies and organizations such as the U.S. Department of Commerce, Bureau of the Census; U.S. Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC) and Substance Abuse and Mental Health Services Administration; U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Education, Office of Special Education Programs (OSEP); U.S. Department of Justice, Bureau of Justice Statistics; College Entrance Examination Board; and American College Testing Program (ACT). Data from the report *America's Children: Key National Indicators of Well-Being*.

**For technical information**, see the complete report:

Hoffman, K., and Llagas, C. (2003). *Status and Trends in the Education of Blacks* (NCES 2003-034).

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# Projections to 2013

## Projections of Education Statistics to 2013

Debra E. Gerald and William J. Hussar

*This article was excerpted from the Foreword and Summary of Projections of the Compendium report of the same name. The universe and sample survey data are from many sources, both government and private, which are listed at the end of this article.*

### Introduction

*Projections of Education Statistics to 2013* is the 32nd report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2012* and *Projections of Education Statistics to 2011* (Gerald and Hussar 2001, 2002). It includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections of enrollment, graduates, teachers, and expenditures to the year 2013.

In addition to projections at the national level, the report includes projections of public elementary and secondary school enrollment and public high school graduates to the year 2013 at the state level. These projections were produced by the National Center for Education Statistics (NCES) to provide researchers, policy analysts, and others with state-level projections developed using a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

### Methodology

Assumptions regarding the population and the economy are the key factors underlying the projections of education statistics. The projections do not reflect changes in national, state, or local education policies that may affect enrollment levels.

Appendix A in the full report outlines the projection methodology, describing the models and assumptions used to develop the national and state projections. The enrollment models use enrollment data and population estimates and projections from NCES and the U.S. Census Bureau. The models are based on the mathematical projection of past data patterns into the future. The models also use projections of economic variables from the company Global Insight, Inc., an economic forecasting service.

The projections presented in this report are based on the 2000 census and assumptions for the fertility rate, internal migration, net immigration, and mortality rate.

Most of the projections of education statistics include three alternatives, based on different assumptions about demographic and economic growth paths. Although the

first alternative set of projections (middle alternative) in each table is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes.

### Summary information

The key education statistics presented below are taken from the full report's Summary of Projections. In addition, a brief overview of the projections in the report is available in a pocket-sized booklet, *Pocket Projections: Projections of Education Statistics to 2013* (Hussar and Gerald 2003).

### Elementary and Secondary Enrollment

Total public and private elementary and secondary school enrollment reached a record 54 million in fall 2001, representing a 19 percent increase since fall 1988. Between 2001 and 2013, a further increase of 5 percent is expected, with increases projected in both public and private schools. In the regions, increases are expected in the West, South, and Midwest, and a decrease is expected in the Northeast.

#### National data on elementary and secondary enrollment

After increasing by about one-fifth between 1988 and 2001, enrollments in both public and private schools are expected to increase at slower rates between 2001 and 2013. Small enrollment increases are expected at both the K–8 and 9–12 grade spans (figure A).

**Total enrollment.** Total elementary and secondary enrollment

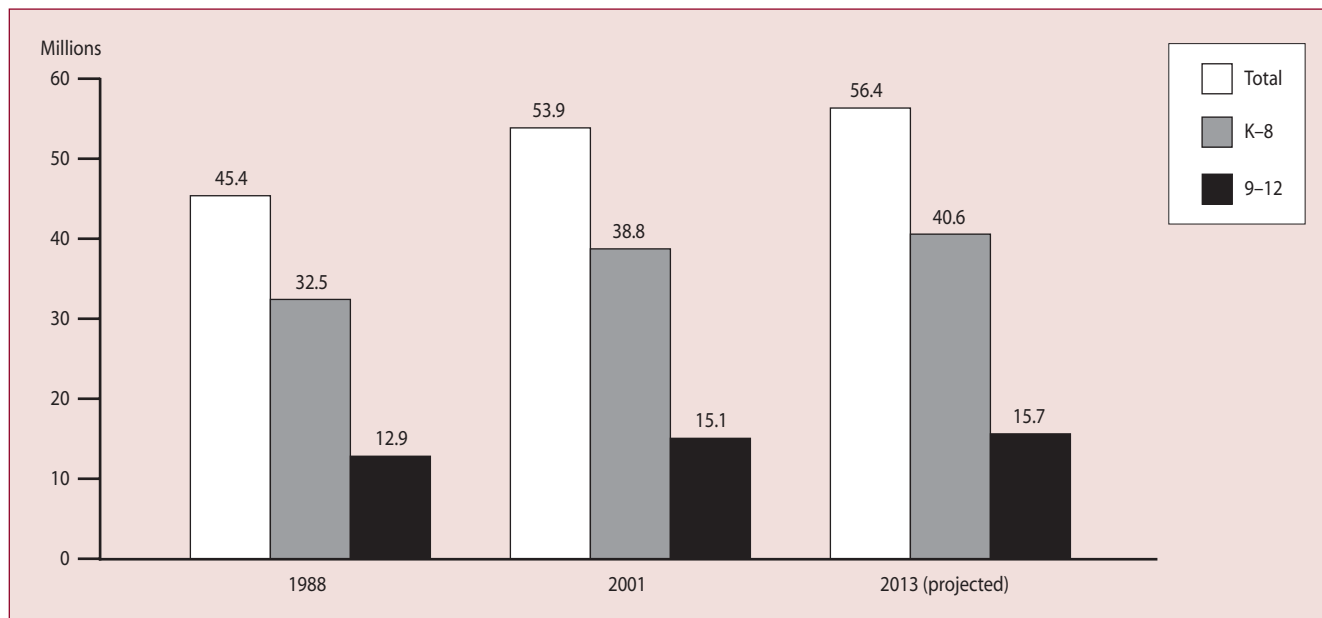
- increased 19 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013.

**Grades K–8.** Enrollment in kindergarten through grade 8

- increased 19 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013.

**Grades 9–12.** Enrollment in grades 9–12

- increased 17 percent between 1988 and 2001; and
- is projected to increase 4 percent between 2001 and 2013.

**Figure A. Elementary and secondary enrollment, total and by grade group: Selected years**

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD) surveys, various years; Private School Universe Survey, various years; and National Elementary and Secondary School Enrollment Model. (Originally published as figure A on p. 5 of the complete report from which this article is excerpted.)

**Public schools.** Enrollment in public elementary and secondary schools

- increased 19 percent between 1988 and 2001; and
- is projected to increase 4 percent between 2001 and 2013.

**Private schools.** Enrollment in private elementary and secondary schools

- increased 18 percent between 1988 and 2001; and
- is projected to increase 7 percent between 2001 and 2013.

#### State and regional data on elementary and secondary enrollment (public schools only)

Between 2001 and 2013, enrollment in public elementary and secondary schools is expected to increase in 30 states and decrease in 20 states, including the District of Columbia. In the regions, public school enrollment during the same period is expected to increase in the South, West, and Midwest and to decrease in the Northeast.

**States.** The expected 4 percent national increase in public school enrollment between 2001 and 2013 plays out differently for most states.

