Editorial Note

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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Mark Schneider, Commissioner

Helping You Find the Education Data You Need

We want to inform all our readers that this is the last issue of the *Education Statistics Quarterly*. Launched in the spring of 1999, the *Quarterly* was designed to be a comprehensive source of regularly issued summaries of all NCES publications and data products under one cover. While we will no longer publish the *Quarterly*, the National Center for Education Statistics (NCES) remains committed to disseminating data to the broadest possible audience to meet the ever-increasing demand for information on the status of education in the United States and other countries. As the primary federal entity for collecting and analyzing education data, NCES has many activities under way to reach education data users.

The first place for readers to turn is the newly redesigned NCES website at http://nces.ed.gov. Users can access nearly 2,000 publications on all aspects of education, including prekindergarten through postsecondary education, vocational and adult education, libraries, national assessments, and information on U.S. student performance in an international context from the results of international surveys. These publications and related data products are contained in an online catalog with customized search capabilities. In addition, the website provides a variety of online data tools so that users can build their own tables using raw data from NCES surveys. The website also provides searchable databases to find the location of and information on numerous education institutions, including public school districts, public and private schools, and libraries. The popular College Opportunities On-Line (COOL) tool has information on 7,000 colleges, universities, and technical institutions in the United States. In addition, the National Assessment of Educational Progress (NAEP) has a new and flexible data tool, the NAEP Data Explorer, that allows the user to create statistical tables based on NAEP student performance results and factors that may be related to student learning. NCES has efforts under way to move more of its databases to the Data Analysis System (DAS) so that users will have increased access to our data for their own research needs.

Another place to find out about NCES data collections and products is the featured publication in this issue, *Programs and Plans*. This publication provides a comprehensive and user-friendly overview of all NCES statistical programs and plans for

future work. This new edition contains an index to help readers find information on popular topics such as parents, teachers, public schools, assessments, dropouts, and student aid.

In closing, we want to thank you for your readership and urge you to continue to turn to NCES for your education data needs. To keep current, please sign up on the NCES website for News Flash to start receiving e-mail alerts about new products in areas of interest to you. A special thanks goes to the various members of the editorial board throughout the *Quarterly*'s history, to the managing editor, other contributing staff, and expert commentators.

NCES Programs and Plans

Programs and Plans of the National Center for Education Statistics, 2005 Edition

U.S. Department of Education, National Center for Education Statistics

This article was originally published as the introduction to the publication of the same name.

The Work of the National Center for Education Statistics

The National Center for Education Statistics (NCES), within the U.S. Department of Education's Institute of Education Sciences, collects statistics on the condition of education in the United States; analyzes and reports the meaning and significance of these statistics; and assists states, local education agencies, and postsecondary institutions in improving their statistical systems. NCES supports a wide range of activities, providing policy-relevant data on issues as diverse as enrollment trends, access of minorities to postsecondary education, the academic achievement of students, comparisons of the U.S. education system with education systems in other countries, and the association between education and employment and economic productivity.

NCES's program goals include the following:

- maintaining and analyzing major cross-sectional databases:
  - *at the elementary/secondary level*—the Common Core of Data (CCD), the Schools and Staffing Survey (SASS), and the Private School Universe Survey (PSS); and
  - *at the postsecondary level*—the Integrated Postsecondary Education Data System (IPEDS), the National Postsecondary Student Aid

Study (NPSAS), the National Study of Postsecondary Faculty (NSOPF), and the Survey of Earned Doctorates (SED);

- conducting a National Household Education Surveys Program (NHES) covering various education topics such as early childhood and adult education, program participation, education-related home activities, and parental involvement in education;
- supporting surveys on topics related to school crime and safety: the School Crime Supplement (SCS) to the National Crime Victimization Survey (NCVS) and the School Survey on Crime and Safety (SSOCS);
- conducting surveys and analyzing data from the Longitudinal Studies Program that address a variety of important education issues (from early learning through postsecondary school), including differences in early cognitive development, school readiness, student achievement, effects of financial aid on access to postsecondary education, youth employment, high school dropouts, discipline and order in schools, and the quality of education in public and private schools:
  - *at the early childhood level*—the Early Childhood Longitudinal Study (ECLS), with birth and kindergarten cohorts (the latter of which plans to follow children into high school);
  - *at the secondary school level*—the Education Longitudinal Study of 2002 (ELS:2002) (10th-grade cohort) as well as the earlier National Longitudinal Study of the High School Class of 1972 (NLS:72) (12th-grade cohort), High School and Beyond Longitudinal Study (HS&B) (10th- and 12th-grade cohorts), and National Education Longitudinal Study of 1988 (NELS:88) (8th-grade cohort); and
  - *at the postsecondary level*—the Beginning Postsecondary Students Longitudinal Study (BPS) and the Baccalaureate and Beyond Longitudinal Study (B&B), which follow students attending or completing postsecondary institutions;
- conducting the National Assessment of Educational Progress (NAEP), which regularly assesses academic achievement at the national level in a number of subjects, including reading, mathematics, writing, science, civics, history, and geography. The reading and mathematics components of NAEP are administered every 2 years in grades 4, 8, and 12 at the national and state levels;
- participating in international surveys of educational achievement and programs to develop cross-national education data and indicators, such as the Trends in International Mathematics and Science Study (TIMSS), Program for International Student Assessment (PISA), and Progress in International Reading Literacy Study (PIRLS);
- administering targeted surveys that supplement ongoing data collections through the Fast Response Survey System (FRSS) and the Postsecondary Education Quick Information System (PEQIS), which rapidly provide data on current policy issues;
- collecting and reporting information on libraries through the Public Libraries Survey (PLS), the Academic Libraries Survey (ALS), the School Library Media Centers Survey, and the State Library Agencies Survey (StLA);
- analyzing and reporting data on vocational education; and
- synthesizing information from various surveys for the following annual NCES publications: *Digest of Education Statistics*, *The Condition of Education*, and *Projections of Education Statistics*.

Programs and Plans of the National Center for Education Statistics is a comprehensive summary of the work done across NCES to achieve these program goals. In the full publication, NCES center-wide programs and services are described in chapter 2, and the various statistical programs in the following chapters. Each chapter that covers a statistical program contains a brief introduction and provides information on data uses, individual studies, publications and data files, NCES contacts, future activities, and data collection schedules.

What Kinds of Data Does NCES Collect?

NCES collects statistical data on all levels of education from preprimary education through graduate study, including adult education. NCES surveys address a full range of education issues including student access, participation, and progress; achievement and attainment of students; organization and management of education institutions; curriculum, climate, and diversity of education institutions; and financial and human resources of institutions, as well as economic and other outcomes of education. The surveys engage a broad spectrum of people and institutions involved in education. See figure 1 for the names and acronyms of the major NCES surveys, as well as those of the international surveys in which NCES participates.

Figure 1. NCES survey names and acronyms

ALL: Adult Literacy and Lifeskills
ALS: Academic Libraries Survey
B&B: Baccalaureate and Beyond Longitudinal Study
BPS: Beginning Postsecondary Students Longitudinal Study
CCD: Common Core of Data
CivEd: Civic Education Study
CPS: Current Population Survey (U.S. Census Bureau survey used in NCES studies)
ECLS-B: Early Childhood Longitudinal Study-Birth Cohort of 2001
ECLS-K: Early Childhood Longitudinal Study-Kindergarten Class of 1998–99
ELS:2002: Education Longitudinal Study of 2002
FRSS: Fast Response Survey System
HS&B: High School and Beyond Longitudinal Study
HSTS: NAEP High School Transcript Study
IALS: International Adult Literacy Survey
IPEDS: Integrated Postsecondary Education Data System
NAAL: National Assessment of Adult Literacy
NAEP: National Assessment of Educational Progress
NELS:88: National Education Longitudinal Study of 1988
NHES: National Household Education Surveys Program
NLS:72: National Longitudinal Study of the High School Class of 1972
NPSAS: National Postsecondary Student Aid Study
NSOPF: National Study of Postsecondary Faculty
PEQIS: Postsecondary Education Quick Information System
PIRLS: Progress in International Reading Literacy Study
PISA: Program for International Student Assessment
PLS: Public Libraries Survey
PSS: Private School Universe Survey
SASS: Schools and Staffing Survey
SCS/NCVS: School Crime Supplement to the National Crime Victimization Survey (NCES and the Bureau of Justice Statistics)
SDDB: School District Data Book
SED: Survey of Earned Doctorates
SSOCS: School Survey on Crime and Safety
StLA: State Library Agencies Survey
TFS: Teacher Follow-up Survey
TIMSS: Trends in International Mathematics and Science Study (formerly known as the Third International Mathematics and Science Study)
TIMSS-R: Third International Mathematics and Science Study-Repeat (now referenced as TIMSS 1999)

The following topics illustrate the scope of NCES data collection and analysis activities:

- Adults are asked about their participation in adult education and other learning activities.
- Children's cognitive skills are directly measured.
- Students are asked about their participation in school activities.
- Parents are surveyed about their participation in their children's education.
- Teachers are asked to report information about their classes.
- School administrators are asked to report information about their schools.
- Principals are asked about crimes occurring in their schools.
- Student dropout rates and achievement are measured.
- Staffing ratios of public schools are compiled.
- Comprehensive finance data are collected.
- Postsecondary education student participation rates in financial aid programs are gathered.
- Institutions indicate program offerings.
- Libraries report information on usage.

Which Surveys Cover Specific Education Levels and Topics?

NCES provides data and tabulations at various reporting levels: that is, on individual institutions, school districts, states, and the nation. Whether particular data are available at one or more than one of these reporting levels is based on a variety of factors, including survey design and confidentiality of data.

The data reporting level required for a particular use can be an important determinant in the selection of the most appropriate survey database. For example, those who are interested in national-level public school enrollments have a variety of possible sources of information, while those needing enrollments for specific schools have fewer sources. Some sample surveys, such as NHES, are limited to national-level estimates because of the design of the survey. Data from other surveys, such as the CCD, are published as state-level summaries and district tabulations for large districts. In addition, CCD data files contain school- and school district-level records. Detailed data for individual schools, school districts, and colleges generally are made available only through electronic products because of the size of the data files. Table 1 presents the survey sources of NCES data by topic, by education level (elementary/secondary, postsecondary, and lifelong learning), and by reporting level (from institutional to national).

Who Uses NCES Statistics—and for What Purposes?

Education statistics are used for a variety of purposes, from research to policy formation. Congress uses data to study education issues, to plan federal education programs, to apportion federal funds among the states, and to serve the needs of constituents. Federal agencies (such as the U.S. Departments of Defense, Labor, and Commerce, and the National Science Foundation) are concerned with the supply of trained manpower coming out of schools and colleges, and also with the subjects that are being taught. State and local officials confront problems of staffing and financing public education. They use NCES statistics in all aspects of policy development and program administration. Education organizations and professional associations use the data for planning, policy development, and research. The news media (such as national television networks, national news magazines, and many of the nation's leading daily newspapers) frequently use NCES statistics to inform the public about such matters as student achievement, school expenditures per student, and international comparisons. Business organizations use trend data on enrollments and expenditures to forecast the demand for their products. The general public uses education statistics to become more knowledgeable and to make informed decisions about current education issues.

How to Access NCES Data

To meet the demand for statistical information, NCES issues nearly 100 products each year in print and electronic form. These products include statistical reports, directories, data files, and handbooks of standard terminology. All NCES products are available on the NCES website (http://nces.ed.gov). Many of these products are also available through ED Pubs (http://www.edpubs.org), the publications and products ordering system for the U.S. Department of Education.

While many NCES publications report the findings of specific surveys, three publications cover the field of education statistics from a wide perspective: the *Digest of Education Statistics* (http://nces.ed.gov/programs/digest), *Projections of Education Statistics* (http://nces.ed.gov/programs/projections), and *The Condition of Education* (http://nces.ed.gov/programs/coe).*

Additionally, easy-to-use web tools for locating schools and colleges, carrying out peer comparisons of school district finances, and creating tables are available on the NCES website.

The U.S. Department of Education's National Library of Education (http://www.ed.gov/NLE) provides a central location within the federal government for information about education; collecting and archiving resources on national education issues as well as on federal policy, research, evaluation, and statistics; and maintaining a collection of agency documents, including NCES publications.

The Library provides information services on matters related to education to the general public through its toll-free telephone number (1-800-424-1616) and e-mail service (library@ed.gov), as well as through cooperative arrangements with the Library of Congress's online reference service (www.loc.gov/rr/askalib/ask-digital.html) and the Education Resources Information Center (ERIC) (http://www.eric.ed.gov). The Library responds to more than 15,000 inquiries annually,

*Descriptions of these publications appear in chapter 10 of the complete *Programs and Plans*.

Table 1. Survey sources of NCES data, by reporting level, education level, and topic

Topic	Reporting level: School/ institution	School district	State	National
Elementary/secondary				
Students	CCD, PSS, ECLS-K	CCD, SDDB	CCD, SDDB	CCD, NLS:72, HS&B, NELS:88, ELS:2002, PSS, TIMSS 2003, TIMSS-R, NAEP, ECLS-K, ECLS-B, FRSS, SDDB, NHES, HSTS, SCS/NCVS, PIRLS, CPS, PISA, CivEd
Teachers/staff	CCD, PSS	CCD	CCD, NAEP, SASS, PSS	CCD, SASS, NAEP, PSS, HS&B, NELS:88, ELS:2002, ECLS-K, ECLS-B, TIMSS 2003, TIMSS-R, FRSS, B&B
Public schools	CCD	CCD	CCD, SASS	NAEP, TIMSS 2003, TIMSS-R, FRSS, CCD, SASS, HS&B, NELS:88, ELS:2002, ECLS-K, ECLS-B, SSOCS
Public agency finances		CCD	CCD	CCD
School libraries			SASS	SASS, ELS:2002
Assessment			NAEP	NAEP, NLS:72, HS&B, NELS:88, TIMSS 2003, TIMSS-R, PIRLS, ECLS-K, ECLS-B, PISA, CivEd
Private schools	PSS		PSS	PSS, SASS, FRSS, NELS:88, ELS:2002, ECLS-K, ECLS-B, HS&B, NLS:72
Parents				NELS:88, HS&B, ELS:2002, ECLS-K, ECLS-B
Postsecondary				
Students	IPEDS		IPEDS	NPSAS, IPEDS, BPS, B&B, NLS:72, HS&B, NELS:88, ELS:2002, NHES, CPS, PEQIS
Faculty/staff	IPEDS		IPEDS	IPEDS, NSOPF, PEQIS
Institutions	IPEDS		IPEDS	IPEDS, PEQIS, NPSAS
Finances	IPEDS		IPEDS	IPEDS
Student aid	IPEDS		IPEDS	IPEDS, NPSAS, BPS, B&B
Completions	IPEDS		IPEDS	IPEDS, BPS, B&B, NLS:72, HS&B, NELS:88, ELS:2002, SED, CPS
Lifelong learning				
Adult education				NHES, NAAL, IALS, B&B, CPS, NELS:88, ELS:2002, HS&B, NLS:72
Libraries	ALS	ALS	ALS, PLS, StLA	ALS, PLS, StLA, NHES, FRSS
Households		SDDB	SDDB	SDDB, NHES, NELS:88, ELS:2002, NAAL, IALS, HS&B, CPS

NOTE: See figure 1 for definitions of survey acronyms.

with most questions pertaining to U.S. Department of Education programs and statistics. In addition, the Library serves other libraries by lending books and other documents, including agency publications, from its collection.

For more information about NCES programs and plans, see the complete publication:

U.S. Department of Education, National Center for Education Statistics. (2005). *Programs and Plans of the National Center for Education Statistics, 2005 Edition* (NCES 2005-113).

For questions about content, contact Thomas Snyder (tom.snyder@ed.gov).

To obtain the complete publication (NCES 2005-113), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Early Education Experiences

Regional Differences in Kindergartners' Early Education Experiences

Emily Rosenthal, Amy Rathbun, and Jerry West

This article was originally published as a Statistics in Brief report. The sample survey data are from the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K). Technical notes and standard error tables from the original report have been omitted.

Introduction

There is a growing trend toward public funding (i.e., state) for prekindergarten classes (Hinkle 2000). In 1991–92, some 24 states reported funding prekindergarten initiatives. This number increased to 42 states in 1998–99 (Hinkle 2000). During the 2000–01 school year, approximately one-third of all public elementary schools in the United States offered prekindergarten classes (Smith et al. 2003). In addition, over time, more states have begun to offer full-day kindergarten programs (Galley 2002). For example, in 1995, 10 states required that full-day kindergarten be offered. As of 2002, 14 states required full-day programs to be offered (Potts, Blank, and Williams 2002). In a review of state policies regarding full-day kindergarten, Galley (2002) found that 25 states and the District of Columbia provide funds for full-day kindergarten programs in the districts that mandate or voluntarily offer it. Enrollment in full-day kindergarten programs has also increased. Between 1977 and 2001, the percent of children ages 4–6 enrolled in full-day kindergarten programs increased from 27 to 60 percent (Wirt et al. 2004). A recent report found that public school children's likelihood of attending full-day kindergarten varied by the region in which their school was located (Walston and West 2004). Furthermore, the report indicated that full-day kindergartners, on average, made greater gains in both their reading and mathematics achievement

scores from fall to spring, compared to those in half-day classes. Based on these findings, this report looks more closely at regional differences in kindergartners' early education experiences.

Recent findings from the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), the Fast Response Survey System's (FRSS) "Survey of Classes That Serve Children Prior to Kindergarten in Public Schools: 2000–2001," and the Current Population Survey (CPS), October Supplement: 2001, provide new regional information on the early learning experiences of young children in the United States. For instance, the FRSS found that public schools in the Southeast were more likely to offer prekindergarten programs than public schools in the Northeast, Central, or West regions (Smith et al. 2003). In addition, public schools in the South during the 1998–99 school year were more likely to offer full-day kindergarten than schools in other regions of the country (Walston and West 2004). In the CPS, in 2001, children ages 4–6 enrolled in kindergarten in the South were more likely to attend full-day kindergarten (78 percent) than children in the Northeast, Midwest, and West (60, 53, and 43 percent, respectively) (Wirt et al. 2004).

This Statistics in Brief report takes a closer look at two of kindergartners' early education experiences, preschool and kindergarten, in each of four regions of the United States (i.e., Northeast, South, Midwest, and West). This report defines early education experiences as participation in preschool, the number of hours spent in preschool, and the type of kindergarten program (i.e., full-day versus half-day). Preschool experience was based on parental report and defined as kindergartners' participation in either a child care center, preschool, nursery school, prekindergarten or Head Start program the year prior to kindergarten. The purpose of this report is to describe, rather than explain, kindergartners' patterns of participation in preschool and kindergarten programs, and characteristics of the programs and the kindergartners who attend them, in an attempt to provide a regional picture of kindergartners' early learning experiences. This report expands on the findings from the earlier reports (Smith et al. 2003; Walston and West 2004; Wirt et al. 2004) by including kindergartners' participation in all types of center-based care arrangements the year before kindergarten, rather than focusing only on public school prekindergarten programs, and also looks more closely at regional participation in preschool and kindergarten for kindergartners with different individual, family, and school characteristics.

This report attempts to answer two questions about kindergartners' early education experiences within and across four regions[1] of the United States:

- What are the regional differences in kindergartners' preschool experiences (e.g., center-based care or Head Start the year before kindergarten entry) in the United States?
- Are there regional differences in kindergartners' participation in full-day versus half-day kindergarten programs in the United States?

The ECLS-K selected a nationally representative sample of kindergartners in the fall of 1998 and has followed these children through the spring of fifth grade. The study collects information directly from children and their families, teachers, and schools. The findings in this report come from the ECLS–K fall and spring kindergarten data collections and are organized into three sections. First, this report compares percentage distributions of kindergartners within each region across the four regions of the United States. Second, it compares the percent of kindergartners within each region who attended preschool and the number of hours they spent in preschool each week. Finally, it presents comparisons of the percentage of kindergartners who attended full-day kindergarten across regions. Regional comparisons are made overall and in relation to selected characteristics of children (i.e., sex, age at kindergarten entry, race/ethnicity), their families (i.e., mother's education, mother's employment status, household poverty status), and their schools (i.e., urbanicity, type).

Comparisons in the text are tested for statistical significance to ensure that the differences are larger than might be expected due to sampling variation. All differences described are significant at the .05 level. Due to the large sample size, many differences (no matter how substantively minor) are statistically significant. In this report, "substantive differences" are defined as percentage differences of 5 points or greater for preschool and full-day kindergarten participation, and as mean score differences of one-fifth of a standard deviation (i.e., 3 hours) or more in terms of weekly hours of preschool.

[1]Regions used for the ECLS-K are the same as those used by the U.S. Bureau of the Census. The following is a list of states that are included in each region:
- *Northeast*: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;
- *Midwest*: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;
- *South*: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; and
- *West*: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Findings

Patterns in kindergartners' child, family, and school characteristics across regions

As shown in table 1, certain child and family characteristics of kindergartners vary by region. For example, the ages of children at the start of kindergarten differ. Among kindergartners in each region, the percentage of young kindergartners turning 5 during the first 4 months of the academic year (i.e., September through December 1993) was higher in the Northeast and West than in the Midwest and the South. This pattern is consistent with the kindergarten entry-age policies of states that make up these regions. Many states in the Northeast and West have policies on kindergarten entry age that allow children to start kindergarten if they turn 5 by December or January. In contrast, the majority of states in the Midwest and South have policies that require children to be at least 5 years of age by mid-September to start kindergarten (Education Commission of the States 2003).

The percent of kindergartners within each region who were Hispanic was largest among kindergartners in the West. About 40 percent of kindergartners in the West were Hispanic, compared with 14 percent in the Northeast, 9 percent in the Midwest, and 15 percent in the South. On the other hand, relatively more kindergartners in the South were Black than in any other region. About 27 percent of kindergartners in the South were Black, compared with 12 percent in the Northeast, 11 percent in the Midwest, and 6 percent in the West.