- Increases are projected for 30 states, with
  - the largest increases projected for Alaska (17 percent), Hawaii (16 percent), and California (16 percent);
  - increases between 10 and 15 percent projected for 7 states; and
  - increases between 0.4 and 9 percent projected for 20 states.
- No change is projected for Louisiana.
- Decreases are projected for 20 states, with
  - the largest decreases projected for West Virginia (6 percent) and Kentucky (6 percent);
  - decreases between 2.4 and 5 percent projected for 10 states;
  - decreases between 0.9 and 2 percent projected for 7 states; and
  - the smallest decrease projected for New Hampshire (0.2 percent).

**Regions.** Between 2001 and 2013, public elementary and secondary enrollment is projected to

- increase 13 percent in the West;

- increase 4 percent in the South;
- decrease 2 percent in the Northeast; and
- increase slightly in the Midwest.

### Enrollment in Degree-Granting Institutions

Total enrollment in degree-granting institutions is expected to increase between 2000 and 2013. Degree-granting institutions provide study beyond secondary school and offer programs terminating in an associate's, baccalaureate, or higher degree. Differential growth is expected by student characteristics such as age, sex, and attendance status (part time or full time). Enrollment is expected to increase in both public and private degree-granting institutions.

#### Total enrollment

Total enrollment in degree-granting institutions increased 17 percent from 1988 to 2000 (figure B). Between 2000 and 2013, total enrollment is projected to increase

- 19 percent, to 18.2 million, in the middle alternative projections;
- 15 percent, to 17.7 million, in the low alternative projections; and
- 23 percent, to 18.8 million, in the high alternative projections.

#### Enrollment by selected characteristics and control of institution

*Enrollment by age of student.* Between 2000 and 2013, in the middle alternative projections, enrollment is projected to increase

- 22 percent for students who are 18 to 24 years old; and
- 2 percent for students who are 35 years old and over.

*Enrollment by sex of student.* Between 2000 and 2013, in the middle alternative projections, enrollment is projected to increase

- 15 percent for men; and
- 21 percent for women.

*Enrollment by attendance status.* Between 2000 and 2013, in the middle alternative projections, enrollment is projected to increase

- 22 percent for full-time students; and
- 13 percent for part-time students.

*Enrollment by level.* Between 2000 and 2013, in the middle alternative projections, enrollment is projected to increase

- 18 percent for undergraduate students;
- 19 percent for graduate students; and
- 27 percent for first-professional students.

*Enrollment in public and private institutions.* Between 2000 and 2013, in the middle alternative projections, enrollment is projected to increase

- 18 percent in public institutions; and
- 20 percent in private institutions.

### High School Graduates

Between 2000–01 and 2012–13, the number of high school graduates is projected to increase nationally by 11 percent. Increases are expected in each region of the country, especially the West. Both public and private schools are expected to have increases in high school graduates.

#### National data on high school graduates

*Total graduates.* The total number of high school graduates (figure C)

- increased 3 percent between 1987–88 and 2000–01; and
- is projected to increase 11 percent between 2000–01 and 2012–13.

*Public schools.* The number of public high school graduates

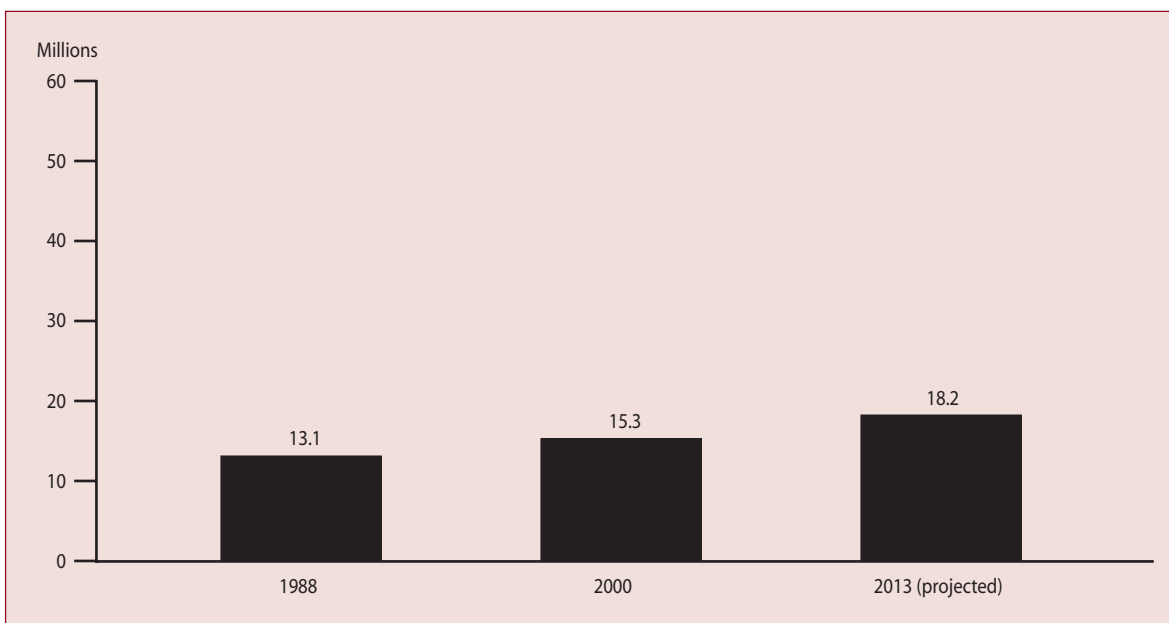
- increased 3 percent between 1987–88 and 2000–01; and
- is projected to increase 11 percent between 2000–01 and 2012–13.

*Private schools.* The number of private high school graduates

- increased 4 percent between 1987–88 and 2000–01; and
- is projected to increase 18 percent between 2000–01 and 2012–13.

#### State and regional data on high school graduates (public schools only)

Between 2000–01 and 2012–13, the number of public high school graduates is expected to increase in nearly half the states and in all four regions.

**Figure B. Total enrollment in degree-granting institutions, with middle alternative projections: Selected years**

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (Originally published as figure C on p. 8 of the complete report from which this article is excerpted.)

**States.** The expected 11 percent national increase in public high school graduates between 2000–01 and 2012–13 plays out differently in each state.

- Increases are projected for 25 states, with
  - the largest increases projected for Nevada (72 percent), Florida (30 percent), and Arizona (30 percent);
  - increases between 20 and 27 percent projected for 6 states;
  - increases between 4 and 19 percent projected for 14 states; and
  - the smallest increases projected for Utah (3 percent) and New York (2 percent).
- Decreases are projected for 26 states, with
  - the largest decreases projected for North Dakota (32 percent) and the District of Columbia (31 percent);
  - decreases between 11 and 26 percent projected for 8 states;
  - decreases between 2 and 11 percent projected for 14 states; and
  - the smallest decreases projected for Alaska (0.8 percent) and Idaho (0.2 percent).

**Regions.** Between 2000–01 and 2012–13, the number of public high school graduates is projected to

- increase 18 percent in the West;
- increase 12 percent in the South;
- increase 8 percent in the Northeast; and
- increase 4 percent in the Midwest.