Among the kindergartners in each region, higher percentages of kindergartners in the South and West than those in the Northeast and Midwest were from families with incomes below the federal poverty threshold. In 1998, the federal poverty threshold for a family of four was $16,655.

Kindergartners in the South and West were less likely than those in the Northeast or Midwest to have mothers with a bachelor's degree or higher. Also, kindergartners in the South and West were more likely than those in the other regions to have mothers who completed less than high school.

Kindergartners in the Midwest and South were more likely to have mothers who worked full time (i.e., 35 hours or more per week) than those in the Northeast or West. In contrast, kindergartners in the West were more likely than kindergartners in the Midwest or the South to have a mother who was not in the labor force.

Kindergartners in the West were more likely to have attended schools in central cities than kindergartners in the Northeast or the Midwest. About 47 percent of kindergartners in the West attended schools in central cities, compared with 33 percent in the Northeast and 32 percent in the Midwest. In contrast, kindergartners in the Midwest were more likely to have attended schools in rural areas than kindergartners in the West or the Northeast.

The majority of kindergartners attended public school kindergarten programs rather than private school, regardless of region. However, kindergartners in the South were more likely to attend a public school for kindergarten than kindergartners in any of the other regions.

Patterns in kindergartners' preschool experience across regions

Overall, 68 percent of kindergartners attended preschool the year before entering kindergarten. As shown in table 2, kindergartners' preschool experiences[2] the year before kindergarten differed by region. Kindergartners in the West were less likely to have attended preschool than kindergartners in any of the other regions. Sixty-two percent of kindergartners in the West attended preschool the year before kindergarten, compared with 71 percent in the Northeast, 72 percent in the Midwest, and 69 percent in the South. Of the kindergartners who attended preschool, those in the South spent more hours per week in their preschool programs, on average, than kindergartners in any of the other regions (figure 1).

Patterns in kindergartners' preschool experiences across regions, by child, family, and school characteristics

Preschool attendance. Regional differences are also evident when examining the data within groups of kindergartners differing on various child, family, and school characteristics; these regional differences generally follow the pattern of regional differences found for the full sample of kindergartners (table 2). For example, Black kindergartners in the West were more likely to attend preschool than Black kindergartners in the South or the Northeast. About 83 percent of Black kindergartners in the West attended preschool, compared with 70 percent in the Northeast and 76 percent in the South. In addition, Asian kindergartners in the Midwest were more likely to have attended preschool than their peers in the West.

[2]Preschool experience was based on parental report and defined as children's participation in either a child care center, preschool, nursery school, prekindergarten, *or* Head Start program the year prior to kindergarten.

Table 1. Percentage distribution of fall 1998 kindergartners, by region and selected child, family, and school characteristics: School year 1998–99

Characteristic	Total	Northeast	Midwest	South	West
Total	100	100	100	100	100
Child's sex					
Male	51	52	50	52	51
Female	49	48	50	48	49
Child's age at kindergarten entry (fall 1998)					
Age 4: Born Sept.–Dec. 1993	9	14	4	5	15
Age 5: Born May–Aug. 1993	31	33	29	31	32
Age 5: Born Jan.–Apr. 1993	31	29	32	31	31
Age 5: Born Sept.–Dec. 1992	24	19	26	28	19
Age 6: Born Jan.–Aug. 1992	6	4	10	5	4
Child's race/ethnicity					
White, non-Hispanic	57	68	69	54	41
Black, non-Hispanic	16	12	11	27	6
Hispanic	19	14	9	15	40
Asian	3	3	2	1	6
Other	5	3	8	3	7
Federal poverty level[1]					
At or above poverty threshold	78	84	83	74	76
Below poverty threshold	22	16	17	26	24
Mother's education[2]					
Less than high school	15	9	10	17	21
High school diploma or equivalent	31	30	29	35	28
Some college, including vocational/technical	32	32	37	29	32
Bachelor's degree or higher	22	29	24	19	18
Mother's employment[2]					
35 hours or more per week	45	40	47	49	42
Less than 35 hours per week	21	26	23	18	21
Looking for work	4	4	4	5	4
Not in the labor force	29	29	26	28	33
School urbanicity					
Central city	38	33	32	39	47
Urban fringe and large town	42	53	40	39	38
Small town and rural	21	14	27	22	16
Kindergarten school type					
Public	85	80	82	90	85
Private	15	20	18	10	15

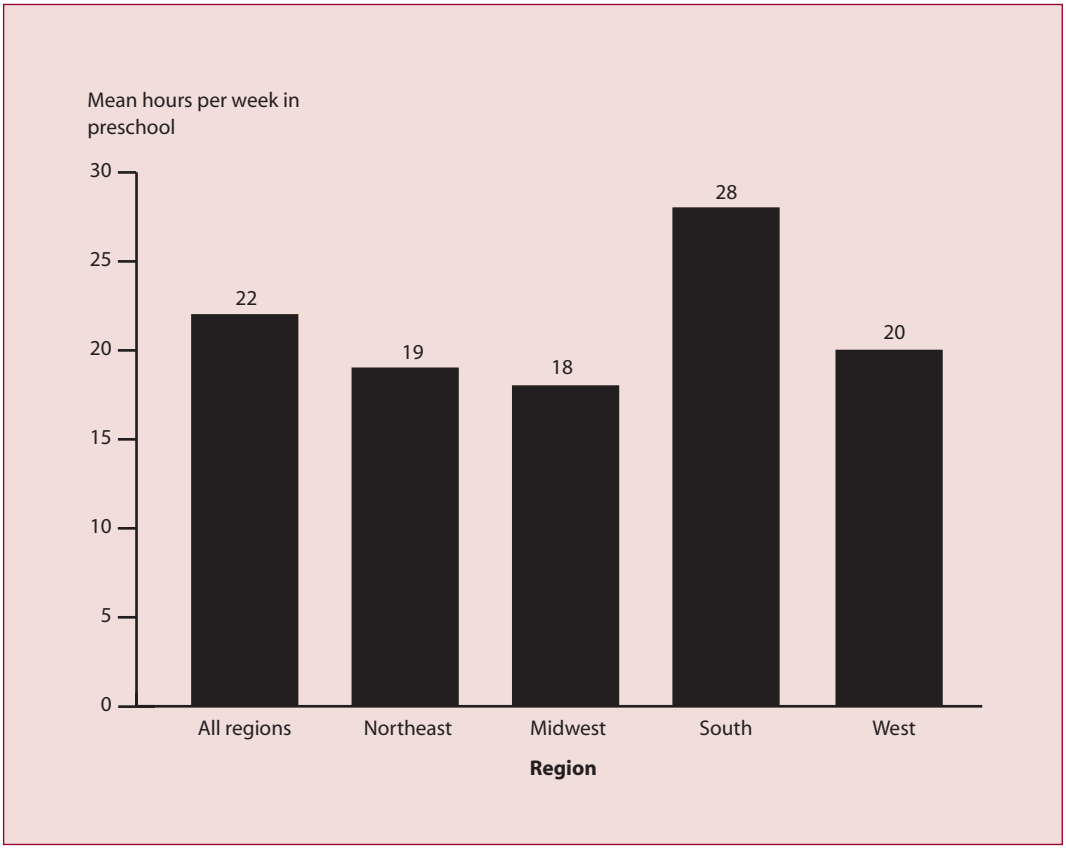
[1]Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below $16,655 was considered to be below the federal poverty level.
[2]Households in which there was no mother were not included in these estimates.
NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base-Year Public-Use Data File, fall 1998 and spring 1999.

Table 2. Percent of fall 1998 kindergartners who attended preschool the year before kindergarten and mean hours per week in preschool, by region and selected child, family, and school characteristics: School year 1998–99

Characteristic	Percent attending preschool the year before kindergarten					Mean hours per week in preschool				
	Total	Northeast	Midwest	South	West	Total	Northeast	Midwest	South	West
Total	68	71	72	69	62	22	19	18	28	20
Child's sex										
Male	68	70	72	69	61	23	19	18	28	21
Female	69	71	73	69	63	22	20	18	28	20
Child's age at kindergarten entry (fall 1998)										
Age 4: Born Sept.–Dec. 1993	64	68	70	71	56	23	21	20	27	22
Age 5: Born May–Aug. 1993	69	71	74	69	62	23	20	18	28	21
Age 5: Born Jan.–Apr. 1993	70	73	71	71	63	22	19	18	28	20
Age 5: Born Sept.–Dec. 1992	69	70	73	69	64	23	17	19	29	19
Age 6: Born Jan.–Aug. 1992	65	65	72	60	59	20	18	17	26	16
Child's race/ethnicity										
White, non-Hispanic	71	74	74	69	68	20	17	17	25	19
Black, non-Hispanic	76	70	77	76	83	31	28	26	33	28
Hispanic	55	59	59	56	53	22	24	17	28	20
Asian	66	65	74	68	61	23	22	19	27	23
Other	65	66	72	70	54	23	20	22	29	23
Federal poverty level[1]										
At or above poverty threshold	70	73	74	70	64	22	19	18	27	20
Below poverty threshold	62	59	67	66	53	26	23	22	30	20
Mother's education[2]										
Less than high school	51	49	53	55	46	23	22	17	28	18
High school diploma or equivalent	64	65	68	65	57	23	19	18	29	20
Some college, including vocational/technical	72	73	74	74	66	22	20	18	29	21
Bachelor's degree or higher	82	82	84	82	79	21	18	18	25	20
Mother's employment[2]										
35 hours or more per week	72	72	73	74	65	27	24	23	32	25
Less than 35 hours per week	72	76	78	70	66	18	15	14	24	17
Looking for work	62	68	59	63	56	24	22	19	31	18
Not in the labor force	61	65	68	60	55	17	15	13	23	15
School urbanicity										
Central city	67	65	69	70	63	24	23	21	29	21
Urban fringe and large town	71	75	76	71	63	21	18	17	27	20
Small town and rural	65	66	71	65	55	21	16	17	27	18
Kindergarten school type										
Public	66	68	70	68	58	22	19	18	29	19
Private	81	80	82	81	82	22	22	19	25	24
Kindergarten program type										
Full day	70	71	74	70	64	26	22	20	29	23
Half day	67	70	71	66	61	18	17	17	21	19

[1]Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below $16,655 was considered to be below the federal poverty level.
[2]Households in which there was no mother were not included in these estimates.
NOTE: Preschool experience is based on parental report and defined as participation in a center-based early care or education program *or* participation in Head Start the year before kindergarten.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base-Year Public-Use Data File, fall 1998 and spring 1999.

Figure 1. Kindergartners' mean hours per week in preschool in the year prior to kindergarten, by region: School year 1998–99



NOTE: Preschool experience is based on parental report and defined as participation in a center-based early care or education program *or* participation in Head Start the year before kindergarten.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base-Year Public-Use Data Fil `e, fall 1998.

Kindergartners in the Midwest whose mothers were not in the labor force were more likely to have attended preschool than kindergartners in the South or West. In addition, kindergartners in the West whose mothers were not in the labor force were the least likely of all of the regions to have attended preschool. Kindergartners in the West whose mothers worked full time were also less likely to have attended preschool than kindergartners in any of the other regions.

In terms of kindergarten school urbanicity, kindergartners from central cities in the Midwest were more likely to have attended preschool than those from central cities in the West. Kindergartners from rural areas in the Midwest were also more likely to have attended preschool than those from rural areas in the West. Also, central city kindergartners from the South were more likely to have attended preschool than central city kindergartners in the West.

Kindergartners who attended public school kindergartens in the West were less likely to have attended preschool than kindergartners who attended public school kindergartens in the other regions.

Mean hours per week kindergartners spent in preschool. On average, kindergartners in the South spent more hours per week in preschool the year before kindergarten than kindergartners in any of the other regions (figure 1). This pattern of regional differences found for the full sample of kindergartners is also evident when examining data within groups of kindergartners differing on various child, family, and school characteristics (table 2).

For example, the youngest kindergartners (age 4: born September through December 1993) in the South spent more hours in preschool than the youngest kindergartners in any

of the other regions. Also, Black kindergartners in the South attended preschool for more hours on average than Black kindergartners in any of the other regions. Furthermore, Hispanic kindergartners in the South and Northeast spent more hours in preschool than those in the West or the Midwest (28 and 24 hours vs. 20 and 17 hours, respectively).

Kindergartners whose families were below the poverty threshold followed the same pattern as most of the other groups (i.e., kindergartners in the South spent relatively more hours per week in preschool than kindergartners in any of the other regions).

Kindergartners whose mothers did not complete high school spent more hours, on average, in preschool in the Northeast and the South than in the West or the Midwest. Comparatively, kindergartners whose mothers completed a bachelor's degree or higher followed the same pattern as most other groups mentioned previously (i.e., Southern kindergartners spent relatively more hours per week in preschool than kindergartners in any of the other regions). Also, on average, kindergartners whose mothers were not in the labor force spent more hours weekly in preschool in the South than in any of the other regions.

In addition, the number of hours per week kindergartners spent in preschool varied across regions with respect to their kindergarten school urbanicity. In both central city and rural areas, kindergartners in the South spent relatively more hours per week in preschool the year before kindergarten than kindergartners from any of the other regions.

On average, public school kindergartners in the South who attended preschool the year before kindergarten spent more weekly hours in preschool than public school kindergartners in any of the other regions. For those children who attended private school kindergartens and had attended preschool the year before kindergarten, children in the South and West spent more weekly hours in preschool, on average, than those in the Midwest.

Patterns in kindergartners' kindergarten program type across regions

In the United States, in the fall of 1998, approximately 4 million children attended kindergarten; some attended full-day programs, and some attended half-day programs. In the fall of 1998, some 55 percent of all kindergarten children attended a full-day program (West, Denton, and Germino Hausken 2000). Kindergartners in the South were more likely to attend full-day kindergarten programs than kindergartners in any of the other regions (figure 2). In contrast, kindergartners in the West were more likely to attend half-day kindergarten programs than kindergartners in any of the other regions.

Participation in full-day kindergarten across regions by child, family, and school characteristics

As noted above, kindergartners in the South were more likely to attend full-day kindergarten programs than kindergartners in any other region of the country and kindergartners in the West were least likely to do so (table 3). These overall patterns of regional differences found for the full sample of kindergartners are also evident when examining the data within groups of kindergartners differing on various child, family, and school characteristics (table 3).

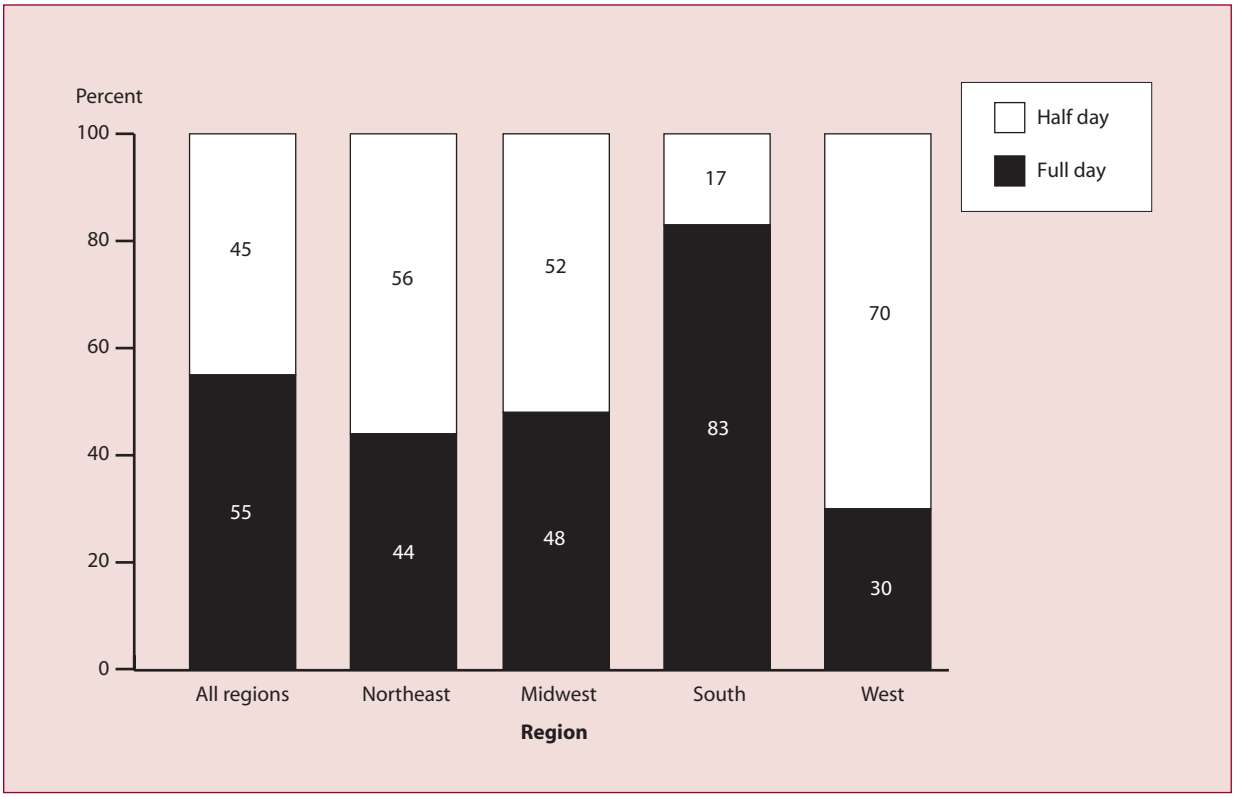
When considering children's race/ethnicity, the percentage of Hispanic kindergartners attending full-day programs differed across the regions. For example, Hispanic kindergartners in the West were less likely to attend full-day kindergarten programs than Hispanic kindergartners in any of the other regions. No consistent pattern of differences in full-day program attendance across regions could be determined for Black and "other" kindergartners (e.g., while the percentage of Black kindergartners in the South that attended full-day programs [89 percent] was different from the percentage of Black kindergartners in the Midwest that attended full-day programs [60 percent], it was not measurably different from the percentage of Black kindergartners in the Northeast [79 percent]).

Young kindergartners in the South (age 4: born September through December 1993) were more likely than young kindergartners in other regions to attend full-day kindergarten programs. About 78 percent of young kindergartners in the South attended full-day kindergarten, compared with 55 percent in the Northeast, 33 percent in the Midwest, and 24 percent in the West.

Kindergartners whose families were below the poverty threshold were more likely to attend full-day kindergarten programs if they lived in the South than if they lived in any of the other regions. In contrast, poor kindergartners in the West were the least likely of any region to attend a full-day program.

Kindergartners whose mothers had not completed high school were more likely to be enrolled in full-day programs if they attended school in the South than if they attended school in any of the other regions. In contrast, these kindergartners in the West were the least likely to have attended full-day programs. Consistent with this pattern,

Figure 2. Percentage distribution of kindergartners enrolled in full-day and half-day programs, by region: School year 1998–99



SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base-Year Public-Use Data File, fall 1998.

kindergartners whose mothers were employed full time and kindergartners whose mothers were not in the labor force were most likely to be enrolled in full-day programs if they lived in the South and least likely to be enrolled in full-day programs if they lived in the West.

Kindergartners in central city schools were more likely to attend full-day programs if they lived in the South than if they lived in any of the other regions. Also, central city school kindergartners who lived in the Northeast were more likely to attend full-day programs than those in the Midwest or West. In contrast, kindergartners in rural schools in the Northeast were the least likely of rural school kindergartners of any region to attend a full-day program.

Kindergartners in public schools were most likely to attend full-day programs if they lived in the South, compared with any other region. Also, public school kindergartners who lived in the Midwest were more likely than those in the West to be enrolled in full-day programs. In contrast, kindergartners in private schools were more likely to attend full-day kindergarten if they lived in the West or Northeast than if they lived in the Midwest.

Summary

Findings from this report indicate that kindergartners' preschool experiences and kindergarten program type vary by the regions in which their schools are located and by the regional characteristics of these kindergartners, their families, and their schools. This report identifies common regional patterns in early childhood experiences and notes exceptions to the general findings.

Overall, 68 percent of kindergartners attended preschool the year before entering kindergarten. However, kindergartners in the West were less likely to have attended preschool than kindergartners in the South, Northeast, or Midwest. These estimates differ from those reported in the FRSS "Survey of Classes That Serve Children Prior to Kindergarten in Public Schools: 2000–2001" because the FRSS only collected information on public school prekindergarten programs (Smith et al. 2003). In contrast to the overall pattern

Table 3. Percent of fall 1998 kindergartners attending full-day programs, by region and selected child, family, and school characteristics: School year 1998–99

Characteristic	Percent attending full-day kindergarten				
	Total	Northeast	Midwest	South	West
Total	55	44	48	83	30
Child's sex					
Male	55	42	47	82	29
Female	56	45	48	83	30
Child's age at kindergarten entry (fall 1998)					
Age 4: Born Sept.–Dec. 1993	46	55	33	78	24
Age 5: Born May–Aug. 1993	53	43	45	81	27
Age 5: Born Jan.–Apr. 1993	55	46	47	82	29
Age 5: Born Sept.–Dec. 1992	60	34	51	84	37
Age 6: Born Jan.–Aug. 1992	62	42	57	89	40
Child's race/ethnicity					
White, non-Hispanic	52	34	44	80	32
Black, non-Hispanic	78	79	60	89	41
Hispanic	46	62	42	84	21
Asian	48	56	49	84	30
Other	61	33	72	71	52
Federal poverty level[1]					
At or above poverty threshold	54	42	45	81	32
Below poverty threshold	61	51	60	86	24
Mother's education[2]					
Less than high school	57	52	55	86	21
High school diploma or equivalent	58	42	52	84	27
Some college, including vocational/technical	54	41	48	82	32
Bachelor's degree or higher	53	45	40	77	38
Mother's employment[2]					
35 hours or more per week	60	48	52	84	33
Less than 35 hours per week	50	39	44	79	29
Looking for work	61	49	58	85	25
Not in the labor force	51	42	43	82	25
School urbanicity					
Central city	60	67	46	88	31
Urban fringe and large town	47	39	30	83	15
Small town and rural	64	9	76	73	60
School type					
Public	53	36	46	84	22
Private	68	74	56	71	73
Preschool experience[3]					
No	53	43	46	81	28
Yes	57	44	49	83	31

[1]Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below $16,655 was considered to be below the federal poverty level.
[2]Households in which there was no mother were not included in these estimates.
[3]Preschool experience is based on parental report and defined as participation in a center-based early care or education program *or* participation in Head Start the year before kindergarten
SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base-Year Public-Use Data File, fall 1998 and spring 1999.

described in this report, Black kindergartners in the West were more likely to have attended preschool than Black kindergartners in the South or Northeast.

In general, kindergartners who attended preschool the year before kindergarten spent an average of 22 hours per week in such programs (table 2). Of kindergartners who attended preschool, those in the South spent more hours per week in their preschool programs, on average, than kindergartners in any of the other regions. This pattern was found for Black and Asian kindergartners, kindergartners whose families were below the poverty threshold, and kindergartners whose mothers completed a bachelor's degree or higher.

Consistent with findings from *Full-Day and Half-Day Kindergarten in the United States* (Walston and West 2004), this report found that kindergartners in the South were more likely to attend full-day kindergarten programs than kindergartners in any of the other regions, and kindergartners in the West were the least likely to attend full-day kindergarten programs. In the West, this pattern was consistent for Hispanic kindergartners, young kindergartners (those not yet 5 years old at kindergarten entry), kindergartners whose families were below the poverty threshold, kindergartners whose mothers had completed less than high school, kindergartners whose mothers were employed full time, and kindergartners whose mothers were not in the labor force.

Results from this report indicate that kindergartners' participation in preschool experiences and full-day kindergarten programs differs by the region in which they live. Given this finding, future research on early childhood program participation should consider incorporating region into analyses of the relationships of preschool or kindergarten program attendance with educational outcomes.

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Data source: The NCES Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K).

For technical information, see the complete report:

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To obtain the complete report (NCES 2005-099), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Elementary and Secondary Education

High School Sophomores

A Profile of the American High School Sophomore in 2002: Initial Results From the Base Year of the Education Longitudinal Study of 2002

Steven J. Ingels, Laura J. Burns, Stephanie Charleston, Xianglei Chen, and Emily Forrest Cataldi

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 Education Longitudinal Study (ELS).

The data for this report, *A Profile of the American High School Sophomore in 2002*, describe the tested achievement and educational status of a cohort based on a nationally representative probability sample of 15,362 10th-graders in 752 public, Catholic, and other private schools who were studied in the spring term of the 2001–02 school year. The base-year data collection for the Education Longitudinal Study of 2002 (ELS:2002) is the first wave of a new longitudinal study of high school students that continues a series of nationally representative longitudinal studies conducted by the U. S. Department of Education's National Center for Education Statistics (NCES) over recent decades. Future survey waves will follow both students and high school dropouts and will monitor the transition of the cohort to postsecondary education, the labor force, and family formation. Although the base-year study comprised surveys of parents, teachers, school administrators, and library media specialists, as well as the cohort of high school sophomores, to remain concise, this report draws primarily on data from students, the primary unit of analysis for the study. (Parent, teacher, librarian, and school reports provide contextual data for better understanding the student cohort.)

Comparisons drawn in the text of this report have been tested for statistical significance at the .05 level to ensure that the differences are larger than those that might be expected due to sampling variation. Most comparisons are tested with *t* statistics, although analysis of variance has been used to test for linear trends. Because comparisons drawn in the report are delimited and focused through their reliance on findings from prior studies in the data series and the wider research literature, and because a criterion of substantive significance has been imposed as well (see below), the *t* tests have not been adjusted for multiple comparisons. Full details of statistical tests used can be found in appendix A in the full report. As noted above, all findings have also been subjected to a test of substantive significance. For comparisons of means, findings must show a difference of at least a fifth of a standard deviation (that is, an effect size of .20) to be reported. Further information on effect sizes can also be found in appendix A in the full report. For comparisons of proportions, differences noted in the text are at least 5 percentage points.* Exceptions arise with comparisons that directly investigate stated research questions and hypotheses or when not performing basic comparisons would be seen as a critical omission. The text notes when comparisons do not meet statistical and/or substantive significance.

Highlights

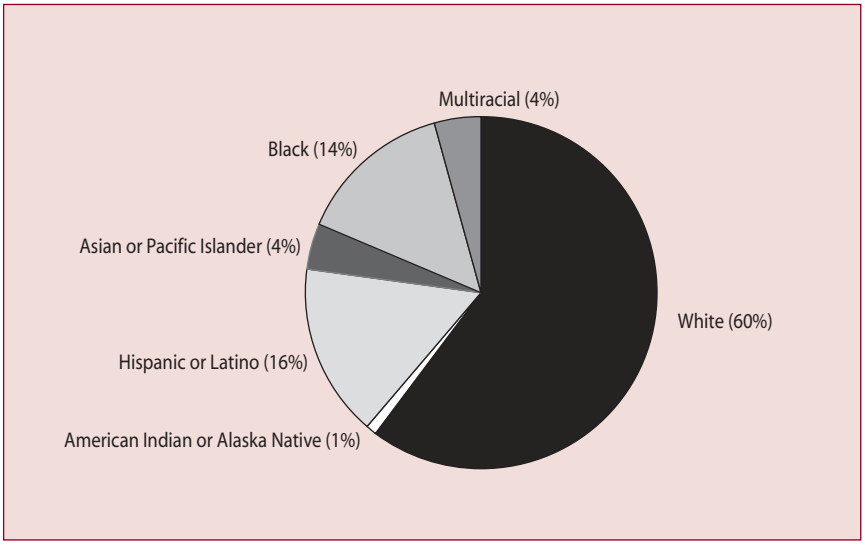
Sociodemographic and educational characteristics of the cohort

Various background characteristics and differences are associated with the educational experiences, achievement, and expectations of students as they progress through high school. The following descriptive characteristics of the sophomore class of 2002 are noted:

- The majority of sophomores are Whites (60 percent). Hispanics comprise 16 percent and Blacks 14 percent of the sophomore cohort, Asian and multiracial sophomores each comprise 4 percent, and American Indians comprise 1 percent of the sophomore cohort (figure 1).
- While 16 percent of White sophomores come from the lowest socioeconomic status (SES) quartile group, half of Hispanics and 35 percent of Blacks come from this group.
- Some 57 percent of sophomores live in a family with both their biological parents. Others live in a single-parent household (22 percent), or with their mother or father and a guardian (17 percent). Still others (4 percent) live in a variety of other arrangements.
- Approximately 6 out of 10 sophomores (59 percent) have a mother who continued her education beyond high school. Fifty-six percent have a father who continued his education beyond high school.
- The 2002 sophomore cohort has high ambitions: 72 percent expect to complete a bachelor's degree or higher; indeed, about one-third (36 percent) expect to complete a graduate or professional degree. However,

*The selection of 5 percent as the criterion for substantive difference is based on similar analyses in other NCES reports (e.g., NCES 2004-078). It should be noted that the magnitude of effect that would be regarded as substantively or practically significant (and the categorization of the effect into large, medium, small, or trivial) may vary depending on the types and contexts of relationships and outcomes being measured.

Figure 1. Percentage of high school sophomores, by racial/ethnic group: 2002



NOTE: Detail may not sum to totals because of rounding. All race categories exclude Hispanic.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002). (Originally published as figure 2 on p. 9 of the complete report from which this article is excerpted.)

only about one-half (51 percent) indicate being enrolled in a college preparatory program.

- There are differences by racial/ethnic group in the likelihood that English is a sophomore's native language. English is the native language of 94 percent of Black and 97 percent of White sophomores. It is the native language of 37 percent of Asian and 48 percent of Hispanic sophomores.
- The overwhelming majority of sophomores (92 percent) attend public schools (4 percent attend Catholic schools and 3 percent attend other private schools) (figure 2).
- Half of sophomores attend suburban schools; 30 percent attend urban schools; and 20 percent attend rural schools. However, nearly half (49 percent) of Black students attend urban schools, compared to 21 percent of Whites.

Sophomores' school experiences

Sophomores reported their perceptions of their school and teachers, school safety, and school rules, as well as the importance they accorded good grades and their reasons for going to school.

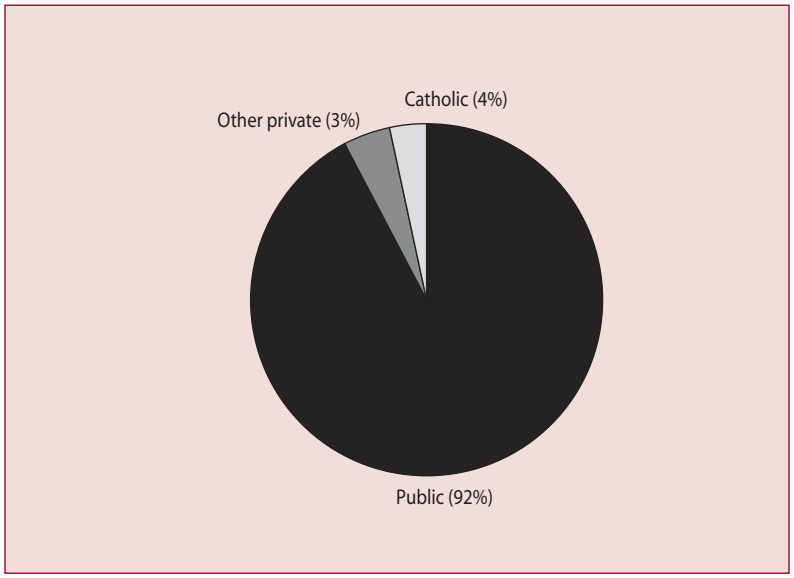
Overall, students had a positive view of their school and teachers (e.g., 81 percent indicated that the quality of teaching was good, and nearly three-quarters [74 percent] reported that their teachers were interested in the students and that students and teachers got along well). The majority (65 percent) reported that they liked school somewhat, and 24 percent liked school a great deal.

Nevertheless, 12 percent of sophomores reported not feeling safe in school (13 percent in public schools, 3 percent in Catholic schools, and 4 percent in other private schools). Nearly two-thirds (66 percent) had experienced some manifestation of school crime or violence during the first term of the school year. One out of four was offered drugs for sale, and 24 percent reported that someone had threatened to hurt them. Students who felt safe at school were more likely to report that rules were clear, fair, and consistently enforced.

Most sophomores (87 percent) indicated that getting good grades was important or very important to them, and 57 percent reported that engagement with interesting and challenging school subjects was one of their motivations for attending school.

However, there were some notable differences between subgroups (including, among others, racial/ethnic groups,

Figure 2. Percentage of high school sophomores attending various types of schools: 2002



NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002). (Originally published as figure 9 on p. 16 of the complete report from which this article is excerpted.)

males versus females, and sophomores in different school sectors) in their responses. Racial/ethnic differences, particularly between Blacks and Hispanics, on the one hand, and Whites, on the other, form a complex pattern. For example:

- Black and Hispanic sophomores were more likely than White sophomores to feel unsafe at school.
- Black sophomores were less likely than White sophomores to report positive impressions about their school and teachers (when asked about school spirit, teaching quality, and teacher-student relationships).
- Blacks (62 percent) and Hispanics (53 percent) were more likely than Whites (47 percent) to affirm getting good grades as something very important to them.
- Blacks and Hispanics more often reported that they went to school because their school subjects were interesting and challenging than did Whites (63 percent for Blacks and 65 percent for Hispanics versus 52 percent for Whites) and that they got satisfaction from their classwork (72 percent for Blacks and 70 percent for Hispanics versus 55 percent for Whites).
- Black and Hispanic sophomores were more likely than their White peers to indicate that they liked school a great deal (29 percent and 30 percent versus 21 percent).
- Blacks and Hispanics were more likely than Whites to report that their teachers expected them to succeed in school (67 percent for Blacks, 64 percent for Hispanics, and 58 percent for Whites).

Subgroup differences by sex include the following:

- Females were more likely than males to report liking school a great deal (26 percent versus 21 percent).
- Males were more likely than females to be the victim of school crimes (73 percent versus 59 percent), and they were also more likely to report involvement in physical fights (21 percent for males versus 8 percent for females) and to have had someone offer to sell them drugs (31 percent versus 19 percent).
- Females more often reported that getting good grades was very important to them (58 percent for females versus 44 percent for males).
- Females were more likely to report that their school subjects were interesting and challenging (59 percent versus 54 percent), and they were more likely to report getting a feeling of satisfaction from doing their classwork (67 percent versus 55 percent).
- Females were also more likely to report that their teachers expected them to succeed (63 percent for females versus 58 percent for males).

Students in Catholic and other private schools generally reported a more positive perception of their school environment than did public school students. For example, public school sophomores were less likely to report good quality teaching, teacher interest in students, or that students and teachers got along well:

- Some 80 percent of public school sophomores reported good quality teaching in their schools, compared to 91 percent of Catholic and 90 percent of other private school sophomores.
- When asked whether teachers were interested in students, 73 percent of public school sophomores agreed, compared to 86 percent of Catholic and 88 percent of other private school sophomores.
- Some 73 percent of public school sophomores indicated that students and teachers got along well with each other in their schools, compared to 86 percent of Catholic and 87 percent of other private school sophomores.

An important line of distinction between private and public schools is reflected in sophomores' views of their school's normative and disciplinary climate, as represented by the clarity, fairness, and enforcement of school rules:

- Some 89 percent of sophomores in other private schools, and 87 percent of sophomores in Catholic schools, reported that everyone knew what the school rules were. This compared to 82 percent in public schools. In addition, 79 percent of Catholic school sophomores maintained that the rules were strictly enforced, compared to 66 percent of public school students.
- Some 65 percent of other private school sophomores believed their school rules were fair, compared to 54 percent of public school students.

Sophomores in private schools were also more likely than public school students to cite sports or other extracurricular participation as a reason for going to school (67 percent of Catholic, 57 percent of other private, and 48 percent of public school students listed playing on a team or belonging to a club as one of their motivations for going to school). This is consistent with the higher rates of extracurricular, particularly sports, participation reported for private school students.

Sophomores' extracurricular and sports participation

Sophomores were asked if they participated in any of various extracurricular activities. These school-sponsored activities were academic clubs, hobby clubs, musical activities (band, orchestra, choir, or chorus), cheerleading, sports, and vocational education clubs.

Over half (55 percent) of all sophomores participated in sports, including play at the intramural level. Participation in other activities was relatively lower: 8 percent for academic clubs, 13 percent for cheerleading, 10 percent for hobby clubs, 22 percent for musical activities, and 8 percent for vocational education clubs. Some subgroup differences are notable:

- Sports participation varied by school type: 73 percent of Catholic and 74 percent of other private school sophomores participated in sports, compared to 53 percent of public school sophomores.
- Males played sports at a higher rate than females (61 percent versus 49 percent), but females participated in other extracurricular activities at a higher rate than males.
- Participation in most extracurricular activities increased with ascending SES. For example, 6 percent of low-SES-quartile sophomores participated in academic clubs, compared to 13 percent from the high-SES quartile; 45 percent of low-SES-quartile sophomores were athletes, compared to 64 percent of high-SES sophomores; and 16 percent of low-SES sophomores took part in musical activities, compared to 27 percent of high-SES sophomores. The opposite was true for vocational clubs.

Sophomores who spent 9 hours or more per week in extracurricular activities (the highest quartile of the distribution of hours) were compared to the full sample or sophomore norm (averaging over 4 hours of participation per week). High-intensity extracurricular participants were more likely to

- expect to earn a 4-year degree or higher (87 percent versus 72 percent for the 10th-grade norm);
- expect to go directly to college (83 percent compared to 72 percent for all sophomores);
- perform in the highest test quartile (37 percent versus 25 percent for the norm);
- report to have "never cut class" (74 percent versus 68 percent); and
- rate good grades as very important (59 percent versus 51 percent for sophomores as a whole).

Sophomores' time use

Five specific dimensions of time use were measured: extracurricular activities, reading for pleasure, doing

homework, using the computer, and working for pay. For those who worked during the school year, time spent on the job averaged 15 hours per week. Sophomores reported using computers for about 1 hour per day for schoolwork and 2 additional hours daily for nonschool uses. Weekly time budgets for key activities were as follows:

- school-sponsored extracurricular activities (5 hours);
- outside reading (not assigned for class) (3 hours);
- homework (outside of school) (6 hours); and
- working for pay (15 hours).

Several subgroup differences in time use should be noted:

- Asians spent more time on homework outside school (8 hours per week) than Blacks, Whites, or Hispanics (5–6 hours).
- Catholic and other private school students spent more time on out-of-school homework (8 hours) than public school students (6 hours).
- The average number of hours worked per week was negatively related to SES.

Sophomores' tested achievement in reading and mathematics

Reading and mathematics achievement were reported in terms of various levels of skill and content mastery, or proficiency. Overall results, and the content and processes embodied by each proficiency level, are summarized below:

Overall, in *reading*:

- 89 percent of sophomores had mastered the skills of simple reading comprehension (proficiency level 1);
- 46 percent were able to make relatively simple inferences beyond the author's main thought (proficiency level 2); and
- 8 percent could make complex inferences (proficiency level 3).

Overall, in *mathematics*:

- 92 percent of sophomores were able to perform simple arithmetical operations on whole numbers (level 1);
- 67 percent could perform simple operations with decimals, fractions, powers, and roots (level 2);
- 46 percent could perform simple problem solving that involved the understanding of low-level mathematical concepts (level 3);
- 20 percent could understand intermediate-level mathematical concepts and/or demonstrate ability to formulate multistep solutions to word problems (level 4); and
- 1 percent could solve complex multistep word problems and had mastered material found in advanced mathematics courses (level 5).

Proficiency results were also examined from the perspective of sophomores' sociodemographic characteristics. For example, an important area of interest is the relationship between racial/ethnic group, SES, and achievement:

- Differences in proficiency were seen by SES; higher SES was associated with higher proficiency scores. For example, in mathematics, 8 percent of sophomores in the lowest quartile were proficient at understanding intermediate-level mathematical concepts, while 18 percent of those in the middle quartiles and 39 percent of those in the highest SES quartile were proficient. Some 18 percent of sophomores in the highest SES quartile were proficient at the highest reading level (ability to make complex inferences), compared to 3 percent in the lowest SES quartile.
- Differences in proficiency were observed by racial/ethnic subgroup. For example, in mathematics, Asians were more likely than Blacks to be proficient in the understanding of intermediate-level mathematical concepts (32 percent compared to 5 percent). Some 27 percent of White sophomores had reached this level, compared to 9 percent of Hispanics.
- In reading, Whites and Asians were more likely to be proficient than were Blacks or Hispanics. Some 56 percent of Whites and 47 percent of Asians were proficient at the level of simple inference, compared to 25 percent of Blacks and 28 percent of Hispanics. At the highest reading level (complex inference), 9 percent of Asian and 11 percent of White 10th-graders were proficient, compared to 2 percent of Blacks and 3 percent of Hispanics.
- Differences by racial/ethnic group persist, even when SES is taken into account. Whites were more likely to be proficient at various reading and mathematics levels than their Black or Hispanic peers, within each of the three SES groupings. For example, at the level of simple mathematical problem solving, within the lowest SES group, 12 percent of Blacks, 18 percent of Hispanics, and 36 percent of Whites were proficient. For the middle SES quartiles, the proportions proficient at this level were 19 percent of Blacks, 30 percent of Hispanics, and 54 percent of Whites. In the highest SES quartile, 42 percent of Blacks, 47 percent

of Hispanics, and 76 percent of Whites were proficient in simple problem solving. The same pattern—persistence of racial/ethnic differences within each SES category, with Whites showing higher achievement than Blacks or Hispanics—was also discernible in reading.

A further area of interest is the alignment of sophomores' educational expectations for the future and their high school preparation for their future education. Since transcripts with information about high school coursetaking have not yet been collected for the cohort, the primary source of available information about academic preparation is tested achievement in mathematics and reading. The higher the students' expectations, the higher their test scores. This generalization is true both overall and within racial/ethnic subgroups (specifically, Whites, Blacks, and Hispanics). However, racial/ethnic differences in achievement persist within each main level of educational expectation:

- For example, 32 percent of 10th-graders who expected to obtain a graduate or professional degree had mastered intermediate mathematical concepts. In contrast, 7 percent of those who expected to complete some college but less than a 4-year degree had done so. At the same time, racial differences were apparent even within expectation levels.
- For example, among sophomores who expected to complete at least a 4-year degree, at reading level 2 (simple inference), 31 percent of Blacks, 35 percent of Hispanics, and 65 percent of Whites were proficient. Among sophomores who expected to complete at least a 4-year degree, at level 4 of mathematics (intermediate concepts), 6 percent of Blacks and 12 percent of Hispanics, contrasted to 33 percent of Whites, were proficient.

Differences in achievement of male and female students were also investigated. Some statistically significant differences were detected, showing a female advantage in reading and a male advantage in mathematics (e.g., at reading level 1, 77 percent of Hispanic males and 82 percent of Hispanic females were proficient, and at mathematics level 4, 30 percent of White males and 24 percent of White females were proficient). *However, these differences were not substantively significant*. Neither overall nor within racial/ethnic groups were sex differences large, compared to the differences found by racial/ethnic group and SES.