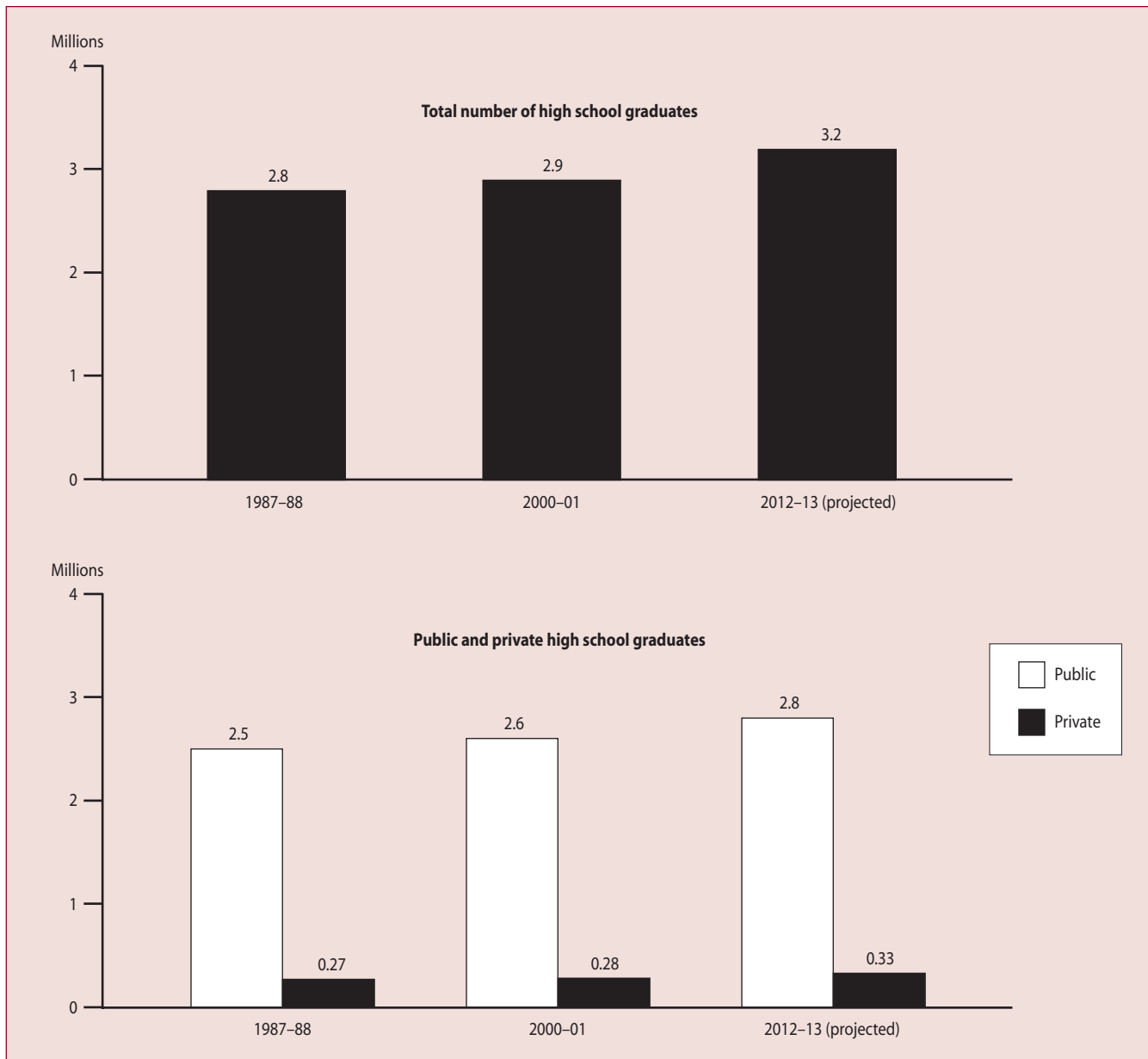
### Earned Degrees Conferred

Historical growth in enrollment in degree-granting institutions, with particularly large increases among women, has led to a substantial increase in the number of earned degrees conferred. With the exception of doctor's degrees awarded to men, increases in the number of degrees conferred are expected to continue between 2000–01 and 2012–13.

#### Earned degrees by level of degree and sex of recipient

Between 1987–88 and 2000–01, the number and proportion of degrees awarded to women rose at all levels. In 2000–01, women earned the majority of associate's, bachelor's, and master's degrees, 45 percent of doctor's degrees, and 46 percent of first-professional degrees. Between 2000–01 and 2012–13, continued increases are expected in the number of degrees awarded to women at all levels.



**Figure C. Number of high school graduates, total and by control of school: Selected years**

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD) surveys, various years; Private School Universe Survey, various years; and National High School Graduates Model. (Originally published as figure F on p. 11 of the complete report from which this article is excerpted.)

*Associate's degrees.* Between 2000–01 and 2012–13, in the middle alternative projections, the number of associate's degrees is projected to

- increase 21 percent overall;
- increase 7 percent for men; and
- increase 30 percent for women.

*Bachelor's degrees.* Between 2000–01 and 2012–13, in the middle alternative projections, the number of bachelor's degrees is projected to

- increase 21 percent overall;
- increase 16 percent for men; and
- increase 25 percent for women.

*Master's degrees.* Between 2000–01 and 2012–13, in the middle alternative projections, the number of master's degrees is projected to

- increase 19 percent overall;
- increase 17 percent for men; and
- increase 20 percent for women.

*Doctor's degrees.* Between 2000–01 and 2012–13, in the middle alternative projections, the number of doctor's degrees is projected to

- increase 5 percent overall;
- decrease 0.1 percent for men; and
- increase 12 percent for women.

*First-professional degrees.* Between 2000–01 and 2012–13, in the middle alternative projections, the number of first-professional degrees is projected to

- increase 20 percent overall;
- increase 16 percent for men; and
- increase 26 percent for women.

## Elementary and Secondary Teachers

Between 2001 and 2013, the number of teachers in elementary and secondary schools is projected to rise. The numbers of both public and private school teachers are projected to grow.

### Teachers in elementary and secondary schools

*Total teachers.* The total number of elementary and secondary teachers (figure D)

- increased 27 percent between 1988 and 2001; and

- is projected to increase 5 percent between 2001 and 2013 in the middle alternative projections.

*Public schools.* The number of teachers in public elementary and secondary schools

- increased 29 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013 in the middle alternative projections.

*Private schools.* The number of teachers in private elementary and secondary schools

- increased 13 percent between 1988 and 2001; and
- is projected to increase 5 percent between 2001 and 2013 in the middle alternative projections.

### Pupil/teacher ratios

The pupil/teacher ratio in elementary and secondary schools

- decreased from 17.0 to 15.9 between 1988 and 2001; and
- is projected to be 15.8 in 2013 in the middle alternative projections.