In addition to subgroup differences by individual sociodemographic characteristics, proficiency in both reading and mathematics was examined across a number of school characteristics, including school sector. Students from Catholic and other private schools were more likely to be proficient than were students from public schools:

- In *mathematics* at the level of understanding intermediate concepts, 19 percent of public school sophomores were proficient, compared to 32 percent of Catholic and 35 percent of other private school sophomores.
- In *reading*, students in Catholic and other private schools were more likely to be proficient than students in public schools. For example, 68 percent of Catholic and 65 percent of other private school 10th-graders were proficient at level 2 (simple inferences), compared to 45 percent of public school 10th-graders.

Reading and mathematics results were also examined in relation to student engagement. Student engagement behaviors were positively associated with achievement. For example:

- Students who did more math homework were more proficient in simple problem solving (35 percent of those who did no homework, 46 percent of those who did 1–4 hours of math homework per week, and 53 percent of those who did 5 or more hours of math homework per week were proficient at this level).
- Students who cut class frequently were less likely to be proficient than those who never cut class. In reading, at level 2 (simple inference), 28 percent of those who skipped class seven or more times in the first term of the school year were proficient, compared to 51 percent of those who never skipped class.

Sophomores' values and expectations

Values/life goals. Sophomores were asked about the outcomes they value for the future, about their educational expectations, and about their occupational expectations for age 30. Overall, the following proportions of sophomores rated the following life goals as "very important" to them:

- getting a good education (83 percent);
- becoming an expert in field of work (71 percent);
- having lots of money (42 percent);
- having leisure time to enjoy own interests (68 percent);
- finding the right person to marry (76 percent);
- having children (47 percent);
- having strong friendships (83 percent);

- living close to parents and relatives (30 percent); and
- working to correct social/economic inequalities (19 percent).

There were a number of differences by subgroup. For example:

- Female sophomores (88 percent) and Black sophomores (90 percent) were more likely than male sophomores (78 percent) and White sophomores (80 percent) to rate a good education as very important.
- Having lots of money was very important to more low-SES sophomores (47 percent) than high-SES sophomores (36 percent), and it was very important to more Black sophomores (60 percent) than White sophomores (36 percent).
- Having leisure time was more often very important to high-SES sophomores than to low-SES sophomores (74 percent versus 60 percent).
- Becoming an expert in one's field of work was more often very important to Black sophomores (80 percent) than to their White counterparts (68 percent).

Educational expectations. Overall, about 8 percent of the cohort expected to complete only high school or less. Another 10 percent expected to attend college but to obtain less than a 4-year degree. Some 36 percent expected to graduate from a 4-year program, another 20 percent to obtain a master's degree, and 16 percent to obtain a Ph.D., M.D., or other advanced doctoral or professional degree. (Around 10 percent have not yet formed an expectation of their probable highest level of future educational attainment.) Subgroup differences are apparent by sex, racial/ethnic group, SES, and other factors:

- Although expectations increased with ascending SES and test performance, expectations were relatively high for all groups. For example, about three-fifths (58 percent) of those in the lowest SES quartile and nearly half (48 percent) of those in the lowest achievement test quartile expected to, at minimum, graduate from college with a 4-year degree. About one-quarter (24 percent) of those in the lowest SES quartile expected to obtain a graduate or professional degree, as did 18 percent of those in the lowest test quartile.
- Nearly twice as many females as males expected to complete a doctoral or professional degree (20 percent versus 12 percent), whereas twice as many males as females expected to end their education with a high school diploma or less (11 percent versus 5 percent). A gender gap existed for White, Black, and Hispanic students. Some 41 percent of Black females expected to earn a graduate degree (master's, Ph.D., or other advanced degree), compared to 25 percent of Black males. Some 44 percent of White females expected to earn a graduate degree, compared to 31 percent of White males.
- This gender gap generally existed for White, Black, and Hispanic sophomores regardless of SES level. For example, among sophomores expecting to reach the highest level of educational attainment (graduate or professional degree), for the high-SES group, this expectation was held by 47 percent of White males, compared to 57 percent of White females; by 40 percent of Black males, compared to 68 percent of Black females; and by 33 percent of Hispanic males, compared to 53 percent of Hispanic females.

Occupational expectations. Sophomores were also asked to name the occupation they expected or planned to hold at age 30. Some 34 percent of sophomores indicated that they did not know what job or occupation they expected to have at age 30. A further 45 percent of the cohort indicated that they expected to be in a professional-level job, while 20 percent indicated any of the wide array of nonprofessional occupations. About 1 percent of males and 1 percent of females did not expect to work at age 30. Less than 1 percent of males and of females indicated that they would be full-time homemakers at age 30.

Data source: The NCES Education Longitudinal Study of 2002 (ELS:2002).

For technical information, see the complete report:

Ingels, S.J., Burns, L.J., Charleston, S., Chen, X., and Forrest Cataldi, E. (2005). *A Profile of the American High School Sophomore in 2002: Initial Results From the Base Year of the Education Longitudinal Study of 2002* (NCES 2005-338).

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To obtain the complete report (NCES 2005-338), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Adolescent Cigarette Smoking: A Longitudinal Analysis Through Young Adulthood

David C. Miller

This article was originally published as the Statistics in Brief report of the same name. The sample survey data are from the National Education Longitudinal Study of 1988 (NELS:88). The technical appendix and a table from the original report have been omitted.

Highlights

It is estimated that smoking results in more deaths each year in the United States than alcohol, cocaine, heroin, AIDS, suicide, homicide, motor vehicle accidents, and fires combined (U.S. Department of Health and Human Services 2000). With about 8 out of 10 adult smokers in the United States having tried their first cigarette before age 18 (U.S. Department of Health and Human Services 1994), it is not surprising that there has been considerable concern about adolescent smoking.

This analysis uses data from the National Education Longitudinal Study of 1988 (NELS:88), where the smoking behavior of a nationally representative cohort of 1988 eighth-graders was assessed at various time points over a 12-year period (i.e., from about age 14 to age 26). Data on smoking behavior were collected in 1988, when all study participants were in 8th grade; in 1990, when most were in 10th grade; in 1992, when most were in 12th grade; and in 2000, when most were 8 years removed from high school graduation. Participants in NELS:88 were not asked about their smoking behavior at the third follow-up in 1994. This took place 2 years after high school graduation for most individuals and when many were participating in postsecondary education.

In this report, the incidence of daily smoking at the various time points is shown. In addition, using the information obtained about individuals' smoking behavior over the time period, several specific developmental patterns are identified.

- *Nondaily smokers* included those who reported usually smoking not at all or less than one cigarette per day at each of the applicable survey waves (1988, 1990, 1992, and 2000).
- *Teen smokers* included those who reported usually smoking one or more cigarettes per day at either of the first three survey waves (1988, 1990, or 1992), but not at the last survey wave in 2000. Thus, individuals in this group either quit smoking or reduced their amount of smoking to less than one cigarette per day at the time of the young adult survey.
- *Teen/young adult smokers* included those who reported usually smoking one or more cigarettes per day at either of the first three survey waves (1988, 1990, or 1992) and at the last survey wave in 2000.
- *Late-onset smokers* included those who reported usually smoking one or more cigarettes per day at the last survey wave in 2000, but not at any of the prior survey waves (1988, 1990, and 1992). Thus, this group includes individuals who either began smoking as young adults, or who increased the frequency with which they smoked from less than daily during adolescence to one or more cigarettes each day at the time of the young adult survey.

Using this classification scheme, these developmental patterns were then examined in relation to various descriptive characteristics. The main findings from this analysis include the following:

- More individuals reported smoking at each subsequent survey follow-up (table 1). Six percent at 8th grade, 12 percent at 10th grade, 17 percent at 12th grade, and one-quarter at the young adult years reported usually smoking one or more cigarettes a day.[1] At the 10th grade, there were more new daily smokers than repeat daily smokers; however, the opposite was true at the young adult years.
- Examining individuals' smoking behavior over the time period, about two-thirds were nondaily smokers (68 percent), followed by teen/young adult smokers (15 percent) and then teen smokers (9 percent) and late-onset smokers (8 percent) (table 2). Accordingly, of the 24 percent of individuals who reported smoking as teenagers (i.e., adding together the teen smokers and teen/young adult smokers), almost two-thirds of them (63 percent) also reported smoking as young adults.
- Examining the four developmental patterns with respect to various descriptive characteristics, most of the characteristics that were related to daily smoking in the set of bivariate analyses (table 2) were also significant in a multivariate analysis.[2] For example, individuals were more likely to be teen/young adult smokers than nondaily smokers if they were older as

[1] As previously noted, not all of the 1988 8th-graders were in 10th grade at the first follow-up in 1990 and not all of them were in 12th grade at the second follow-up in 1992 (e.g., some were held back a grade). But for ease of reporting, the 1990 survey wave is referred to throughout this report as the "10th grade" and the 1992 survey wave is referred to as the "12th grade." In addition, respondents at the 2000 survey wave are often referenced as "young adults."

[2] See table 3 in the full report for the results of the multinomial logistic regression analysis.

eighth-graders (i.e., those about 15 to 16 years old), if they were from a family with a lower socioeconomic status (SES), or if they were from a single-parent or one-parent/one other guardian family rather than a two-parent family. In regard to race/ethnicity, Whites and Native Americans were more likely than Asians, Blacks, and Hispanics to be teen/young adult smokers as opposed to nondaily smokers. With respect to school type, students from public schools and Catholic schools were more likely than those from non-Catholic private schools to be teen/young adult smokers as opposed to nondaily smokers. Consistent with prior research, smoking was also associated with lower academic achievement. Daily teenage smoking (including both groups—teen smokers and teen/young adult smokers) was generally more prevalent among students with lower achievement scores, lower grades, and among those not participating in an academic program in high school.

Introduction

Cigarette smoking is the leading cause of preventable disease and death in the United States, where it is estimated that there are more deaths each year resulting from smoking than from alcohol, cocaine, heroin, AIDS, suicide, homicide, motor vehicle accidents, and fires combined (U.S. Department of Health and Human Services 2000). There are an estimated 440,000 tobacco-related deaths nationwide each year and approximately $157 billion in annual health-related economic losses due to smoking (Centers for Disease Control and Prevention 2002a). With about 8 out of 10 adult smokers in the United States having tried their first cigarette before age 18 (U.S. Department of Health and Human Services 1994), it is not surprising that there has been considerable concern about adolescent smoking.

This analysis uses data from the National Education Longitudinal Study of 1988 (NELS:88), where the smoking behavior of a nationally representative cohort of 1988 eighth-graders was assessed at various time points over a 12-year period (i.e., from about age 14 to age 26). In this report, the incidence of daily smoking at the various time points is shown. In addition, using the information obtained about individuals' smoking behavior over the time period, several specific developmental patterns are identified and then examined in relation to various descriptive characteristics.

Comparisons made in the text of this report have been tested for statistical significance at the .05 level. Most comparisons are tested with two-tailed *t* tests, although a multivariate analysis was performed to examine the independent association of several characteristics with smoking.[3] Statistical testing was done in an effort to ensure that the differences are larger than those that might be expected due to sampling variation, although for any given comparison there is a 5 percent chance that an observed significant difference may be due to chance.[4] Not all significant differences, however, are cited in the report. For example, in order to highlight those findings of substantive significance, only group differences of at least 5 percentage points are cited in the text.[5] Because comparisons made in the report are delimited and focused through their reliance on findings from prior research, and because a criterion of substantive significance has been imposed, the *t* tests carried out in this analysis have not been adjusted for multiple comparisons.

What is known about adolescent smoking?

Since 1991, two national studies, Monitoring the Future (MTF) (Johnston et al. 2004a) and the Youth Risk Behavior Survey (YRBS) (Centers for Disease Control and Prevention 2002b), have tracked the prevalence of cigarette smoking nationally among adolescents at various grade levels.[6] These trend results show that cigarette smoking among 8th- through 12th-graders increased during much of the 1990s, but has since declined from the peak levels reached around 1996–97. According to recent 2003 data from MTF, 5 percent of 8th-graders, 9 percent of 10th-graders, and 16 percent of 12th-graders were daily smokers (i.e., they reported smoking cigarettes daily during the 30 days preceding the survey). These findings are generally consistent with the 2001 YRBS. Using a slightly different measure, it was found that 14 percent of high school students were current frequent smokers—defined as smoking cigarettes on 20 or more of the 30 days preceding the survey.

A more limited number of longitudinal studies have tracked the frequency of smoking over time. These studies have shown that smoking is typically initiated during the adolescent years, and this behavior often persists or increases

[3]Full details of statistical tests used can be found in the technical appendix in the full report.

[4]Some differences shown throughout the tables of this report may appear large but not be statistically significant. This is due in part to the relatively large standard errors surrounding some of the estimates (because of a relatively small sample size).

[5]The selection of 5 percentage points as the criterion for a substantive difference when reporting comparisons of proportions is based on similar analyses in other NCES reports (e.g., Walston and West 2004; Ingels et al. 2005), though it should be noted that the magnitude of effect that would be regarded as being of substantive or practical significance may vary depending on the types and contexts of the relationships and outcomes being measured.

[6]MTF began in 1975, but at first was limited to 12th-graders. In 1991, the study was expanded to include 8th- and 10th-graders.

during this time (Chassin et al. 1990; Chen and Kandel 1995; Schulenberg et al. 1994). Whereas the use of other drugs such as alcohol and marijuana has been found to decline during the young adult years, smoking has been found to remain fairly persistent during this time (Bachman et al. 1997; Chassin et al. 1996; Chen and Kandel 1995).

More recently, some longitudinal research has gone beyond simply identifying general trends in smoking behavior. That is, a few studies have identified multiple developmental patterns in adolescent smoking. For example, studies have distinguished those adolescents who smoke at consistently high levels over time, those who increase their level of smoking or quit, those who initiate smoking only later on in adolescence, etc. (Chassin et al. 1991, 2000; Colder et al. 2001; Orlando et al. 2004; White, Pandina, and Chen 2002). Identifying distinct patterns of smoking and understanding factors related to these patterns have implications for research and intervention, including efforts aimed at smoking prevention.

Studies that have specifically looked at adolescent smoking in relation to various individual or family characteristics have found that Whites are more likely to smoke compared to other racial/ethnic groups (Centers for Disease Control and Prevention 1998, 2002b, 2003; Orlando et al. 2004; Wills and Cleary 1997). In addition, nonsmokers are more likely than consistent smokers to come from intact nuclear families or from families with more highly educated parents (Orlando et al. 2004).

Other research has shown that adolescents who smoke also tend to have weaker ties to parents and school, more school behavior problems, and lower levels of self-esteem, academic achievement, and educational attainment (Bryant et al. 2000; Centers for Disease Control and Prevention 1998; Conrad, Flay, and Hill 1992; Schulenberg et al. 1994; U.S. Department of Health and Human Services 1994; White, Pandina, and Chen 2002). Adolescent smokers are also more likely to drop out of high school (Ellickson et al. 1998; Mensch and Kandel 1988) and more likely to use alcohol and other drugs (Substance Abuse and Mental Health Services Administration 2001; White, Pandina, and Chen 2002). These correlational findings do not imply causal connections between smoking and other family and individual characteristics. However, they do indicate that adolescent smoking is associated with other adolescent behaviors and characteristics that may reflect lower levels of engagement in learning and more alienation from parents and school.

There are, however, various limitations in past studies on adolescent smoking. For example, many studies are cross-sectional and utilize grade-specific samples (e.g., Centers for Disease Control and Prevention 2002b, 2003; Johnston et al. 2004a). Thus, changes in individuals over time cannot be measured, and high school dropouts are excluded. Many longitudinal studies also may exclude high school dropouts (e.g., Chassin et al. 1990, 1996, and 2000; Colder et al. 2001). Furthermore, some longitudinal studies are limited in their time frame, thus not incorporating both the adolescent and young adult years (e.g., Bachman et al. 1997; Colder et al. 2001), whereas others rely on retrospective data (e.g., Chen and Kandel 1995). In addition, some studies have a relatively small sample size (e.g., White, Pandina, and Chen 2002) or have limited racial/ ethnic, socioeconomic, and geographic diversity (e.g., Chassin et al. 1990, 1996, and 2000). Also, although a number of studies consider smoking in relation to various individual or family characteristics, these characteristics are often limited in scope due to limitations in the survey methodology (e.g., student self-report, mail-in surveys), and as previously noted, only a limited number of such studies identify multiple developmental patterns of smoking (i.e., Chassin et al. 1991, 2000; Orlando et al. 2004; White, Pandina, and Chen 2002).

Research objectives

To address prior limitations and expand the existing body of research on adolescent smoking, the present analysis uses data from NELS:88, which provides longitudinal data about the critical transitions experienced by members of the eighth-grade class of 1988 in the United States (i.e., those attending traditional public and private schools) as they developed, attended school, embarked on careers, and formed families. There were 10,827 individuals who participated in the base-year survey (1988) and the four subsequent follow-ups—in 1990, 1992, 1994, and, most recently, in 2000.

Major strengths of the present study include its longitudinal design that spans from early adolescence well into young adulthood, and a methodology that can identify distinct developmental patterns of smoking across this time period. These developmental patterns are further examined in relation to individual demographic characteristics, family demographic characteristics, and various education-related characteristics. Another major strength of the present study is that it includes measures that do not rely on student self-report (e.g., family socioeconomic status and student achievement scores) as well as some additional measures that have not been looked at in previous studies on adolescent smoking (e.g., high school program

participation). Furthermore, the study utilizes a large, nationally representative sample. Whereas much of the data on adolescent smoking come from grade-based samples that exclude high school dropouts, NELS:88 included in its follow-ups those who had fallen out of grade sequence (such as through having repeated a grade) and those who had dropped out of high school. This has implications with respect to the generalizability of findings. For example, research has found that the incidence of dropping out varies along such characteristics as socioeconomic status and race/ethnicity (Kaufman, Alt, and Chapman 2001). Thus, the exclusion of high school dropouts can lead to biases in the data by disproportionately eliminating certain population subgroups.

In sum, the three primary aims of this report are to

- identify the incidence of daily smoking at several time points during the adolescent and young adult years, including the prevalence of new daily smokers relative to repeat daily smokers;
- identify several specific developmental patterns of smoking from the information obtained about individuals' smoking behavior over the time period; and
- examine the specific developmental patterns of smoking in relation to various descriptive characteristics.

Smoking as Assessed in NELS:88

In NELS:88, the prevalence of cigarette smoking was assessed at four survey waves—1988, 1990, 1992, and 2000. All respondents were in 8th grade at the initial 1988 survey, and most were in 10th grade as of the 1990 survey, in 12th grade as of the 1992 survey, and about 26 years old as of the 2000 survey—conducted 8 years after most respondents had graduated from high school.[7] At each of these survey waves, respondents were asked how many cigarettes they usually smoked in a day. For this analysis, those who indicated smoking one or more cigarettes a day were classified as daily smokers. Nondaily smokers included those who reported that they did not smoke or who reported smoking less than one cigarette a day.[8] Note that participants in NELS:88 were not asked about their smoking behavior at the third follow-up in 1994. This took place 2 years after high school graduation for most individuals and when many were attending postsecondary education.

This Statistics in Brief uses a relatively simplified approach of classifying individuals either as daily smokers or nondaily smokers at the various survey waves rather than, for example, differentiating nonsmokers, occasional smokers, and heavy smokers at each of the four survey waves. While a number of factors went into the decision to use the current approach, there were two main factors. First, distinguishing daily smokers from nondaily smokers is consistent with what has been done in a number of other recent studies on adolescent smoking (e.g., Adalbjarnardottir and Rafnsson 2001; Burt et al. 2000; Johnson, McCaul, and Klein 2002; Windle and Windle 2001; Willoughby, Chalmers, and Busseri 2004). Second, smoking daily is related to a number of unfavorable developmental outcomes and, as such, is characterized as a particularly risky and problematic behavior (Johnson, McCaul, and Klein 2002; U.S. Department of Health and Human Services 1994; Willoughby, Chalmers, and Busseri 2004). Adolescents who, on average, smoke daily or almost daily for several years are at particular risk for health problems and have generally been found to have lower levels of educational attainment, greater use of other drugs, and more psychosocial adjustment problems compared to those who abstain from smoking or who smoke infrequently or quit (Chassin et al. 2000; Orlando et al. 2004).

Prevalence of daily smoking at various time points during adolescence and young adulthood

More individuals reported daily smoking at each subsequent survey follow-up (table 1). Six percent at 8th grade, 12 percent at 10th grade, 17 percent at 12th grade, and one-quarter at the young adult years reported usually smoking one or more cigarettes a day. At each wave of data collection, it was considered whether an individual who reported smoking was a new daily smoker (i.e., did not report daily smoking at a previous survey wave) or a repeat daily smoker (i.e., reported daily smoking at a previous survey wave). Results show that at the 10th grade there were more new daily smokers than repeat daily smokers; however, the opposite was true at the young adult years (the average age being 26). That is, at the 10th grade there were about three times as many new daily smokers as repeat daily smokers (9 vs. 3 percent). However, among the young adults there were about twice as many repeat daily smokers as new daily smokers (13 vs. 7 percent).

[7] As noted, not all individuals in 1990 were in 10th grade and not all in 1992 were in 12th grade (e.g., some were held back a grade). But for ease of reporting, the 1990 survey wave is referred to throughout this report as the "10th grade" and the 1992 survey wave is referred to as the "12th grade." In addition, respondents at the 2000 survey wave are often referenced as "young adults."

[8] The response option of "less than one cigarette a day," however, was not offered at the initial 1988 survey wave.