## Expenditures of Public Elementary and Secondary Schools

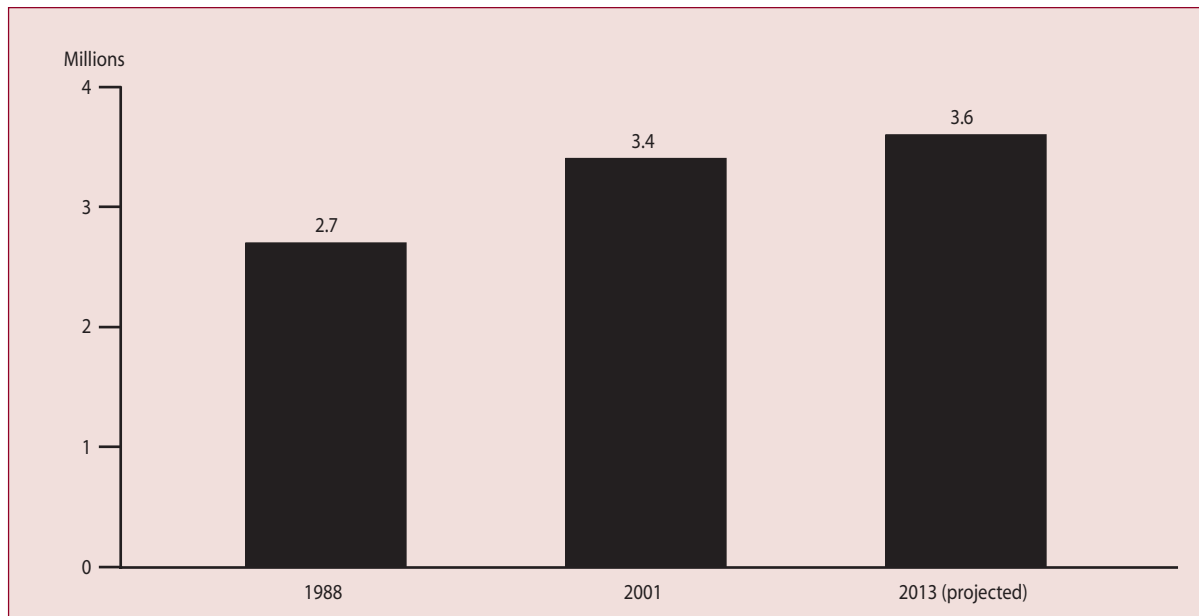
Current expenditures and average annual teacher salaries in public elementary and secondary schools are both projected to increase in constant dollars between school years 2000–01 and 2012–13, with current expenditures projected to increase more rapidly.

### Current expenditures and current expenditures per pupil

Between 2000–01 and 2012–13, increases are expected in the current expenditures and current expenditures per pupil of public elementary and secondary schools (figure E).

*Current expenditures.* Current expenditures in constant 2001–02 dollars increased 47 percent from 1987–88 to 2000–01. From 2000–01 to 2012–13, current expenditures in constant 2001–02 dollars are projected to increase

- 31 percent, to \$465 billion, in the middle alternative projections;
- 19 percent, to \$420 billion, in the low alternative projections; and
- 43 percent, to \$507 billion, in the high alternative projections.

**Figure D. Total number of elementary and secondary teachers, with middle alternative projections: Selected years**

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD) surveys, various years; and Elementary and Secondary Teacher Model. (Originally published as figure H on p. 16 of the complete report from which this article is excerpted.)

**Current expenditures per pupil.** Current expenditures per pupil in constant 2001–02 dollars increased 24 percent from 1987–88 to 2000–01. From 2000–01 to 2012–13, current expenditures in constant 2001–02 dollars per pupil in fall enrollment are projected to increase

- 26 percent, to \$9,400, in the middle alternative projections;
- 14 percent, to \$8,500, in the low alternative projections; and
- 37 percent, to \$10,300, in the high alternative projections.

#### Teacher salaries

Teacher salaries are projected to increase between 2002–03 and 2012–13. In the middle alternative projections, teacher salaries in constant 2001–02 dollars are projected to

- increase to \$47,400 in 2012–13; and
- increase 6 percent between 2002–03 and 2012–13.

Teacher salaries increased from \$43,100 in 1987–88 to \$44,900 in 2002–03, an increase of 4 percent.

#### Expenditures of Public Degree-Granting Postsecondary Institutions

Current-fund expenditures in both public 4-year degree-granting institutions and public 2-year degree-granting

institutions are projected to increase in constant dollars between school years 1999–2000 and 2012–13.

#### Public institutions

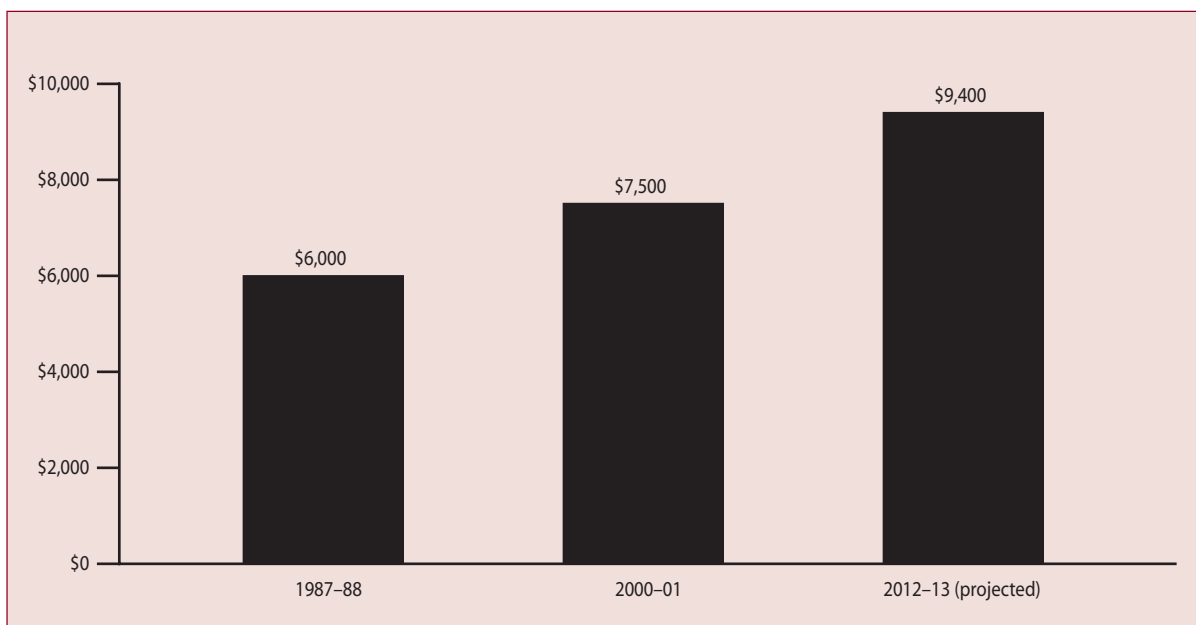
Between 1999–2000 and 2012–13, increases are expected in the current-fund expenditures of public degree-granting institutions (figure F).

**Current-fund expenditures.** Current-fund expenditures in constant 2001–02 dollars of 4-year and 2-year degree-granting institutions combined increased 43 percent from 1987–88 to 1999–2000. From 1999–2000 to 2012–13, current-fund expenditures in constant 2001–02 dollars are projected to increase

- 43 percent, to \$229 billion, in the middle alternative projections;
- 32 percent, to \$212 billion, in the low alternative projections; and
- 51 percent, to \$241 billion, in the high alternative projections.