Table 1. Percentage distribution of 1988 eighth-graders' cigarette smoking trends, by survey wave: Various years, 1988 to 2000

Survey wave	Nondaily smokers	Daily smokers			
		Total	Repeat[1]	New[2]	Other[3]
1988 (all in eighth grade)	93.7	6.3	—	—	—
1990 (most in 10th grade)	88.0	12.0	3.1	8.8	0.2
1992 (most in 12th grade)[4]	83.5	16.5	8.5	6.9	1.1
2000 (most at age 25 or 26)	74.7	25.3	13.1	7.0	5.2

— Not available.
[1]Includes those daily smokers who also reported daily smoking at a previous survey wave.
[2]Includes those daily smokers who did not report daily smoking at any previous survey wave.
[3]Includes those daily smokers who had missing data at a previous survey wave(s) that precluded them from being classified as "repeat daily smokers" or "new daily smokers."
[4]Item response rate is below 85 percent (i.e., 82 percent), and missing data have not been explicitly accounted for in the data. (See the technical appendix in the full report under Variables Used in Analysis—Smoking for a bias analysis of nonrespondents.)
NOTE: Nondaily smokers include those who reported usually smoking not at all or less than one cigarette per day; daily smokers include those who reported usually smoking one or more cigarettes per day. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Base Year, Student Survey, 1988"; "First Follow-up, Student Survey, 1990"; "Second Follow-up, Student Survey, 1992"; and "Fourth Follow-up, Student Survey, 2000."

Developmental patterns of daily smoking and nondaily smoking: A descriptive profile

The prior analysis was meant to provide a snapshot of the prevalence of daily smoking at various time points during the adolescent and young adult years. A second set of analyses was then carried out in which multiple developmental patterns of smoking were identified, which is similar to what has been done in prior studies (Chassin et al. 1991, 2000; Orlando et al. 2004; White, Pandina, and Chen 2002). In this analysis, several distinct developmental patterns were derived from the information obtained about the NELS:88 eighth-grade cohort's smoking behavior over the time period.

- *Nondaily smokers* included those who reported usually smoking not at all or less than one cigarette per day at each of the applicable survey waves (1988, 1990, 1992, and 2000).
- *Teen smokers* included those who reported usually smoking one or more cigarettes per day at either of the first three survey waves (1988, 1990, or 1992), but not at the last survey wave in 2000. Thus, individuals in this group either quit smoking or reduced their amount of smoking to less than one cigarette per day at the time of the young adult survey.
- *Teen/young adult smokers* included those who reported usually smoking one or more cigarettes per day at either of the first three survey waves (1988, 1990, or 1992) and at the last survey wave in 2000.
- *Late-onset smokers* included those who reported usually smoking one or more cigarettes per day at the last survey wave in 2000, but not at any of the prior survey waves (1988, 1990, and 1992). Thus, this group includes individuals who either began smoking as young adults, or who increased the frequency with which they smoked from less than daily during adolescence to one or more cigarettes each day at the time of the young adult survey.

It is important to bear in mind that reports of daily smoking (or nondaily smoking) at two consecutive time points do not mean that there was continuous daily smoking (or nondaily smoking) over that time period. For example, an individual who reported smoking in 1990 and 2000 would be classified as a teen/young adult smoker; however, this does not mean that the person smoked continuously throughout the 10-year period.

Overall patterns of smoking

Using the information obtained about individuals' smoking behavior over time, 85 percent were classified into one of the four developmental patterns.[9] Of these, about two-thirds were nondaily smokers (68 percent), followed by teen/young adult smokers (15 percent), and then teen smokers (9 percent) and late-onset smokers (8 percent) (table 2). Adding together the teen smokers and teen/young adult smokers indicates that about one-quarter of individuals (24 percent) reported that they usually smoked cigarettes daily at some point during their teenage years. Of these, almost two-thirds of them (63 percent) also reported smoking daily as young adults (i.e., the 15 percent who are teen/young adult smokers).

[9]The other 15 percent reported daily smoking or nondaily smoking at one or more survey waves, but had missing data at various survey waves that precluded their classification into one of the four categories. Thus, these cases were not included in the main analyses of this report and the results shown in table 2 (and table 3 in the full report). However, a bias analysis of these excluded cases can be found in the technical appendix in the full report under Variables Used in Analysis—Smoking.

Table 2. Percentage distribution of 1988 eighth-graders' cigarette smoking patterns, by selected characteristics: Various years, 1988 to 2000

Characteristic	Nondaily smokers[1]	Teen smokers[2]	Teen/young adult smokers[3]	Late-onset smokers[4]
Total	67.6	9.0	15.2	8.2
Sex				
Male	65.0	8.7	16.3	10.0
Female	70.2	9.2	14.1	6.5
Race/ethnicity				
Asian/Pacific Islander	78.8	7.2	5.7	8.3
Black, non-Hispanic	85.1	2.5	5.1	7.3
Hispanic	74.2	11.5	8.2	6.1
Native American/Alaska Native	71.3	4.2	19.3	5.1
White, non-Hispanic	63.8	9.7	17.8	8.7
Age in eighth grade				
13–14 years old (born 1974 or 1975)	71.4	8.2	12.2	8.2
15–16 years old (born 1972 or 1973)	60.2	10.1	21.5	8.3
Socioeconomic status (eighth grade, parent report)				
Low (lowest quartile)	62.2	8.9	22.4	6.5
Middle (middle two quartiles)	65.8	10.2	15.4	8.7
High (highest quartile)	74.3	7.0	10.1	8.5
Family composition (eighth grade, student report)				
Two parents	71.1	8.2	12.4	8.2
One parent and other guardian	56.9	13.5	20.7	8.9
Single parent	64.9	7.3	20.1	7.7
Other[5]	51.0	11.0	29.0	9.0
Achievement scores, reading and mathematics (eighth grade)				
Low (lowest quartile)	60.3	11.4	21.7	6.5
Middle (middle two quartiles)	64.6	9.8	17.1	8.5
High (highest quartile)	77.1	6.2	7.5	9.2
Student-reported grades (grade 6 until grade 8 current)				
Low (lowest quartile)	48.4	14.1	30.0	7.4
Middle (middle two quartiles)	66.6	9.3	14.8	9.4
High (highest quartile)	81.5	5.3	5.9	7.2
Type of school attended in eighth grade				
Public	66.9	8.9	16.0	8.1
Catholic	70.2	9.0	11.1	9.8
Other private	75.5	10.6	6.2	7.7
After eighth grade, high school program participation				
Academic	74.7	7.2	9.4	8.7
Vocational	49.8	11.9	28.3	10.0
Other	52.3	13.3	27.7	6.7

[1]Includes those who reported usually smoking not at all or less than one cigarette per day at each of the applicable survey waves (1988, 1990, 1992, and 2000).
[2]Includes those who reported usually smoking one or more cigarettes per day at either of the first three survey waves (1988, 1990, or 1992) but not at the last survey wave in 2000. Some may have smoked cigarettes even daily beyond the teenage years and into their early twenties. But for the purpose of this analysis, they are referred to as "teen smokers" for ease of reference and to distinguish them from the "teen/young adult smokers." Unlike the teen/young adult smokers, the teen smokers did not report daily smoking when in their mid-twenties.
[3]Includes those who reported usually smoking one or more cigarettes per day at either of the first three survey waves (1988, 1990, or 1992) and at the last survey wave in 2000.
[4]Includes those who reported usually smoking one or more cigarettes per day at the last survey wave in 2000, but not at any of the prior survey waves (1988, 1990, and 1992). Some may have been smoking daily as early as the late teenage years (e.g., sometime after the 12th grade). But for the purpose of this analysis, they are referred to as "late-onset smokers" for ease of reference and to distinguish them from the "teen smokers" and "teen/young adult smokers."
[5]Includes those who reported living with a relative besides a parent or living with a nonrelative.
NOTE: All respondents were in eighth grade in the 1988 base-year survey wave (modal age of 14). Most respondents were in 10th grade as of the 1990 survey wave, 12th grade as of the 1992 survey wave, and 8 years after regular high school graduation as of the 2000 survey wave (modal ages of 16, 18, and 26, respectively). Percentage distribution shown is for the 85 percent of individuals who were classified into one of the four developmental patterns. The other 15 percent reported daily smoking or nondaily smoking at one or more survey waves but had missing data at various survey waves that precluded their classification into one of the four patterns. (See the technical appendix in the full report under Variables Used in Analysis—Smoking for a discussion about data imputations for some of the patterns and for a bias analysis of excluded cases.) Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88), "Base Year, Student Survey, 1988"; "Base Year, Parent Survey, 1988"; "Base Year, School Survey, 1988"; "First Follow-up, Student Survey, 1990"; "Second Follow-up, Student Survey, 1992"; "Second Follow-up, Transcript Survey, 1992"; "Third Follow-up, Student Survey, 1994"; and "Fourth Follow-up, Student Survey, 2000."

In the sections that follow, the patterns of smoking are shown by various descriptive characteristics. (Readers should consult the technical appendix in the full report in the section entitled Variables Used in Analysis for additional information about the variables used for these characteristics.)

Patterns of smoking by individual demographic characteristics

Three individual demographic characteristics were considered in relation to the patterns of smoking: sex, race/ethnicity, and age.

Sex. There were more females who were nondaily smokers compared to males (70 vs. 65 percent). However, no difference was detected in the prevalence of males and females who were teenage smokers overall (i.e., adding together the teen smokers and teen/young adult smokers). This is consistent with other studies over the past decade that have generally not detected sex differences in current smoking among middle school and high school students (Byrnes, Miller, and Schafer 1999; Centers for Disease Control and Prevention 2002b, 2003).

Race/ethnicity. More Asians, Blacks, and Hispanics were nondaily smokers than Whites (79, 85, and 74 percent, respectively, compared to 64 percent). Likewise, fewer Asians, Blacks, and Hispanics were teen/young adult smokers than Whites (6, 5, and 8 percent, respectively, compared to 18 percent). Furthermore, more Blacks were nondaily smokers than Hispanics and Native Americans (71 percent), and fewer Blacks were teen smokers than Hispanics and Whites (3 percent compared to 12 and 10 percent, respectively). About one in five (19 percent) Native Americans was a teen/young adult smoker, a rate higher than that of Asians, Blacks, and Hispanics. A similar overall pattern of racial/ethnic differences in adolescent smoking has been found in other studies over the past decade (Centers for Disease Control and Prevention 1998, 2002b, 2003; Orlando et al. 2004; Wills and Cleary 1997), although some recent studies suggest very little in the way of racial/ethnic differences at the middle school level (Centers for Disease Control and Prevention 2000, 2003). Trend data from Monitoring the Future (MTF) show that racial/ethnic differences among eighth-graders have narrowed over the past several years—largely the result of a decline in smoking among Whites. For example, the rate of daily smoking among White eighth-graders declined from 12 percent in 1995–96 to 5 percent in 2002–03 (Johnston et al. 2004b). Among Hispanic eighth-graders, the rate of daily smoking went from 8 percent to 4 percent during this same time period, and for Black eighth-graders the rate was between 3 and 4 percent throughout this time period.

Age. There were more nondaily smokers among individuals who were younger as eighth-graders (i.e., those about 13 to 14 years old) than among their older peers (i.e., those about 15 to 16 years old in eighth grade) (71 vs. 60 percent). Likewise, fewer of the younger individuals were teen/young adult smokers compared to the older individuals (12 vs. 21 percent). No differences by age were detected for the teen smokers and late-onset smokers.

Patterns of smoking by family demographic characteristics

In an effort to shed light on the context that smoking occurs in, it is useful to explore family characteristics in relation to these developmental patterns. Two family characteristics assessed in the eighth grade were considered in this analysis: family socioeconomic status and family composition.

Family socioeconomic status (SES). SES was derived from parent-questionnaire data obtained when students were in the eighth grade. Each individual received a composite scale score based on father's education level, mother's education level, father's occupation, mother's occupation, and family income. For this analysis, scores were divided into three levels: low (lowest quartile), middle (middle two quartiles), and high (highest quartile). Results show that there were more nondaily smokers among those at the high SES level than among their peers at the low and middle SES levels (74 percent compared to 62 and 66 percent, respectively). Similarly, there were fewer teen/young adult smokers at each higher SES level (22, 15, and 10 percent for the low-, middle-, and high-SES groups, respectively).

Family composition. More individuals from two-parent families were nondaily smokers than those from the other family compositions shown (71 percent compared to a range from 51 to 65 percent). Similarly, fewer individuals from two-parent families were teen smokers than those from families with one parent and one other guardian (8 vs. 14 percent), and fewer individuals from two-parent families were teen/young adult smokers than those from single-parent families and those from families with one parent and one other guardian (12 percent compared to 20 and 21 percent, respectively). More individuals from single-parent families were nondaily smokers than those from families with one parent and one other guardian (65 vs. 57 percent). Likewise, fewer individuals from single-parent families were teen smokers compared to those from one-parent/one other guardian families (7 vs. 14 percent).

Patterns of smoking by education-related characteristics

As previously noted, prior research has found that lower academic achievement among adolescents is associated with smoking (Bryant et al. 2000; Ellickson et al. 1998; Mensch and Kandel 1988; Schulenberg et al. 1994; White, Pandina, and Chen 2002). This relationship was generally explored in the present analysis by examining two specific achievement characteristics from the eighth grade: achievement scores and average grades.

Achievement scores. In addition to completing a student background questionnaire on their school and life experiences, eighth-graders were administered cognitive tests in reading comprehension, mathematics, science, and history/citizenship/geography. In this analysis, a combined score from the reading comprehension and mathematics tests was used, with the score broken down into three levels: low (lowest quartile), middle (middle two quartiles), and high (highest quartile). Results show that students who performed higher on the assessment were generally less likely to smoke. For example, more high-performing students were nondaily smokers than low- and middle-performing students (77 percent compared to 60 and 65 percent, respectively); likewise, fewer high-performing students were teen smokers compared to their low-performing peers (6 vs. 11 percent). Similarly, there were fewer teen/young adult smokers at each higher level of achievement (22, 17, and 8 percent, respectively, for the low, middle, and high achievement levels).

Average grades. Eighth-graders were asked to describe their school grades from grade 6 up until the time of data collection (i.e., spring of eighth grade) in four subject areas: English, mathematics, science, and social studies. The response categories in these subject areas were converted to a five-point scale (i.e., mostly A's = 4.0, mostly B's = 3.0, mostly C's = 2.0, mostly D's = 1.0, and mostly below D = 0.5), and a quartile distribution of the averaged scores was created. For this analysis, students' grades were classified into three levels: low (lowest quartile), middle (middle two quartiles), and high (highest quartile). Results show that students who reported earning higher grades were generally less likely to smoke. For example, at each higher level of average grades, there were more nondaily smokers (48, 67, and 82 percent, respectively) and fewer teen/young adult smokers (30, 15, and 6 percent, respectively). In addition, fewer middle- and high-performing students were teen smokers than their low-performing peers (9 and 5 percent compared to 14 percent).

Lastly, school contextual factors were explored in relation to the patterns of smoking by considering the type of school attended in eighth grade (i.e., public, Catholic, and other private schools) and the type of program individuals participated in later in high school (i.e., academic, vocational, or other high school programs).

School type. More students from non-Catholic private schools were nondaily smokers compared to public school students (75 vs. 67 percent), and fewer students from non-Catholic private schools were teen/young adult smokers compared to public school students (6 vs. 16 percent). In addition, fewer Catholic school students were teen/young adult smokers (11 percent) compared to public school students, although this rate was higher than that of their counterparts at non-Catholic private schools.

Program type. In this analysis, program type refers to the most recent program that a student was involved in at his/her last high school. Results show that more individuals from academic high school programs were nondaily smokers than those from vocational or other high school programs (75 percent compared to 50 and 52 percent, respectively). Likewise, there were fewer individuals among those from academic high school programs than among those from vocational or other high school programs who were teen smokers (7 percent compared to 12 and 13 percent, respectively) and teen/young adult smokers (9 percent compared to 28 percent for both vocational and other high school programs).

Results from multivariate analysis

All of the characteristics examined in the series of bivariate analyses discussed above were related to smoking to some extent. However, some of these characteristics may be related to each other. In order, then, to examine the independent association of these characteristics with smoking, a multivariate analysis was conducted. Specifically, a multinomial logistic regression analysis was performed to determine whether each of these characteristics is related to the smoking patterns when controlling for the other characteristics.[10]

Results show that most of the characteristics that were related to the smoking patterns at the bivariate level were also significant at the multivariate level.[11] In other words, many of these characteristics were independently associated with smoking when accounting for the other individual, family, and education-related characteristics. Across the

[10]See the technical appendix in the full report under Statistical Tests—Multivariate Analysis for further discussion about this procedure.

[11]Table 3 in the full report shows the results of the multinomial logistic regression analysis.

three smoking patterns (i.e., teen smokers, teen/young adult smokers, and late-onset smokers), individuals were more likely to be daily smokers than nondaily smokers if they were White as opposed to Black, if they reported earning lower grades during the middle school years, or if they participated in a vocational high school program as opposed to an academic high school program.

In addition, individuals were more likely to be teen smokers and teen/young adult smokers than nondaily smokers if they were Asian or Hispanic as opposed to Black, if they were older than their eighth-grade peers, if they were from a family with one parent and one other guardian rather than a two-parent family, or if they participated in other (nonvocational) high school programs as opposed to an academic high school program.

There were also several other characteristics that were related to smoking, but only for teen/young adult smoking. That is, individuals were more likely to be teen/young adult smokers than nondaily smokers if they were White or Native American as opposed to Asian, Black, or Hispanic; if they were from a family with a lower SES or from a single-parent family rather than a two-parent family; if they had lower standardized test scores as eighth-graders; or if they attended a public or Catholic school in eighth grade as opposed to a private non-Catholic school.

The only sex difference found in the smoking patterns was that males were more likely than females to be late-onset smokers as opposed to nondaily smokers.

Summary and Conclusion

In a longitudinal analysis that spanned three grade levels—grades 8, 10, and 12—and well into young adulthood, it was found that daily cigarette smoking increased at each subsequent time point. Six percent at 8th grade, 12 percent at 10th grade, 17 percent at 12th grade, and one-quarter at the age of about 26 years reported usually smoking one or more cigarettes a day. These results are generally consistent with the findings from other studies. For example, just as this study found that in 1992 17 percent of individuals—most of whom were in 12th grade—were daily smokers, so too did the national Monitoring the Future (MTF) study find that in 1992 17 percent of 12th-graders were daily smokers (Johnston et al. 2004a).

Results also show that at the 10th grade there were more new daily smokers than repeat daily smokers; however, the opposite was true at the young adult years. That is, at the 10th grade there were about three times as many new daily smokers as repeat daily smokers (9 vs. 3 percent). However, among the young adults there were about twice as many repeat daily smokers as new daily smokers (13 vs. 7 percent).

In a separate analysis that uses the information obtained about individuals' smoking behavior over the time period, several specific developmental patterns were derived. About two-thirds (68 percent) were nondaily smokers, followed by teen/young adult smokers (15 percent) and then teen smokers (9 percent) and late-onset smokers (8 percent). Accordingly, of the 24 percent of individuals who reported smoking as teenagers (i.e., adding together the teen smokers and teen/young adult smokers), almost two-thirds of them (63 percent) also reported smoking as young adults. This, together with the aforementioned findings about the proportion of new daily smokers relative to repeat daily smokers at the various survey waves, suggests that there is a degree of persistence in smoking behavior. These results are also fairly consistent with prior research showing that about half (53 percent) of adult smokers in the United States became regular smokers before age 18 (U.S. Department of Health and Human Services 1994).

Examining the four developmental patterns with respect to various descriptive characteristics, it was found that there were more nondaily smokers among individuals who were younger as eighth-graders (i.e., those about 13 to 14 years old) than among their older peers (i.e., those about 15 to 16 years old in eighth grade) (71 vs. 60 percent). Likewise, fewer of the younger individuals were teen/young adult smokers compared to the older individuals (12 vs. 21 percent), although no difference by age was detected for the late-onset smokers. Together, these findings suggest that the younger individuals did not "catch up" with the older individuals in their incidence of daily smoking as tracked during the survey period. It should also be noted that many of the older individuals are those who have had to repeat a grade. As prior research (e.g., Bryant et al. 2000; Ellickson et al. 1998; Mensch and Kandel 1988; Schulenberg et al. 1994; White, Pandina, and Chen 2002) and the current analysis indicate, adolescent smoking is associated with lower academic achievement. The present set of results indicates that daily teenage smoking (including both groups—teen smokers and teen/young adult smokers) was more prevalent among students with lower achievement scores, with lower grades, and not participating in an academic program in high school. In the current analysis, these relationships—between smoking and age and between smoking and academic achievement—were generally found

even when controlling for each other and for various individual, family, and school characteristics, including race/ethnicity, SES, family composition, and school type.

Results also show that, in addition to age and academic achievement, most of the characteristics that were related to daily smoking in the set of bivariate analyses were also significant in the multivariate analysis. For example, the multivariate analysis indicates that individuals were more likely to be teen/young adult smokers than nondaily smokers if they were from a family with a lower SES or if they were from a single-parent or one-parent/one other guardian family rather than a two-parent family. In regard to race/ethnicity, Whites and Native Americans were more likely than Asians, Blacks, and Hispanics to be teen/young adult smokers as opposed to nondaily smokers. With respect to school type, students from public schools and Catholic schools were more likely than those from non-Catholic private schools to be teen/young adult smokers as opposed to nondaily smokers.

Taken together, the results show that all of the descriptive characteristics were related to smoking at some level as considered in this analysis. However, these relationships—especially those pertaining to school and academic achievement—were most consistently found for the teen/young adult smokers. That is, these relationships were most often found for those individuals who smoked regularly and with some degree of consistency beginning in the adolescent years. By the same token, this pattern of differences was generally not found for the late-onset smokers. To some extent, this reflects the fact that particular subgroups, such as low-SES and low-performing students, tend to start smoking earlier. But another possible explanation is that late-onset smoking is generally not associated with the characteristics examined in this analysis, but rather with a different cluster of characteristics or motivational factors that occur later in life, such as attending college, entering the workforce, or starting a family. For example, other longitudinal research has found that smoking tends to decline following marriage and during pregnancy (Bachman et al. 1997).

Identifying distinct patterns of smoking and understanding factors related to these patterns have implications for research and intervention, including efforts aimed at smoking prevention. However, it is important to caution that no causality can be inferred from the relationships identified in this analysis. Furthermore, even though a multivariate analysis examined the independent association of several characteristics with regular cigarette smoking, this analysis did not consider more complex interdependencies that may exist among these characteristics, such as one variable mediating the relationship between another variable and smoking. In addition, the list of characteristics included in the multivariate analysis was limited. Therefore, it is possible that some of these relationships could be explained by accounting for additional variables—some of which may be contained in the NELS data files and some of which may not be. For example, as previously noted, the relationship between smoking and age was found even when controlling for academic achievement. However, the achievement measures in this analysis focused on the middle school years. Thus, the extent to which academic success earlier on in one's education can account for the relationship between smoking and age is not specifically known. Another variable that, although not measured in NELS, has been looked at in other studies on smoking is risk perception. For example, some research suggests that young people tend to underestimate the health risks associated with smoking and overestimate people's ability to quit smoking (Jamieson and Romer 2001a, 2001b). Furthermore, risk perception has been shown to be associated with smoking (Chassin et al. 2000; Orlando et al. 2004)—especially the decision to stop smoking (Romer and Jamieson 2001).

Future research using NELS and other datasets might further examine these and other characteristics. Using longitudinal data, these characteristics can be examined at multiple time points, linking the time frames of various characteristics with the onset and quitting of smoking. Other analytic strategies might also be employed, such as growth mixture modeling, which has recently been used in other longitudinal studies on smoking (e.g., Colder et al. 2001; Orlando et al. 2004; White, Pandina, and Chen 2002). Additional research may offer further insight, for example, into why some adolescents and young adults seem to quit smoking while others do not, and why some avoid smoking altogether whereas others take up smoking later on.

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For technical information, see the complete report:

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To obtain the complete report (NCES 2005-333), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Internet Access in U.S. Public Schools and Classrooms: 1994–2003

Basmat Parsad and Jennifer Jones

This article was originally published as the Summary of the E.D. TAB of the same name. The sample survey data are from "Internet Access in U.S. Public Schools, Fall 2003," conducted through the Fast Response Survey System (FRSS).

The National Center for Education Statistics (NCES) has employed its Fast Response Survey System (FRSS) to track access to information technology in schools and classrooms since 1994. 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. Each year, NCES has conducted a new nationally representative survey of public schools to gauge the progress made in computer and internet availability, based on measures such as student-to-computer ratio and the percentage of schools and classrooms with internet connections. As computers and the Internet became increasingly available in schools, the FRSS surveys were modified to address new and continuing issues, such as the use of new types of internet connections to enhance connectivity. Recent FRSS surveys on internet access have been expanded to address other emerging issues. The 2002 survey, for instance, included items on the use of technologies or procedures to prevent student access to inappropriate material on the Internet, the availability of computers outside of regular school hours, and the availability of teacher professional development on technology use in the classroom.

This article presents key findings from the 2003 FRSS survey on internet access in U.S. public schools and selected comparisons with data from previous FRSS internet surveys. The 2003 survey, designed to update data on all of the questions asked in 2002, covered the following topics:

- school connectivity, including school and classroom access to the Internet, types of connections, and computer hardware, software, and internet support;
- student access to computers and the Internet, including student-to-computer ratio, computer availability outside of regular school hours, the provision of hand-held computers, and laptop computers available for loan;
- school websites;
- 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.

Questionnaires for the survey "Internet Access in U.S. Public Schools, Fall 2003" were mailed to a representative sample of 1,207 public schools in the 50 states and the District of Columbia. The sample was selected from the 2001–02 NCES Common Core of Data (CCD) Public Elementary/Secondary School Universe File, the most current available at the time of selection. Over 95,000 schools are contained in the 2001–02 CCD Public Elementary/Secondary School Universe File. The sampling frame includes 83,842 regular elementary and secondary/combined schools. The estimated number of schools in the survey universe decreased to an estimated 82,232 because some of the schools were determined to be ineligible for the FRSS survey during data collection. Data have been weighted to yield national estimates. The unweighted response rate was 91 percent, and the weighted response rate was 92 percent. Detailed information about the survey methodology is provided in appendix A in the full report, and the questionnaire can be found in appendix B. The primary focus of this article is to present national estimates for selected topics in 2003 and statistically significant findings over time. In addition, 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. For the remainder of this article, we will refer to the percent of free or reduced-priced lunch as poverty concentration.

In general, comparisons by these school characteristics are presented only where significant differences were detected and follow meaningful patterns. It is important to note that many of the school characteristics 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 higher concentration of poverty. Other relationships may exist between the school characteristics used for analysis. However, this article focuses on bivariate relationships between school characteristics and the data gathered in the survey, rather than more complex analyses, to provide descriptive information about internet access in public schools.

All specific statements of comparison made in this report have been tested for statistical significance through trend analysis tests and *t* tests adjusted for multiple comparisons using the Bonferroni adjustment,[1] and are significant at the 95 percent confidence level or better. However, only selected findings are presented for each topic in the report. Throughout the report, differences that may appear large (particularly those by school characteristics) may not be statistically significant. This is due in part to the relatively large standard errors surrounding the estimates and the use of the Bonferroni adjustment to control for multiple comparisons. A detailed description of the statistical tests supporting the survey findings can be found in appendix A in the full report.

Selected Findings

The findings are organized to address the following issues: school connectivity, student access to computers and the Internet, school websites, 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 FRSS surveys on internet access collected information on several key measures of school connectivity. Schools were asked whether they had access to the Internet. Schools with internet access were also asked about the number of instructional rooms that had at least one computer with internet access, the types of internet connections used, and the staff position of the person primarily responsible for computer hardware, software, and internet support at the school. Information on the number of instructional rooms with internet access was combined with information on the total number of instructional rooms in the school to calculate the percentage of instructional rooms with internet access.[2]

School and instructional room access

- In fall 2003, nearly 100 percent of public schools in the United States had access to the Internet,[3] compared with 35 percent in 1994. In 2003, no differences in school internet access were observed by any school characteristics, which is consistent with data reported previously. There have been virtually no differences in school access to the Internet by school characteristics since 1999 (Kleiner and Lewis 2003).
- Public schools have made consistent progress in expanding internet access in instructional rooms. In 2003, 93 percent of public school instructional rooms had Internet access, compared with 3 percent in 1994 (figure 1). Across school characteristics, the proportion of instructional rooms with internet access ranged from 90 to 97 percent.

Types of connections

The types of internet connections used by public schools and the speed at which computers are connected to the Internet have changed over the years. 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 (Heaviside, Riggins, and Farris 1997). In 2001, 5 percent of public 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 (Kleiner and Farris 2002). Because of the increasing complexity of detailed information on types of connections, the 2002 and 2003 surveys directly asked whether schools used broadband and narrowband connections.[4] Schools also reported whether they used wireless connections to the Internet, the types of wireless connections used, and the number of instructional rooms with wireless connections.

- In 2003, 95 percent of public schools with internet access used broadband connections to access the Internet. In 2001 and 2000, 85 percent and 80 percent of the schools, respectively, were using broadband connections.

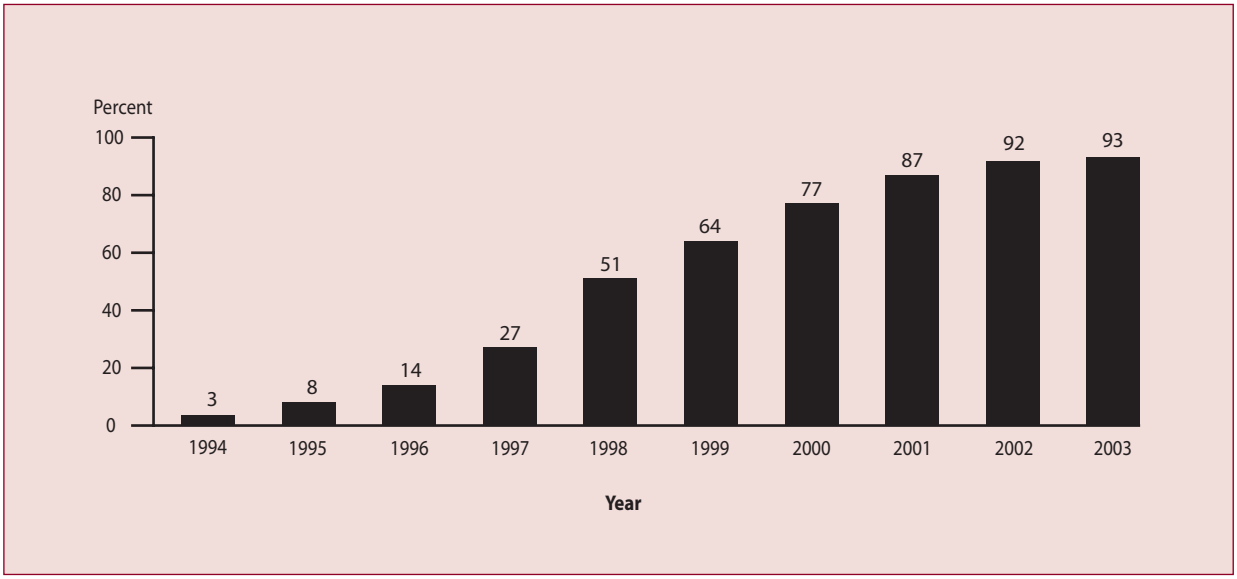
[1]The Bonferroni adjustment was also used for previous FRSS internet reports. The Bonferroni adjustment is appropriate to test for statistical significance when the analyses are mainly exploratory (as in this report) because it results in a more conservative critical value for judging statistical significance.

[2]Instructional rooms include classrooms, computer and other labs, library/media centers, and any other rooms used for instructional purposes.

[3]This estimate was rounded to 100 percent.

[4]In 2000 and 2001, respondents were instructed to circle as many types of connections as there were in the school. The 2002 and 2003 questionnaires 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, 2002, and 2003, they also included DSL connections, which had not been an option on the 2000 questionnaire.

Figure 1. Percent of public school instructional rooms with internet access: 1994–2003



NOTE: Percentages are based on all public schools. Information on the number of instructional rooms with internet access was combined with information on the total number of instructional rooms in the school to calculate the percentage of instructional rooms with internet access. 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., 1 percent) from results published prior to 2001.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "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; "Internet Access in U.S. Public Schools, Fall 2002," FRSS 83, 2002; and "Internet Access in U.S. Public Schools, Fall 2003," FRSS 86, 2003.

- In 2003, as in previous years (Kleiner and Lewis 2003), the likelihood of using broadband connections increased with school size, from 90 percent for small schools to nearly 100 percent for large schools.[5] In addition, rural schools were less likely than both town and urban fringe schools to have internet access using this type of connection (90 percent compared with 98 and 97 percent, respectively).
- Thirty-two percent of public schools with internet access used wireless connections in 2003, an increase from 23 percent in 2002.[6] In 2003, the proportion of public schools with wireless internet connections increased with school size but decreased as poverty concentration increased. For example, 36 percent of schools with the lowest poverty concentration had wireless connections, compared with 25 percent of schools with the highest poverty concentration. In addition, secondary schools were more likely than elementary schools to use wireless internet connections (42 percent compared with 29 percent).
- Of the schools using wireless internet connections in 2003, 92 percent indicated that they used broadband wireless internet connections. Across all school characteristics, the percentage of public schools with wireless connections using broadband wireless internet connections ranged from 88 percent to 96 percent.
- In 2003, 11 percent of all public school instructional rooms had wireless internet connections. This represents a decrease from the previous year, when 15 percent of public school instructional rooms had wireless internet connections.

Computer hardware, software, and internet support

- The staff position of the person with primary responsibility for computer hardware, software, and internet support varied across schools (figure 2). Thirty-seven percent of schools indicated that it was a full-time, paid school technology director or coordinator; 27 percent, district staff; 16 percent, a teacher or other staff as part of formal responsibilities; 9 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 5 percent, some other position.

[5]This estimate was rounded to 100 percent.

[6]A school could use both wireless and wired internet connections. Wireless internet connections can be broadband or narrowband.

- Differences were observed by locale and instructional level. For example, a higher percentage of secondary schools than elementary schools reported that a full-time, paid technology director or coordinator was the person primarily responsible for computer hardware, software, and internet support at the school (44 percent compared with 35 percent).

Student access to computers and the Internet

The FRSS surveys on internet access obtained information on various measures of student access to computers and the Internet. Schools reported the number of instructional computers with internet access; this information was then combined with enrollment data to compute the ratio of students to instructional computers with internet access. Schools were also asked about student access to the Internet outside of regular school hours, the provision of hand-held computers to students and teachers, and laptop computer loans to students.

Students per instructional computer with internet access

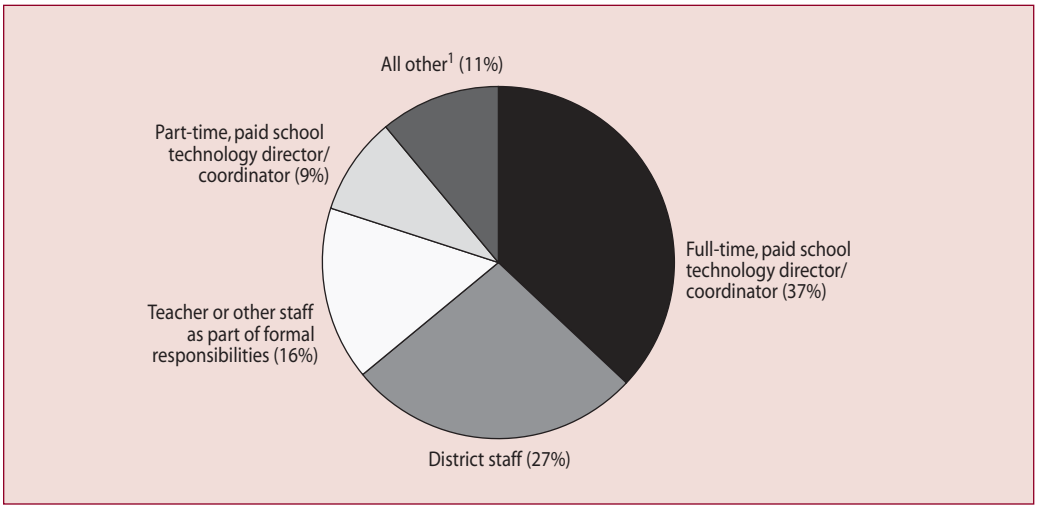
- The ratio of students to instructional computers with internet access was computed by dividing the total number of students in all public schools by the total number of instructional computers with internet access in all public schools (including schools with no internet access).[7] In 2003, the ratio of students to instructional computers with internet access in public schools was 4.4 to 1, a decrease from the 12.1 to 1 ratio in 1998, when it was first measured (figure 3).
- The ratio of students to instructional computers differed by all school characteristics in 2003. 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 (5.1 to 1 compared with 4.2 to 1).

Availability of computers with internet access outside of regular school hours

Past research indicates that 5- to 17-year-olds whose families were in poverty were less likely to use the Internet at home than 5- to 17-year-olds whose families were not in poverty in 2001 (47 percent compared with 82 percent) (DeBell and Chapman 2003). Making the Internet accessible in schools 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.

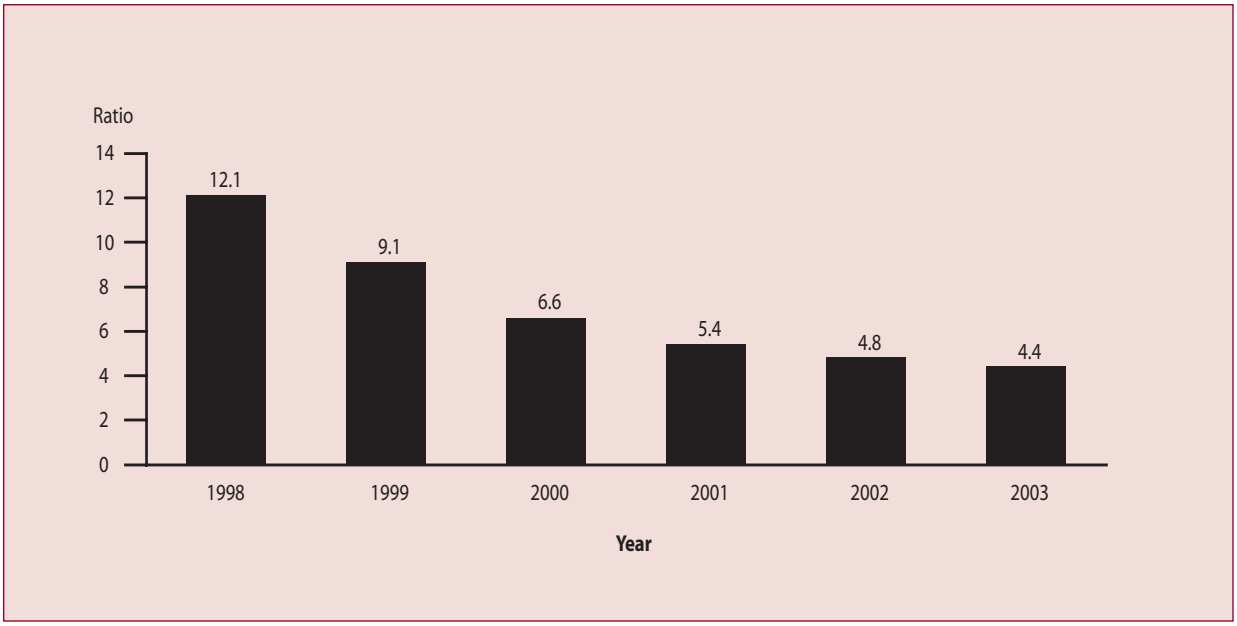
[7]This is one method of calculating students per computer. Another method involves calculating the number of students in each school divided by the number of instructional computers with internet access in each school and then taking the mean of this ratio across all schools. When "students per computer" 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: 2003



[1]This category includes consultant/outside contractor, teacher or other staff as volunteers, and other.
NOTE: Percentages are based on the public schools with internet access (nearly 100 percent). 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, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2003," FRSS 86, 2003.

Figure 3. Ratio of public school students to instructional computers with internet access: 1998–2003



NOTE: 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 (including schools with no internet access). 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., 1 percent) from results published prior to 2001.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "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; "Internet Access in U.S. Public Schools, Fall 2002," FRSS 83, 2002; and "Internet Access in U.S. Public Schools, Fall 2003," FRSS 86, 2003.

The FRSS surveys on internet access asked whether schools made instructional computers with internet access available to students outside of regular school hours, when the computers were made available, and the number of computers made available.

- In 2003, 48 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 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 (69 percent compared with 41 percent). The likelihood of internet availability outside of regular school hours increased with school size, from 39 percent for small schools to 74 percent for large schools.
- Among schools providing computers with internet access to students outside of regular school hours in 2003, 98 percent made them available after school, 71 percent before school, and 9 percent on weekends. The proportion of public schools allowing internet access to students after school increased from 95 percent in 2001 to 98 percent in 2003.
- The proportion of public schools allowing students to access the Internet before school was lower in schools with the highest minority enrollment (60 percent) than in schools with the two lowest categories of minority enrollment (80 percent each). A similar pattern occurred by school poverty concentration. Fifty-four percent of schools with the highest poverty concentration had computers with internet access available to students before school, compared with 82 percent and 80 percent of schools with the two lowest categories of poverty concentration.
- In all public schools, the ratio of students to computers with internet access available outside of regular school hours was 22 to 1 in 2003. This was a decrease from the 26 to 1 ratio in 2001, when it was first measured.[8] Among public schools that allow

[8]The ratio of students to computers with internet access available outside of regular school hours was computed by dividing the total number of students in all public schools by the total number of computers with internet access available outside of regular school hours in all public schools (including schools with no internet access and schools that did not make computers with internet access available to students outside of regular school hours).

students to access the Internet outside of regular school hours, the ratio of students to computers with internet access available outside of regular school hours was 12 to 1 in 2003, a decrease from 15 to 1 in 2001.

- Among public schools that allow students to access the Internet outside of regular school hours in 2003, the ratio of students to computers with internet access available outside of regular school hours differed by school size, locale, and percent minority enrollment. For example, schools with the highest percent minority enrollment had more students per computer available outside of regular schools (14 students per computer) than did schools with the lowest percent minority enrollment (10 students per computer).

Provision of hand-held computers

- In 2003, 10 percent of public schools provided hand-held computers to students or teachers for instructional purposes, an increase from 7 percent in the previous year.[9]
- Among schools providing hand-held computers to students or teachers for instructional purposes in 2003, the median number of hand-held computers provided per school was 10 (i.e., half of the schools reported a lower number than 10 and the other half reported a higher number).[10]
- In 2003, the proportion of schools that provided hand-held computers to students or teachers for instructional purposes increased with school size from 5 percent for small schools to 21 percent for large schools. Furthermore, secondary schools were more likely than elementary schools (14 percent compared with 9 percent) to provide hand-held computers to students or teachers for instructional purposes.

Laptop computer loans

Public schools reported whether they lent laptop computers to students, the number of laptops available for loan, and the maximum length of time for which they could be borrowed. Schools that did not lend laptop computers to students were asked about their future plans for such loans; for example, in 2003 schools were asked whether they planned to lend laptop computers to students in the 2004–05 school year.

- In 2003, 8 percent of public schools lent laptop computers to students. In those schools, the median number of laptop computers available for loan was 5.[11]
- Fifty-seven percent of schools lending laptop computers reported that students could borrow them for less than 1 week, 17 percent reported that students could borrow them for a period of 1 week to less than 1 month, 15 percent reported lending laptops for the entire school year, and 8 percent reported lending laptops for some other maximum length of time.
- Of the 92 percent of schools without laptop computers available for loan to students in 2003, 6 percent were planning to make laptops available for students to borrow during the 2004–05 school year.