#### Public 4-year institutions

Between 1999–2000 and 2012–13, increases are expected in the current-fund expenditures and the educational and general expenditures of public 4-year degree-granting institutions. Both overall increases and increases per

**Figure E. Current expenditures per pupil in 2001–02 dollars, with middle alternative projections: Selected years**

NOTE: Data were placed in constant 2001–02 dollars using the Consumer Price Index for all urban consumers (Bureau of Labor Statistics, U.S. Department of Labor).

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "National Public Education Finance Survey," various years; National Elementary and Secondary Enrollment Model; and Elementary and Secondary School Current Expenditures Model. (Originally published as figure K on p. 19 of the complete report from which this article is excerpted.)

student in full-time-equivalent (FTE) enrollment are expected.

**Current-fund expenditures.** Current-fund expenditures in constant 2001–02 dollars increased 42 percent from 1987–88 to 1999–2000. From 1999–2000 to 2012–13, public 4-year institutions' current-fund expenditures in constant 2001–02 dollars are projected to increase

- 43 percent, to \$188 billion, in the middle alternative projections;
- 35 percent, to \$178 billion, in the low alternative projections; and
- 49 percent, to \$196 billion, in the high alternative projections.

**Current-fund expenditures per student.** For public 4-year institutions, current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment increased 26 percent from 1987–88 to 1999–2000. From 1999–2000 to 2012–13, current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment are projected to increase

- 16 percent, to \$30,800, in the middle alternative projections;

- 12 percent, to \$29,900, in the low alternative projections; and
- 16 percent, to \$31,000, in the high alternative projections.

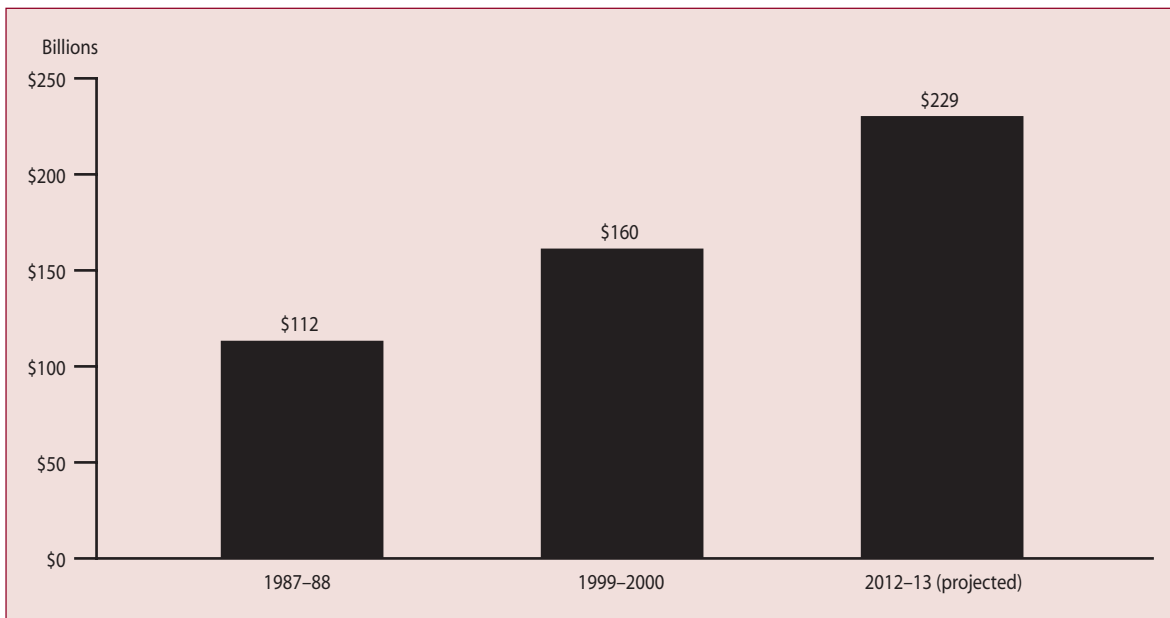
**Educational and general expenditures.** In the middle alternative projections, from 1999–2000 to 2012–13, public 4-year institutions' educational and general expenditures in constant 2001–02 dollars are projected to increase

- 38 percent overall, from \$99 billion to \$136 billion; and
- 12 percent per student in FTE enrollment, from \$20,000 to \$22,300.

#### **Public 2-year institutions**

Between 1999–2000 and 2012–13, increases are expected in the current-fund expenditures and the educational and general expenditures of public 2-year degree-granting institutions. Both overall increases and increases per student in FTE enrollment are expected.

**Current-fund expenditures.** Current-fund expenditures in constant 2001–02 dollars increased 50 percent from 1987–88 to 1999–2000. From 1999–2000 to 2012–13, public

**Figure F. Current-fund expenditures of public degree-granting institutions, with middle alternative projections: Selected years**

NOTE: Data were placed in constant 2001–02 dollars using the Consumer Price Index for all urban consumers (Bureau of Labor Statistics, U.S. Department of Labor).

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System (IPEDS), “Finance Survey,” various years; and Expenditures in Degree-Granting Institutions Model. (Originally published as figure L on p. 21 of the complete report from which this article is excerpted.)

2-year institutions’ current-fund expenditures in constant 2001–02 dollars are projected to increase

- 40 percent, to \$41 billion, in the middle alternative projections;
- 18 percent, to \$34 billion, in the low alternative projections; and
- 56 percent, to \$45 billion, in the high alternative projections.

**Current-fund expenditures per student.** For public 2-year institutions, current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment increased 24 percent from 1987–88 to 1999–2000. From 1999–2000 to 2012–13, current-fund expenditures in constant 2001–02 dollars per student in FTE enrollment are projected to

- increase 16 percent, to \$10,800, in the middle alternative projections;
- decrease less than 1 percent, to \$9,300, in the low alternative projections; and
- increase 24 percent, to \$11,600, in the high alternative projections.

**Educational and general expenditures.** In the middle alternative projections, from 1999–2000 to 2012–13, public 2-year institutions’ educational and general expenditures in constant 2001–02 dollars are projected to increase

- 42 percent overall, from \$27 billion to \$38 billion; and
- 16 percent per student in FTE enrollment, from \$8,800 to \$10,300.

## References

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- Gerald, D.E., and Hussar, W.J. (2002). *Projections of Education Statistics to 2012* (NCES 2002–030). U.S. Department of Education. National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Hussar, W.J., and Gerald, D.E. (2003). *Pocket Projections: Projections of Education Statistics to 2013* (NCES 2004–019). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

**Data sources:**

NCES: Common Core of Data (CCD): "State Nonfiscal Survey of Public Elementary/Secondary Education" (various years), "Early Estimates of Public Elementary/Secondary Education Survey" (various years), and "National Public Education Financial Survey" (various years); Private School Universe Survey (PSS), various years; Private School Survey Early Estimates, various years; 1985 Private School Survey; National Elementary and Secondary Enrollment Model; State Public Elementary and Secondary Enrollment Model; National Elementary and Secondary Average Daily Attendance Model; Elementary and Secondary School Current Expenditures Model; Integrated Postsecondary Education Data System (IPEDS): "Fall Enrollment Survey" (various years), "Completions Survey" (various years), and "Finance Survey" (various years); Enrollment in Degree-Granting Institutions Model; Expenditures in Degree-Granting Institutions Model; *Revenues and Expenditures for Public Elementary and Secondary Education*; *Statistics of Public Elementary and Secondary Schools*; *Statistics of State School Systems*; National High School Graduates Model; State Public High School Graduates Model; "Degrees and Other Formal Awards Conferred" surveys; Elementary and Secondary Teacher Model; Elementary and Secondary Teacher Salary Model; and Earned Degrees Conferred Model.

U.S. Bureau of the Census: *Current Population Reports*; "Social and Economic Characteristics of Students," various years.

Other: National Education Association: *Estimates of School Statistics*; Global Insight, Inc. (an economic forecasting service).

**For technical information**, see the complete report:

Gerald, D.E., and Hussar, W.J. (2003). *Projections of Education Statistics to 2013* (NCES 2004-013).

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**To obtain the complete report (NCES 2004-013)**, call the toll-free ED Pubs number (877-433-7827), visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>), or contact GPO (202-512-1800).

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## Data Products

### Data File: Local Education Agency (School District) and School Universe Survey Longitudinal Data Files: 1986–1998 (13-year)

These Common Core of Data (CCD) files link local schools and school districts over time and provide imputed values for data that were not originally reported by states. These files include enrollment, free/reduced-price lunch eligibility, and high school completion data, by race and gender. While the statistical techniques used to track agencies and schools over time and extensively impute missing data produce overall reliability, these longitudinal files are not intended to give official state or national totals for any variable included in the CCD. The regular (not longitudinal) public education agency and school universe files should be used when seeking information about individual education agencies, schools, or a state's officially reported data.

The data can be downloaded from the NCES Electronic Catalog in ASCII (with file layouts and corresponding documentation) and SAS formats.

**For questions about this data product**, contact Lee M. Hoffman ([lee.hoffman@ed.gov](mailto:lee.hoffman@ed.gov)).

**To obtain this data product (NCES 2003–420)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### Data File: Common Core of Data Local Education Agency Dropout and Completion Data: School Year 2000–01

This file provides data on dropout and completion counts and rates and enrollment counts for public elementary and secondary agencies (school districts) for the 2000–01 school year. The database provides the following information for each education agency: NCES agency ID code; name, address, and telephone number; number of dropouts by grade, race, and sex; dropout rate by grade, race, and sex; enrollment base used in dropout rate; number of high school completers by race and sex; 4-year high school completion rate by race and sex; and base used in 4-year high school completion rate. Data were provided by state education agencies (SEAs) from their administrative records.

The data can be downloaded from the NCES Electronic Catalog either in SAS files or in flat files that can be

used with other statistical processing programs, such as SPSS. Documentation is provided in separate files.

**For questions about this data product**, contact John P. Sietsema ([john.sietsema@ed.gov](mailto:john.sietsema@ed.gov)).

**To obtain this data product (NCES 2004–315)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### CD-ROM: Common Core of Data (CCD) School Years 1996–97 Through 2000–01

The Common Core of Data (CCD) is the primary NCES database on elementary and secondary public education in the United States. CCD is a comprehensive, annual, national statistical database of all elementary and secondary schools and school districts, containing data that are comparable across all states. The 50 states and the District of Columbia, Bureau of Indian Affairs schools, Department of Defense Dependents schools, and outlying areas (American Samoa, Guam, the Northern Marianas, Puerto Rico, and the Virgin Islands) schools are included in the collection.

This CD-ROM is a comprehensive source of information about all public elementary and secondary schools in the United States. It presents data from the CCD at the state, local education agency, and school levels. This CD-ROM includes information about the numbers of students, teachers, other education staff, school characteristics, school and school district locale (e.g., rural, suburban, big city), and revenues and expenditures for education from the CCD, as well as community demographics drawn from the 1990 census. It is designed for easy use, and allows the user to create a number of tables.

**For questions about this CD-ROM**, contact Lee M. Hoffman ([lee.hoffman@ed.gov](mailto:lee.hoffman@ed.gov)).

**To obtain this CD-ROM (NCES 2003–410)**, call the toll-free ED Pubs number (877–433–7827).

### CD-ROM: Baccalaureate and Beyond Longitudinal Study Data Analysis System (DAS) B&B:2000/01

Featured on this CD-ROM are data from the 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:2000/01). The B&B:2000/01 study collects additional data for 1999–2000 bachelor's degree recipients in 2001, providing a wealth of data on their undergraduate experiences as well as postbaccalaureate enrollment and employment experiences.



This DAS CD-ROM contains the B&B:2000/01 DAS, as well as all other postsecondary longitudinal DASs as of August 2003. These data sets are for public use and do not allow users direct access to the data, but do allow them to design and run basic analyses specific to their needs.

**For questions about this CD-ROM**, contact Aurora D'Amico ([aurora.d'amico@ed.gov](mailto:aurora.d'amico@ed.gov)).

**To obtain this CD-ROM (NCES 2003-173)**, call the toll-free ED Pubs number (877-433-7827).

## National Household Education Surveys Program of 2001: Data Files and Electronic Codebook

The National Household Education Surveys Program (NHES) comprised three surveys in 2001—the Adult Education and Lifelong Learning Survey (AELL-NHES:2001), the Before- and After-School Programs and Activities Survey (ASPA-NHES:2001), and the Early Childhood Program Participation Survey (ECPN-NHES:2001).

The data, data documentation, and software to help users search through and convert the data into SPSS, SAS, or STATA files are available on CD-ROM. The data files and syntax needed to set up the data files in SPSS, SAS, or STATA can be downloaded directly from the NCES Electronic Catalog. The four-volume documentation for the data sets is also available from the NCES Electronic Catalog. Volume I provides information common to all three of the NHES:2001 surveys and should be referenced before using any of the data files. Volume II provides information specific to ECPN-NHES:2001, volume III provides information specific to ASPA-NHES:2001, and volume IV provides information specific to AELL-NHES:2001.

**For questions about this data product**, contact Chris Chapman ([chris.chapman@ed.gov](mailto:chris.chapman@ed.gov)).

**To obtain this data product (NCES 2003-078)**, call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Other Publications

### NAEP Mathematics 2003 State Snapshot Reports

*National Center for Education Statistics*

The National Assessment of Educational Progress (NAEP), known as “The Nation’s Report Card,” has

recently released a set of state snapshot reports and a companion report, *The Nation’s Report Card: Mathematics Highlights 2003*, containing the main results of the NAEP 2003 mathematics assessment. A one-page snapshot report is available for each state and other jurisdiction that participated in the NAEP 2003 mathematics assessment. The snapshot reports present brief text describing overall student results, bar charts showing NAEP achievement levels for each year in which the state participated, and tables displaying results by gender, race/ethnicity, and eligibility for free/reduced-price lunch. Trends in scale scores at selected percentiles are also displayed. The companion report provides more extensive information about the results of the 2003 and earlier comparable mathematics assessments.