School websites

Because nearly 100 percent of public schools were connected to the Internet in 2003,[12] schools generally had the capability to make information available to parents and students directly via e-mail or through a website. Beginning in 2001, the FRSS surveys on internet access asked whether the schools had a website or a web page (e.g., a web page on the district's website) and how often it was updated.[13] In 2002 and 2003, schools also reported the status of the person who was primarily responsible for the school's website support.[14]

- Nationwide, 88 percent of public schools with access to the Internet had a website in 2003. This is an increase from 2001, when 75 percent of public schools reported having a website.
- The proportion of schools with a website in 2003 differed by instructional level, school size, minority enrollment, and poverty concentration. For example, the likelihood of having a website was lower in schools with the highest minority enrollment of 50 percent or more (80 percent) than in schools with 6 to 20 percent or 21 to 49 percent minority enrollment (94 and 90 percent, respectively). In addition,

[9]Hand-held computers are computers, or personal digital assistants, small enough to be held in one hand. Examples are Palm Pilots or Pocket PCs.

[10]On average, 24 hand-held computers per school were provided to students or teachers in schools that supplied such computers in 2003. The average number of hand-held computers would decrease to 22 if the data for one school in the sample were taken out of the calculation because the school reported a much higher number of hand-held computers than any of the other schools in the sample. The number of hand-held computers at that school was verified with the respondent.

[11]This represents a ratio of 1 laptop computer per 27 students. The ratio of students per laptop computer would increase to 31 to 1 if one school in the sample were taken out of the calculation because the school reported a much higher number of laptop computers than any of the other schools in the sample. The number of laptop computers at that school was verified with the respondent.

[12]This estimate was rounded to 100 percent.

[13]For brevity, "website or web page" is referred to as "website" in the remainder of the report.

[14]In 2001, the questionnaire asked about the school's "website." In 2002, the wording was changed to "website or web page."

the likelihood of having a website decreased as the poverty concentration increased, from 96 percent of schools with the lowest poverty concentration to 72 percent of schools with the highest poverty concentration.

- Of the schools with a website in 2003, 73 percent reported that their website was updated at least monthly.[15] Among the 27 percent of schools updating their website less often than monthly, differences were detected by instructional level, locale, minority enrollment, and poverty concentration. For example, schools with the highest minority enrollments were more likely than schools with lower minority enrollments to update their website less than monthly (45 percent compared with 18 to 25 percent). In addition, the likelihood of updating the website less than monthly increased with poverty concentration, from 18 percent of schools with the lowest poverty concentration to 44 percent of schools with the highest poverty concentration.
- Among schools with a website in 2003, 27 percent reported that a teacher or other staff member was primarily responsible for the school's website support as part of his or her formal responsibilities (figure 4). Schools were less likely to report that primary responsibility was assigned to a full-time, paid school technology director or coordinator (19 percent); a teacher or other staff as volunteers (19 percent); district staff (17 percent); a part-time, paid school technology director or coordinator (5 percent); students (2 percent); or a consultant or an outside contractor (3 percent). Some other person was cited by 8 percent of the schools.

[15]This estimate is derived from the percentage of public schools updating their website monthly, weekly, or daily. Although estimates for the details are shown in table 15 in the full report, the total in the text is based on the raw data, and because of rounding it differs slightly from the estimate that would be obtained by adding details directly from the table.

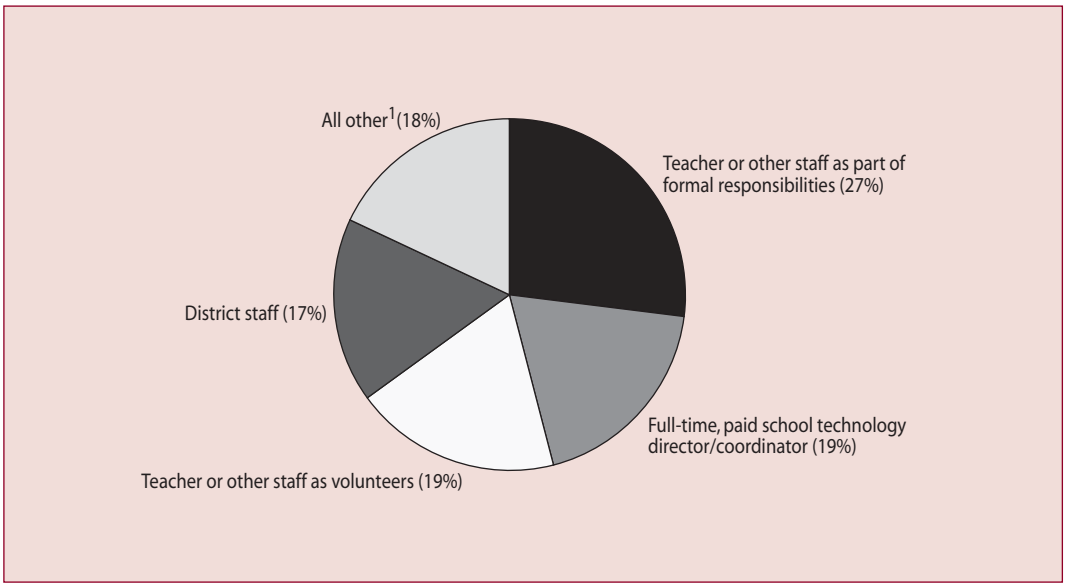
Technologies and procedures to prevent student access to inappropriate material on the Internet

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[16] discounts unless it certifies that it is enforcing a policy of internet safety that includes the use of filtering or blocking technology.[17] Beginning in 2001, the FRSS surveys on internet access asked whether public schools used any technologies or procedures to prevent student access to

[16]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.

[17]More information about CIPA (Public Law 106-554) can be found at the website 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.

Figure 4. Percentage distribution of types of staff and students who were primarily responsible for the school's website or web page support: 2003



[1]This category includes part-time, paid school technology director/coordinator, students, consultant/outside contractor, and other.
NOTE: Percentages are based on 88 percent of public schools (99.8 percent with internet access x 88 percent with a website or web page).
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2003," FRSS 86, 2003.

inappropriate material on the Internet, the types of technologies or procedures used, and whether such technologies were used on all computers with internet access used by students. The 2002 and 2003 surveys also asked about the methods used to disseminate information about the technologies or procedures to students and parents.

- In 2003, almost all public schools with internet access (97 percent) used various technologies or procedures to control student access to inappropriate material on the Internet. Across all school characteristics, between 96 and 100 percent[18] 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 2003, 96 percent used blocking or filtering software. Ninety-three percent of schools reported that teachers or other staff members monitored student internet access, 83 percent had a written contract that parents have to sign, 76 percent had a contract that students have to sign, 57 percent used monitoring software, 45 percent had honor codes, and 39 percent allowed access only to their intranet.[19] Most of the schools (97 percent) used more than one procedure or technology as part of their internet use policy.
- Ninety-five percent of public schools using technologies or procedures to prevent student access to inappropriate material on the Internet indicated that they disseminated the information about these technologies or other procedures via their school policies or rules distributed to students and parents. Sixty-six percent did so with a special notice to parents, 58 percent used their newsletters to disseminate this information, 31 percent posted a message on the school website or web page, 25 percent had a notice on a bulletin board at the school, 17 percent had a pop-up message at computer or internet log-on, and 5 percent used a method other than the ones listed above.

[18]This estimate was rounded to 100 percent for some school characteristics.

[19]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 full internet access.

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

Past research indicates that 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 to use computers and the Internet for instruction (Smerdon et al. 2000). The 2002 and 2003 surveys on internet access asked whether public schools or their districts provided teacher professional development in the 12 months prior to the surveys on how to integrate the use of the Internet into the curriculum, and the percentage of teachers who attended such professional development.

- In 2003, nationwide, 82 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 survey.
- Thirty-eight percent of the schools that offered professional development in 2003 had 1 to 25 percent of their teachers attending such professional development in the 12 months preceding the survey. Eighteen percent of the schools had 26 to 50 percent of their teachers, 13 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 professional development on how to integrate the use of the Internet into the curriculum in the 12 months preceding the survey. Another 1 percent of schools 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 2003," (FRSS 86, 2003).

For technical information, see the complete report:

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Computer and Internet Use

Rates of Computer and Internet Use by Children in Nursery School and Students in Kindergarten Through Twelfth Grade: 2003

Matthew DeBell

This article was originally published as an Issue Brief. The sample survey data are from the Computer and Internet Use Supplement to the Current Population Survey (CPS), conducted by the U.S. Census Bureau.

The use of computers and the Internet by students has increased rapidly in recent years (U.S. Department of Education 1999; U.S. Department of Commerce 2002). In 2001, computer and internet use was more widespread among school-age children and adolescents than among adults (DeBell and Chapman 2003). The now commonplace use of these technologies follows the installation of computers and internet access in nearly all public schools and in a majority of households with children by 2000 (Kleiner and Lewis 2003; Newburger 2001).

The use of computers and the Internet may improve people's everyday lives and improve their labor market prospects. Because these technologies have the potential to improve access to information, help to get tasks done better or more quickly, and facilitate communication (see National Research Council 1999), computer and internet use rates may be considered indicators of the standard of living. Also, the use of computers helps students gain experience with this technology, so use rates may indicate how well prepared the current generation of students is to enter a workforce where the ability to use a computer is expected (U.S. Department of Education 1999).

This Issue Brief describes the percentages of students in grades 12 or below who used computers or the Internet in 2003. Data for this Issue Brief come from the October 2003 Computer and Internet Use Supplement to the Current Population Survey (CPS). The CPS is a sample survey representative of the civilian noninstitutional population in the United States. The survey is conducted in approximately 56,000 households each month. In October 2003 it collected information regarding 29,075 children enrolled in nursery school through 12th grade.[1] A member of each household who is at least 15 years old provided information about household members. As a result of this data collection method, data regarding computer and internet use by students were not collected directly from students in most cases, but from another member of the household; this method is a potential source of error. Computer users are identified by questions that ask if the subject uses computers at home, at work, or at school. Internet users are identified by questions that ask if the subject uses the Internet at any location. (For further detail about CPS survey methods, see U.S. Census Bureau 2002.)

As shown in table 1, the majority of students use computers and the Internet.[2] Overall, 91 percent used computers and 59 percent used the Internet in 2003. The use of these technologies begins at young ages; 67 percent of children in nursery school were computer users, as were 80 percent of those in kindergarten. About one-quarter (23 percent) of children in nursery school used the Internet, and about one-third (32 percent) of kindergarteners did so. By high school, nearly all students (97 percent) used computers, and a majority (80 percent) used the Internet.

Table 1 shows that the use of these technologies varied by several interrelated characteristics.[3] Computer and internet use varied by race/ethnicity, disability status, parent educational attainment, household language, poverty status, and family income. Differences by these characteristics have been found in previous analyses (U.S. Department of Commerce 1995; U.S. Department of Commerce 1999; Rathbun and West 2003).

Current differences in computer use among students are smaller than those found among adults in previous analyses (e.g., U.S. Department of Commerce 1999), reflecting the fact that most students now use computers. For example, in 2001, adults with graduate education were four times more likely than adults with less than a high school credential to use computers, and adults living in families making over $75,000 per year were three times as likely as those in families making less than $20,000 per year to use computers, reflecting differences of 66 and 58 percentage points, respectively (DeBell and Chapman 2003). In contrast, in 2003

[1]The weighted sample represents approximately 58.3 million noninstitutionalized children age 3 and older in nursery school through 12th grade in October 2003. These estimates exclude children in long-term medical care facilities and juvenile detention facilities, as well as those who have dropped out of school. The Current Population Survey defines nursery school as a group or class organized to provide education for children before kindergarten. It includes preschool and prekindergarten. For ease of presentation, the population enrolled in nursery school through the 12th grade is referred to as "students" in this Issue Brief.

[2]Reported usage may involve the cooperation or assistance of an adult or older child, but that information was not collected.

[3]All differences cited in this report are significant at the .05 level using Student's *t* statistic. When analyzing data from large samples, many differences (no matter how substantively minor) can be statistically significant. The discussion is limited to differences of at least 5 percentage points.

Table 1. Percentage of children enrolled in grade 12 or below who use computers and the Internet, by child and family/household characteristics: 2003

Characteristic	Number of students (in thousands)	Percent using computers	Percent using the Internet
Total	58,273	91	59
Child characteristics			
Enrollment level			
Nursery school[1]	4,928	67	23
Kindergarten	3,719	80	32
Grades 1–5	20,043	91	50
Grades 6–8	12,522	95	70
Grades 9–12	17,062	97	80
Sex			
Female	28,269	91	61
Male	30,005	91	58
Race/ethnicity[2]			
White, non-Hispanic	35,145	93	67
Hispanic	10,215	85	44
Black, non-Hispanic	8,875	86	47
Asian or Pacific Islander, non-Hispanic	2,293	91	58
American Indian, Aleut, or Eskimo, non-Hispanic	346	86	47
More than one race, non-Hispanic	1,400	92	65
Disability status			
Disabled	646	82	49
Not disabled	47,949	91	61
Family & household characteristics			
Parent educational attainment[3]			
Less than high school credential	5,691	82	37
High school credential	13,804	89	54
Some college	16,548	93	63
Bachelor's degree	8,590	92	67
Some graduate education	10,713	95	73
Household language			
Spanish-only	2,840	80	28
Not Spanish-only	55,434	91	61
Poverty status[4]			
In poverty	10,173	84	40
Not in poverty	39,016	93	66
Family income			
Under $20,000	8,815	85	41
$20,000–34,999	9,273	87	50
$35,000–49,999	7,499	93	62
$50,000–74,999	9,834	93	66
$75,000 or more	13,769	95	74

[1]Data on "nursery school" enrollment may not reflect enrollment in all kinds of early childhood programs.
[2]American Indian includes Alaska Native, Black includes African American, Asian or Pacific Islander includes Native Hawaiian, and Hispanic includes Latino.
[3]Parent educational attainment measures the highest level of education of either of the child's parents.
[4]Poverty status is derived from household size and income. Households with incomes below the poverty threshold for their household size (as defined by the U.S. Census Bureau for 2003) were classifed as poor. Some households reported incomes in a range that straddles the poverty threshold; these households were classified as poor. The 2003 poverty threshold for a four-person household was $18,810.
NOTE: Detail may not sum to total due to rounding or missing data. Population estimates in this table apply to children age 3 and older who are enrolled in nursery school or in grades K–12.
SOURCE: U.S. Census Bureau, Current Population Survey, October 2003.

students with a parent with some graduate education were about 1.2 times more likely to use computers than students whose parents had not completed high school, reflecting a difference of 13 percentage points (table 1). Students living in families making over $75,000 per year in 2003 were 1.1 times as likely to use computers as those in families making

less than $20,000 per year, reflecting a difference of 9 percentage points. Thus, these group differences in student computer use are smaller than differences observed among adults in recent years.

Differences in internet use among students are also smaller than some of the differences recently reported for adults. Adults with graduate education in 2001 were five times more likely than adults with less than a high school credential to use the Internet, and adults with family incomes of $75,000 or more were 3.4 times more likely than adults with incomes below $20,000 to use the Internet, reflecting differences of 68 and 58 percentage points, respectively (DeBell and Chapman 2003). In contrast, in 2003 students with a parent with some graduate education were twice as likely as students whose parents had not completed high school to use the Internet, and students from families with incomes of $75,000 or more were 1.8 times more likely than students from families with incomes below $20,000 to use the Internet. These reflect differences of 36 and 33 percentage points, respectively.

Although differences among students in both computer and internet use are smaller than differences among adults, rates of internet use are more varied than rates of computer use. The differences in internet use are at least twice as large as those in computer use when making comparisons based on poverty status, household language, race/ethnicity for Blacks and Whites, and the highest and lowest categories of income and parent educational attainment. For family income and parent education, differences in computer use are 9 and 13 percentage points, respectively, while differences in internet use are 33 and 36 points, respectively. Another way of looking at the data is to consider that although most students now use computers, a majority of students with selected characteristics still do not use the Internet. These include students whose family income is under $20,000, students in poverty, students whose parents have less than a high school credential, Black (non-Hispanic) and Hispanic students, and students in households where Spanish is the only language spoken.

Conclusion

The use of computers and the Internet by students is commonplace and begins early. In upper grade levels, nearly all students use computers and a substantial majority use the Internet. Even before kindergarten, a majority of nursery school children use computers, and 23 percent use the Internet. Differences exist in computer use among students, but differences by characteristics such as income and education are smaller—about 9 percentage points between the highest and lowest income categories and about 13 percentage points between the highest and lowest categories of parental education—than differences that have been observed among adults. The differences among students are broader for internet use than computer use. Differences between groups by family income and parental education are as large as 33 and 36 percent, respectively, making students from the most advantaged backgrounds about twice as likely to use the Internet as those from the least advantaged backgrounds.

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Distance Education Courses for Public Elementary and Secondary School Students: 2002–03

J. Carl Setzer and Laurie Lewis

This article was originally published as the Summary of the E.D. TAB of the same name. The sample survey data are from "Distance Education Courses for Public Elementary and Secondary School Students: 2002–03," conducted through the Fast Response Survey System (FRSS).

Background

Nontraditional methods of instructional delivery at the postsecondary level, such as technology-based distance education course offerings, have been a topic of considerable attention and debate. Research on this topic suggests that distance education course offerings and enrollments have proliferated at postsecondary education institutions within recent years (Lewis, Alexander, and Farris 1997; Lewis et al. 1999; Waits and Lewis 2003). There is also some anecdotal evidence that technology-based education at the elementary and secondary levels enables school districts to expand the range of courses available to their students and may facilitate more flexibility in student schedules and instructional delivery (Wildavsky 2001; Doherty 2002; Kennedy-Manzo 2002; Trotter 2002). To date, however, no nationally representative study has examined technology-based distance education availability, course offerings, and enrollments in the nation's elementary and secondary schools. To address this gap, the Office of Educational Technology in the U.S. Department of Education requested the "Distance Education Courses for Public Elementary and Secondary School Students" survey to collect and analyze nationally representative data on technology-based distance education in public elementary and secondary school districts. It provides baseline data, gathered for the 2002–03 12-month school year, on the prevalence of technology-based distance education courses across the nation, as well as estimated enrollments of public elementary and secondary school students in these distance education courses. It also identifies the types of technologies most commonly used for delivering distance education courses. The survey also provides information on districts' reasons for having distance education courses and factors districts report that prevent their expansion of distance education course offerings.

The survey was mailed to public school district superintendents, who were asked to review the questionnaire and determine the person in the district who was best suited to complete it. Suggested respondents were the director of curriculum, the technology coordinator, or the distance education coordinator. Respondents were provided with a definition and description of distance education courses. For this study, distance education courses were defined as credit-granting courses offered to elementary and secondary school students enrolled in the district in which the teacher and students were in different locations. Distance education courses could originate from the respondent's district or from other entities, such as a state virtual school or postsecondary institution. These courses could be delivered via audio, video (live or prerecorded), or internet or other computer technologies. Additionally, the distance education courses could include occasional face-to-face interactions between the teacher and the students. Districts were also instructed to include information about distance education Advanced Placement or college-level courses in which students in their district were enrolled. For purposes of this survey, respondents were instructed to exclude information about supplemental course materials, virtual field trips, online homework, staff professional development, or courses conducted mainly via written correspondence.

The survey asked whether there were any public elementary or secondary school students in the district enrolled in distance education courses. Respondents were instructed to report only about distance education enrollments of students regularly enrolled in the district and to include all distance education courses in which students in the district were enrolled, regardless of where the courses originated. If the respondents indicated that there were public elementary or secondary school students in the district enrolled in distance education courses, they were asked to report the number of schools in their district with students enrolled in distance education courses by instructional level of the school. Respondents were also asked to report the number of distance education course enrollments in schools in their district by instructional level of the school and curriculum area. Other survey items asked which technologies were used as primary modes of instructional delivery for distance education courses, which entities delivered distance education courses, whether any students accessed online distance education courses (and if so, from which locations), and the district's reasons for having distance education courses. Finally, respondents were asked whether their district had any plans to expand their distance education courses, and if so, which factors, if any, might be keeping them from expanding those courses.

This survey was conducted by the National Center for Education Statistics (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 the survey were mailed in fall 2003 to a representative sample of 2,305 public school districts in the 50 states and District of Columbia. The sample was selected from the 2001–02 NCES Common Core of Data (CCD) "Local Education Agency Universe Survey" file, which was the most current file available at the time of selection. Data have been weighted to yield national estimates. The sampling frame includes 15,218 public school districts—14,229 regular public school districts and 989 "other education agencies" with at least one charter school. The number of districts in the survey universe decreased to an estimated 15,040 because some of the districts were determined to be ineligible for the FRSS survey during data collection. The unweighted response rate was 94 percent and the weighted response rate was 96 percent.

The primary focus of the report is to present national estimates. In addition, selected survey findings are presented by the following district characteristics:

- district enrollment size (less than 2,500, 2,500 to 9,999, 10,000 or more—referred to as small, medium, and large, respectively);
- metropolitan status (urban, suburban, rural);
- region (Northeast, Southeast, Central, West); and
- poverty concentration (less than 10 percent, 10 to 19 percent, 20 percent or more—referred to as low, medium, and high, respectively).

In general, comparisons by these district characteristics are presented only where significant differences were detected and followed meaningful patterns. It is important to note that many of the district characteristics used for independent analysis may also be related to each other. For example, district enrollment size and metropolitan status are related, with urban districts typically being larger than rural districts. Other relationships between these analysis variables may exist. However, the E.D. TAB focuses on the bivariate relationships between district characteristics and the data gathered in the survey, rather than more complex analyses, to provide descriptive information about technology-based distance education.