**For questions about these reports**, contact Taslima Rahman ([taslima.rahman@ed.gov](mailto:taslima.rahman@ed.gov)).

**To obtain these reports (NCES 2004-457)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### The Nation’s Report Card: Trial Urban District Mathematics 2003 Snapshot Reports

*National Center for Education Statistics*

The National Assessment of Educational Progress (NAEP), known as “The Nation’s Report Card,” has released one-page reports on mathematics achievement at grades 4 and 8 for the following urban school districts: Atlanta City, Boston School District, Charlotte-Mecklenburg Schools, City of Chicago School District 299, Cleveland Municipal School District, Houston Independent School District, Los Angeles Unified, New York City Public Schools, and San Diego City Unified. Each report consists of a printable page in PDF format containing overall results for each district, student percentages at NAEP achievement levels, performance of NAEP reporting groups in each district, average mathematics score gaps between selected groups, and scale scores at selected percentiles.

**For questions about these reports**, contact Lisa Ward ([lisa.ward@ed.gov](mailto:lisa.ward@ed.gov)).

**To obtain these reports (NCES 2004-454)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## NAEP Reading 2003 State Snapshot Reports

National Center for Education Statistics

The National Assessment of Educational Progress (NAEP), known as “The Nation’s Report Card,” has released a set of state snapshot reports and a companion report, *The Nation’s Report Card: Reading Highlights 2003*, containing the main results of the NAEP 2003 reading assessment. A one-page snapshot report is available for each state and other jurisdiction that participated in the NAEP 2003 reading assessment. The snapshot reports present brief text describing overall student results, bar charts showing NAEP achievement levels for each year in which the state participated, and tables displaying results by gender, race/ethnicity, and eligibility for free/reduced-price lunch. Trends in scale scores at selected percentiles are also displayed. The companion report provides more extensive information about the results of the 2003 and earlier comparable reading assessments.

**For questions about these reports**, contact Taslima Rahman ([taslima.rahman@ed.gov](mailto:taslima.rahman@ed.gov)).

**To obtain these reports (NCES 2004–456)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## The Nation’s Report Card: Trial Urban District Reading 2003 Snapshot Reports

National Center for Education Statistics

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**For questions about these reports**, contact Lisa Ward ([lisa.ward@ed.gov](mailto:lisa.ward@ed.gov)).

**To obtain these reports (NCES 2004–453)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Financial Accounting for Local and State School Systems: 2003 Edition

Core Finance Data Task Force, National Forum on Education Statistics

This NCES handbook has been designed as the national standard for state departments of education to use in reporting financial data and for school districts to use in preparing their comprehensive annual financial reports (CAFRs) that are submitted to their respective state departments of education. The purpose of the handbook is to ensure that education fiscal data are reported in a comprehensive manner. This 2003 edition contains guidance conforming to Governmental Accounting Standards Board statements, up to statement 39. There are chapters on budgeting, governmental accounting, and financial reporting. Account codes have been updated to reflect changes in the new reporting requirements and developments in technology and security. There are also special chapters on accounting student activity funds and a model for school-level program cost accounting.

The 2003 revision of *Financial Accounting for Local and State School Systems* reflects the many changes that have taken place since its initial publication in 1980 and modest update in 1990. It is anticipated that this handbook will receive periodic updates to ensure that contemporary issues are regularly incorporated into the accounting guidance for schools. The online version of this handbook will be updated as revisions are approved.

**For questions about this handbook**, contact Frank H. Johnson ([frank.johnson@ed.gov](mailto:frank.johnson@ed.gov)).

**To obtain this handbook (NCES 2004–318)**, call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Programs and Plans of the National Center for Education Statistics, 2003 Edition

William C. Sonnenberg (editor)

This report summarizes current NCES statistical programs, major publications, and plans for future work. It includes descriptions, timelines, and plans for all NCES data collections, such as the Common Core of Data, Integrated Postsecondary Education Data System, National Assessment of Educational Progress, Early Childhood Longitudinal Study, Trends in International Mathematics and Science Study, and National Postsecondary Student Aid Study. Also included are descriptions of NCES centerwide programs and services, such as statistical standards, training, technology, and customer service.

**Editor affiliation:** W. Sonnenberg, NCES.

**For questions about content,** contact William C. Sonnenberg ([william.sonnenberg@ed.gov](mailto:william.sonnenberg@ed.gov)).

**To obtain this publication (NCES 2004-027),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## NCES Nonfiscal Data Handbook for Early Childhood, Elementary, and Secondary Education

NCES Working Group

The *NCES Nonfiscal Data Handbook* was developed to provide guidance concerning the consistent maintenance of student, staff, and education institution information. This handbook defines data elements and definitions describing students, staff, schools, local education agencies (LEAs), intermediate educational units (IEUs), and state education agencies (SEAs) in early childhood, elementary, and secondary education. It is intended to serve as a reference for public and private education agencies, schools, early childhood centers, other educational institutions, and researchers involved in the collection of education data. This handbook contains no data and is updated annually.

**For questions about this handbook,** contact Lee M. Hoffman ([lee.hoffman@ed.gov](mailto:lee.hoffman@ed.gov)).

**To obtain this handbook (NCES 2003-419),** visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Training and Funding Opportunities

### Training

This summer, NCES is offering a series of advanced-studies seminars on the analysis of the following NCES databases:

- Education finance data from the Common Core of Data (CCD) (May 24–26)
- National Education Longitudinal Study of 1988 Eighth-Graders (NELS:88) and Education Longitudinal Study of 2002 Tenth-Graders (ELS:2002) (May 26–28)
- Progress in International Reading Literacy Study (PIRLS) (June 28–30)
- Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) (July 6–9)
- National Household Education Surveys Program (NHES) (July 14–16)
- National Assessment of Educational Progress (NAEP) (July 20–23)
- Schools and Staffing Survey (SASS) (August 4–6)

These seminars are designed for researchers in academic communities and other research communities (e.g., federal agencies, research organizations, and think tanks that are interested in quantitative studies). Each multi-day seminar is held in the Washington, DC, metropolitan area and covers several topics, including the nature and content of the database, computer software for accessing and analyzing the data, and funding opportunities. Seminar activities include lectures, illustrations, demonstrations, and hands-on practice. At the end of each seminar, participants are expected to make a brief presentation describing their analyses and findings.

**For more information,** contact Beverly Coleman ([beverly.coleman@ed.gov](mailto:beverly.coleman@ed.gov)).

## The AERA Grants Program

Jointly funded by the National Science Foundation (NSF), NCES, and the Institute of Education Sciences, this training and research program is administered by the American Educational Research Association (AERA). The program has four major elements: a research grants program, a dissertation grants program, a fellows program, and a training institute. The program is intended to enhance the capability of the U.S. research community to use large-scale data sets, specifically those of the NSF and NCES, to conduct studies that are relevant to educational policy and practice, and to strengthen communications between the educational research community and government staff.

Applications for this program may be submitted at any time. The application review board meets three times per year. The following are examples of grants recently awarded under the program:

### Research Grants

- Lynn Addington, American University—Educational Repercussions for Victims of Bullying and School Crime: A Longitudinal Analysis of the School Crime Supplements
- Marigee Bacolod, University of California, Irvine—Equalizing Educational Opportunities: Who Teaches and Where They Choose to Teach
- William Carbonaro, University of Notre Dame—Racial/Ethnic Differences in College Graduation: The Lasting Effects of Students' High School Experiences
- Thomas Dee, Swarthmore College—A Teacher Like Me: Does Race, Ethnicity or Gender Matter?
- David Figlio, University of Florida—Inside the “Black Box”: School Responses to Accountability Pressure
- Janet Holt, Northern Illinois University—Racial and Gender Gaps in Math and Science Educational and Occupational Persistence: Exploring Critical Transitions Using Growth Mixture Modeling
- Kim Lloyd, Washington State University—Affirmative Action and the Texas Top 10% Policy: Minority Representation and Success in Selective Public and Private Universities Under Alternative Policy Regimes
- John Logan, University at Albany, SUNY—*Brown v. Board of Education* at 50: Desegregation Orders and Public School Integration
- Sean Reardon, Pennsylvania State University—Understanding the Growth of Achievement Inequality in the Early Years of Schooling

### Dissertation Grants

- Sharon Christ, University of North Carolina, Chapel Hill—Discipline Policy and Tracking Policy Effects on the Political Socialization of Students: How Middle and High Schools Regulate and Organize Students for Active Democratic Citizenship
- Gayle Christensen, Stanford University—What Matters for Immigrant Achievement Cross-Nationally? A Structural Equation Model Comparing Immigrant and Non-Immigrant Student Achievement
- Allison Gruner, Harvard University—Inclusion: What is the Impact on Students Without Disabilities?
- Michal Kurlaender, Harvard University—Reinforcing Disadvantage or Increasing Opportunity? Alternative Routes to Educational Attainment
- Megan Kurlychek, Pennsylvania State University—The Multilevel Context of School Crime: Assessing the Relative Contributions of Student, School and Community Characteristics
- Yan Lee, University of California, Los Angeles—Are There Competitive Effects of School Choice on Traditional Public Schools? The Case of Michigan Charter Schools
- Kimberly Lowry, University of Central Florida—The Paths to Becoming a Mathematics Teacher
- John Luczak, Stanford University—Who Will Teach in the 21st Century? Beginning Teacher Training Routes and Attrition Rates

**For more information**, contact Edith McArthur ([edith.mcarthur@ed.gov](mailto:edith.mcarthur@ed.gov)) or visit the AERA Grants Program web site (<http://www.aera.net/grantsprogram>).

## The NAEP Secondary Analysis Grant Program

The NAEP Secondary Analysis Grant Program was developed to encourage education researchers to conduct secondary analysis studies using data from the National Assessment of Educational Progress (NAEP) and the NAEP High School Transcript Studies. This program is open to all public or private organizations and consortia of organizations. The program is typically announced annually, in the late fall, in the *Federal Register*. Grants awarded under this program run from 12 to 18 months and awards range from \$15,000 to \$100,000. The following grants were awarded for fiscal year 2003:

- Dr. Duncan Chaplin, Urban Institute—Estimating Relationships in NAEP
- Linda Cook, Educational Testing Service—Are the Inclusion Policies and Practices for State Assessment Systems and NAEP State Assessments Aligned?
- Dr. Louis DiBello, Educational Testing Service—Skill Profiles for Groups of Students at a Given NAEP Scale Level—Development and Demonstration
- David Grissmer, RAND—Analysis of Central City NAEP
- Andrew Houtenville, Cornell University—Monitoring Students With Disabilities Using NAEP Data
- Brian A. Jacob, Harvard College—Test-Based Accountability and Student Achievement: An Investigation of Differential Performance Trends on NAEP and State Assessments
- Akihito Kamata, Florida State University—Differential Item Functioning Analyses for Students With Test Accommodations on NAEP Test Items
- Donald J. Leu, University of Connecticut—The Impact of Computer Access and Use on Student Reading Achievement
- Christopher Swanson, Urban Institute—Measuring Classroom Instruction Using NAEP

**For more information**, contact Alex Sedlacek ([alex.sedlacek@ed.gov](mailto:alex.sedlacek@ed.gov)).

## AIR Grants Program

The Association for Institutional Research (AIR), with support from NCES and the National Science Foundation (NSF), has developed a grants program titled Improving Institutional Research in Postsecondary Educational Institutions. The goals of this program are to provide professional development opportunities to doctoral students, institutional researchers, educators, and administrators, and to foster the use of federal databases for institutional research in postsecondary education. The program has the following four major components:

- dissertation research fellowships for doctoral students;
- research grants for institutional researchers and faculty;
- a Summer Data Policy Institute in the Washington, DC, area to study the national databases of NSF and NCES; and
- a senior fellowship program.

Calls for proposals go out in spring, and proposals are normally accepted through June 30 for work starting no later than September 1 of each year. The following are examples of grants awarded for fiscal year 2003.

- Lamont A. Flowers, University of Florida—Labor Market Outcomes of African American College Graduates
- Heidi Grunwald, University of Michigan—Factors Affecting Faculty Use of Instructional Technology in Traditional Classrooms: A Hierarchical Linear Model Approach
- Aruna Lakshmanan, Louisiana State University—A Longitudinal Study of Adolescent Educational Aspirations and Their Relation to College Choice Using Hierarchical Linear Modeling and Group-Based Mixture Modeling
- Sang Min Lee, University of Florida—Identifying Longitudinal Causal Model for Postsecondary Educational Attainment for Low Socioeconomic Status Students
- Susan Carol Losh, Florida State University—It's in the Details: Dimensions of Education, Gender,

and Relations Among Basic Science Knowledge, Attitudes, Understanding Scientific Inquiry, and Pseudoscience Support in the American General Public

- Stephen R. Porter, Wesleyan University—  
Educating Future Scientists: Understanding the Impact of Baccalaureate Institutions on the Decision to Pursue Graduate Studies in Science and Engineering
- Jim S. Settle, University of Missouri-St. Louis—  
The Effect of Socioeconomic Status on Year-to-Year Persistence of First-Generation and Continuing-Generation College Students at Two-Year and Four-Year Institutions
- Leslie Stratton, Virginia Commonwealth University—  
The Sensitivity of Attrition Models to the Timing and Duration of Withdrawal: Analysis Using Beginning Postsecondary Longitudinal Data from 1990–1994

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**For more information**, contact Susan Broyles ([susan.broyles@ed.gov](mailto:susan.broyles@ed.gov)) or visit the AIR web site (<http://www.airweb.org>).

## NPEC/AIR Focused Grants

The National Postsecondary Education Cooperative (NPEC) and the Association for Institutional Research (AIR) are pleased to announce the inaugural year of a focused grant program that will fund research and studies to increase understanding and knowledge in a specific issue area that has been identified by the NPEC Executive Committee as critically important to the postsecondary education community. This year the focus is on student success. Proposals may suggest undertaking a variety of activities that focus on student success. Proposals are due January 15 of each year and the grant award period is June 1, 2004, through May 31, 2005.

In 2004, NPEC and AIR plan to make 5 to 10 one-year grant awards ranging up to \$15,000 for dissertation work and up to \$30,000 for other activities. Grant recipients should plan on making a presentation of their work at NPEC's national conference in 2006. Travel to the conference will be paid by NPEC.

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**For more information**, contact Roz Korb ([roslyn.korb@ed.gov](mailto:roslyn.korb@ed.gov)) or visit the AIR web site ([www.airweb.org](http://www.airweb.org)) for more information and instructions for writing and submitting proposals.

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