All specific statements of comparison made in this report have been tested for statistical significance through *t* tests and are significant at the 95 percent confidence level or better. However, only selected findings are presented for each topic in the report. Throughout the report, differences that may appear large (particularly those by district characteristics) may not be statistically significant. This may be due to relatively large standard errors surrounding the estimates, particularly among subgroups.

Selected Findings

The findings in this report are organized as follows:

- distance education courses for public school students;
- technologies used for delivering distance education courses;
- entities delivering distance education courses;
- reasons for having distance education courses; and
- future expansion of distance education courses.

Distance education courses for public school students

The survey asked whether there were any public elementary or secondary school students in the district enrolled in distance education courses in 2002–03 (12-month school year). Districts with students enrolled in distance education courses were asked to indicate the number of schools with at least one student enrolled in distance education courses and the number of enrollments in distance education courses of students regularly enrolled in the district.

Prevalence of distance education courses in public school districts

- During the 2002–03 12-month school year, about one-third of public school districts (36 percent) had students in the district enrolled in distance education courses. This represents an estimated 5,500 out of a total of 15,040 public school districts.
- A greater proportion of large districts than medium or small districts had students enrolled in distance education courses (50 vs. 32 and 37 percent, respectively). In addition, a greater proportion of districts located in rural areas than in suburban or urban areas indicated that they had students enrolled in distance education courses (46 compared with 28 and 23 percent, respectively).
- A greater proportion of districts located in the Southeast and Central regions had students enrolled in distance education courses than did districts in the Northeast and West (45 and 46 percent compared with 21 and 32 percent). The proportion of districts with students enrolled in distance education courses was lower in the Northeast than in other regions (21 vs. 32 to 46 percent).

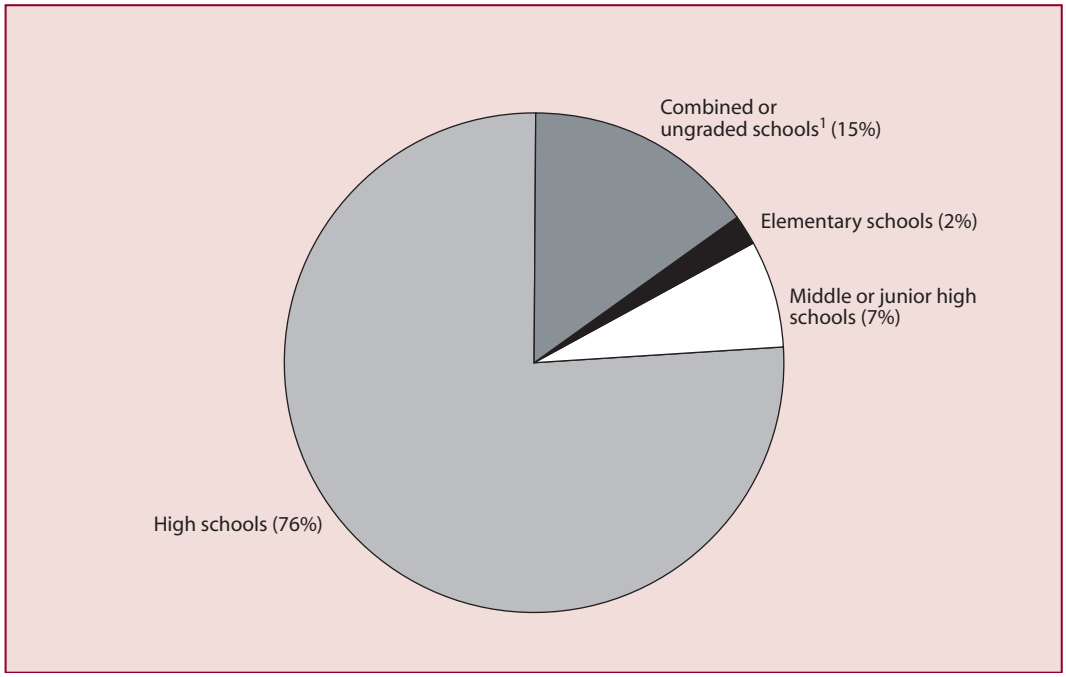
- A smaller proportion of districts with the lowest poverty concentration had students enrolled in distance education courses than did districts with higher concentrations of poverty (33 compared with 42 percent for both districts with medium and high poverty concentration).

Prevalence of distance education courses in public schools

- An estimated 8,200 public schools had students enrolled in distance education courses during the 2002–03 12-month school year. This represents approximately 9 percent of all public schools nationwide.
- Although a greater proportion of large districts than medium or small districts had students enrolled in distance education courses, a greater proportion of schools in small districts had students enrolled in distance education courses than did schools in medium or large districts (15 vs. 6 percent for both medium and large districts). In other words, when small districts do offer distance education, they are more likely to involve a greater proportion of their schools.
- A higher proportion of schools in rural districts than schools in either suburban or urban districts had students enrolled in distance education courses (15 compared to 7 and 5 percent, respectively). In addition, a greater proportion of schools in the Central region had students enrolled in distance education courses than did schools in the Northeast (12 vs. 5 percent).
- The percentage of schools with students enrolled in distance education courses varied substantially by the instructional level of the school. Overall, 38 percent of public high schools offered distance education courses, compared with 20 percent of combined or ungraded schools,[1] 4 percent of middle or junior high schools, and fewer than 1 percent of elementary schools.
- Among all public schools with students enrolled in distance education, 76 percent were high schools, 15 percent were combined or ungraded schools, 7 percent were middle or junior high schools, and 2 percent were elementary schools (figure 1).

[1]Combined or ungraded schools are those in which the grades offered in the school span both elementary and secondary grades or that are not divided into grade levels.

Figure 1. Percentage distribution of public schools with students enrolled in distance education courses, by instructional level: 2002–03



[1]Combined or ungraded schools are those in which the grades offered in the school span both elementary and secondary grades or that are not divided into grade levels.
NOTE: Percentages are based on unrounded numbers. Percentages are based on the estimated 8,210 schools with students enrolled in distance education courses in 2002–03.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Distance Education Courses for Public Elementary and Secondary School Students: 2002–03," FRSS 84, 2003.

Distance education enrollments by instructional level

- In 2002–03, there were an estimated 328,000 enrollments in distance education courses among students regularly enrolled in public school districts.[2] If a student was enrolled in multiple courses, districts were instructed to count the student for each course in which he or she was enrolled. Thus, enrollments may include duplicated counts of students.
- Of the total enrollments in distance education courses, 68 percent were in high schools, 29 percent were in combined or ungraded schools, 2 percent were in middle or junior high schools, and 1 percent[3] were in elementary schools (figure 2).

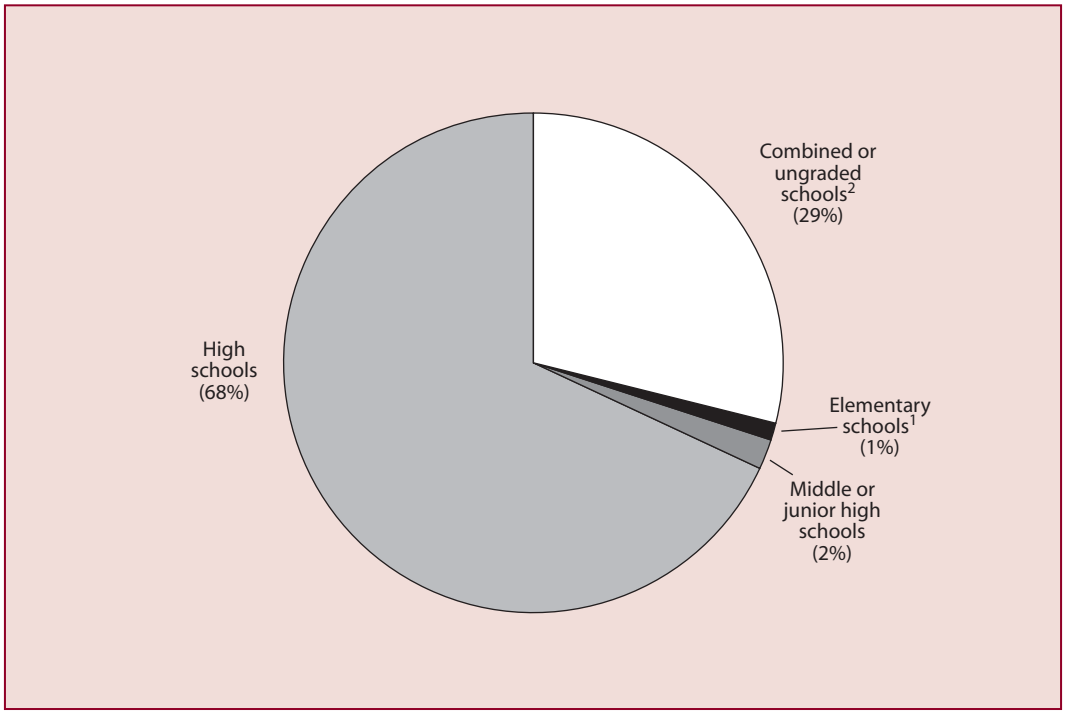
Distance education enrollments by curriculum area

- Distance education enrollments in various curricular areas ranged from an estimated 8,200 in general elementary school curriculum and 11,700 in computer science to 74,600 in social studies/social sciences.
- About one-quarter (23 percent) of all enrollments in distance education courses of students regularly enrolled in the districts were in social studies/social sciences, 19 percent were in English/language arts, 15 percent were in mathematics, 12 percent were in natural/physical science, 12 percent were in foreign languages, and 14 percent were in other unspecified curriculum areas. Enrollments in general elementary school curriculum and computer science accounted for the smallest proportions of distance education enrollments (3 and 4 percent, respectively).
- The proportion of students enrolled in foreign language distance education courses was greater for small districts compared to medium or large districts (19 vs. 11 and 6 percent, respectively). Furthermore, the proportion of students enrolled in foreign language distance education courses was greater for rural districts than for suburban or urban districts (22 vs. 10 and 5 percent, respectively).

[2]To put this number into context, NCES reported 47,222,778 students enrolled in public elementary and secondary schools in fall 2000. It is important to note that distance education enrollments collected in the FRSS survey may include duplicated counts of students (i.e., the number of students enrolled in distance education courses could be smaller than the estimated 328,000 enrollments in distance education courses), while the NCES estimate of 47,222,778 students enrolled in public elementary and secondary schools is an unduplicated count (Snyder and Hoffman 2003, p. 51).

[3]Interpret data with caution. The coefficient of variation for elementary schools is greater than 50 percent.

Figure 2. Percentage distribution of enrollments in distance education courses of students regularly enrolled in the districts, by instructional level: 2002–03



[1]Interpret data with caution. The coefficient of variation for elementary schools is greater than 50 percent.
[2]Combined or ungraded schools are those in which the grades offered in the school span both elementary and secondary grades or that are not divided into grade levels.
NOTE: Percentages are based on unrounded numbers. Percentages are based on the estimated 327,670 enrollments in distance education courses in 2002–03.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Distance Education Courses for Public Elementary and Secondary School Students: 2002–03," FRSS 84, 2003.

Advanced placement or college-level courses offered through distance education

- Fifty percent of the districts with students enrolled in distance education courses had students enrolled in Advanced Placement or college-level courses offered through distance education in 2002–03. This represents an estimated 2,700 districts.
- There were an estimated 45,300 enrollments in Advanced Placement or college-level courses offered through distance education in 2002–03. This represents 14 percent of the total enrollments in distance education.
- The proportion of all distance education enrollments in Advanced Placement or college-level distance education courses was greater in small districts compared to medium or large districts (24 vs. 10 and 7 percent, respectively).
- The proportion of all distance education enrollments in Advanced Placement or college-level distance education courses was greater in rural districts compared to urban or suburban districts (27 vs. 4 and 11 percent, respectively). Additionally, suburban districts had a higher proportion (11 percent) of all distance education enrollments in Advanced Placement or college-level distance education courses than urban districts (4 percent).

Technologies used for delivering distance education courses

Districts that reported offering distance education courses were asked about the types of technologies used as primary modes of instructional delivery for any distance education courses in which students in the district were enrolled. The technologies included internet courses using synchronous (i.e., simultaneous or "real-time") computer-based instruction, internet courses using asynchronous (i.e., not simultaneous) computer-based instruction, two-way interactive video, one-way prerecorded video, and other technologies. Districts were also asked about online distance education courses, including where students were accessing distance education courses, and whether the district provided or paid for specific services (i.e., computer, internet service provider, other) for students accessing online distance education courses from home.

Technologies used as primary modes of instructional delivery

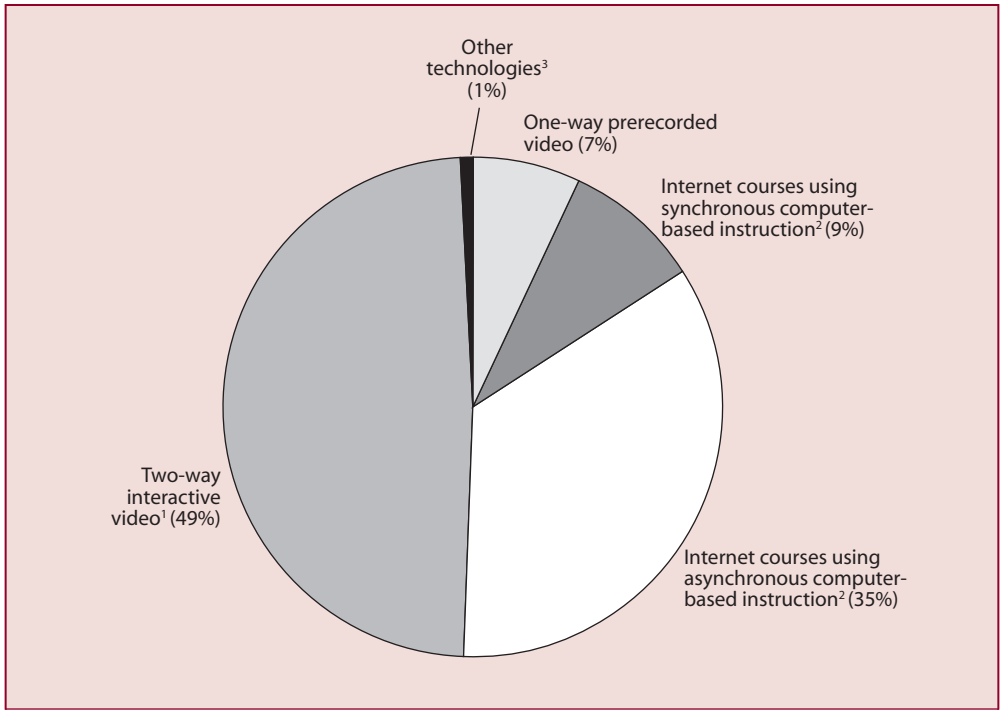
- More districts reported two-way interactive video (55 percent) or internet courses using asynchronous computer-based instruction (47 percent) than internet courses using synchronous computer-based instruction (21 percent), one-way prerecorded video (16 percent), or some other technology (4 percent) as a primary mode of delivery.[4]
- In small districts, two-way interactive video was the technology most often cited as a primary instructional delivery mode for distance education courses (60 percent vs. 5 to 42 percent for all remaining technologies). However, in both medium and large districts, internet courses using asynchronous computer-based instruction was the technology most often cited as a primary delivery mode (60 percent vs. 3 to 44 percent for all remaining technologies in medium districts; 72 percent vs. 6 to 33 percent for all remaining technologies in large districts).
- In both urban and suburban districts, internet courses using asynchronous computer-based instruction was the technology cited most often as a primary instructional delivery mode for distance education courses (69 percent vs. 3 to 38 percent for all remaining technologies in urban districts; 58 percent vs. 4 to 39 percent for all remaining technologies in suburban districts). However, in rural districts, two-way interactive video was the technology cited most often as a primary delivery mode (64 vs. 5 to 40 percent for all remaining technologies).
- When asked which technology was used to deliver the greatest number of distance education courses, 49 percent of districts selected two-way interactive video, more than any other technology. Thirty-five percent of districts selected internet courses using asynchronous computer-based instruction, 9 percent selected internet courses using synchronous computer-based instruction, 7 percent selected one-way prerecorded video, and 1 percent selected other technologies (figure 3).

Online distance education courses

- Fifty-nine percent of districts with students enrolled in distance education courses had students enrolled in online distance education courses (i.e., courses delivered over the Internet) in 2002–03.
- A greater proportion of large districts than medium or small districts had students enrolled in online distance education courses (80 vs. 71 and 53 percent, respectively). Medium districts also had a greater

[4]Percentages sum to more than 100 because some districts used different types of technology as primary modes of instructional delivery for different distance education courses.

Figure 3. Percentage distribution of districts reporting that various technologies were used for the greatest number of distance education courses in which students in their district were enrolled: 2002–03



[1]Two-way interactive video refers to two-way video with two-way audio.
[2]Asynchronous is not simultaneous, whereas synchronous is defined as simultaneous or "real-time" interaction.
[3]Other technologies mentioned included teleconferencing, CD-ROM, and other software packages.
NOTE: Percentages are based on unrounded numbers. Percentages are based on the estimated 5,480 districts with students enrolled in distance education courses in 2002–03. 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), "Distance Education Courses for Public Elementary and Secondary School Students: 2002–03," FRSS 84, 2003.

proportion of students enrolled in online distance education courses than small districts (71 vs. 53 percent). In addition, a smaller proportion of rural districts than suburban or urban districts had students enrolled in online distance education courses (51 vs. 71 and 74 percent, respectively).

- Of those districts with students enrolled in online distance education courses, 92 percent had students accessing online courses from school, 60 percent had students accessing online courses from home, and 8 percent had students accessing online courses from some other location.[5]
- A greater proportion of large districts than medium or small districts had students accessing online distance education courses from home (77 vs. 66 and 55 percent, respectively). Furthermore, a greater proportion of medium districts than small districts had students accessing online distance education courses from home (66 vs. 55 percent). In addition, the proportion of rural districts with students accessing online distance education courses from home was less than the proportion of suburban and urban districts with students accessing online courses from home (53 vs. 67 and 78 percent, respectively). No differences were detected in online access from home by poverty concentration.
- Among districts with students accessing online distance education courses from home, 24 percent provided or paid for a computer for all students and 8 percent did so for some students. Additionally, 27 percent provided or paid for the internet service provider for all students and 7 percent did so for some students. Finally, 6 percent provided or paid for some other item (e.g., software programs, phone service for dial-up internet service) for all students and 2 percent did so for some students.

[5]Percentages sum to more than 100 because students in districts could access online courses from more than one location.

- A greater proportion of small districts than medium or large districts provided or paid for computers for all students (29 vs. 17 and 11 percent, respectively). Similarly, a greater proportion of small districts than medium or large districts provided or paid for an internet service provider for all students (32 vs. 20 and 15 percent, respectively). In addition, the proportion of rural districts that provided or paid for computers for all students was greater than the proportion of suburban or urban districts that provided or paid for computers for all students (33 vs. 16 and 9 percent, respectively).

Entities delivering distance education courses

Districts that reported offering distance education courses were asked which entities delivered distance education courses to students regularly enrolled in their district. Entities included

- a cyber (i.e., online) charter school in the district;
- other schools in the district;
- their district (i.e., delivered centrally from the district);
- another local school district, or schools in another district, in their state;
- education service agencies within their state (e.g., Board of Cooperative Educational Services [BOCES], Council on Occupational Education [COE], Intermediate Units [IU]), not including the state education agency or local school districts;
- a state virtual school in their state (i.e., state-centralized K–12 courses available through internet- or web-based methods);
- a state virtual school in another state;
- districts or schools in other states (other than state virtual schools);
- a postsecondary institution;
- an independent vendor; and
- other entities.

Districts were also asked whether they delivered distance education courses to students who were not regularly enrolled in their district (e.g., to students from other districts, private school students, or homeschooled students).

Entities delivering courses

- Of those districts with students enrolled in distance education courses in 2002–03, about half (48 percent) had students enrolled in distance education courses delivered by a postsecondary institution. Thirty-four percent of districts had students enrolled in distance education courses delivered by another local school district, or schools in other districts, within their state. Eighteen percent of districts had students enrolled in distance education courses delivered by education service agencies within their state, 18 percent by a state virtual school within their state, and 18 percent by an independent vendor. Sixteen percent of districts had students enrolled in distance education courses delivered centrally from their own district. Eight percent of districts had students enrolled in distance education courses delivered by other schools in the district (other than cyber charter schools). The proportion of school districts delivering distance education courses through various other entities ranged from 3 to 4 percent.
- A greater proportion of large districts than medium or small districts had students enrolled in distance education courses delivered by other schools in the district (28 vs. 15 and 5 percent, respectively). Medium districts also had a greater proportion of students enrolled in distance education courses delivered by other schools in the district than small districts (15 vs. 5 percent). Additionally, a greater proportion of urban districts than either suburban or rural districts had students enrolled in distance education courses delivered by other schools in the district (25 vs. 9 and 6 percent, respectively).
- A greater proportion of small districts than medium or large districts had students enrolled in distance education courses delivered by another local school district, or schools in other districts, within their state (39 percent vs. 25 and 13 percent, respectively). Furthermore, a greater proportion of medium districts than large districts had students enrolled in distance education courses delivered by another local school district, or schools in other districts, within their state (25 vs. 13 percent). Additionally, there were more rural districts than either suburban or urban districts that had students enrolled in distance education courses delivered by another local school district, or schools in other districts, within their state (40 percent vs. 25 and 20 percent, respectively).
- A smaller proportion of small districts than medium or large districts had students enrolled in distance education courses delivered by a state virtual school in their state (15 vs. 27 percent each, respectively). Additionally, a greater proportion of districts in the Southeast than in other regions had students enrolled

in distance education courses delivered by a state virtual school in their state (43 vs. 6 to 17 percent).

- A greater proportion of small districts than medium or large districts had students enrolled in distance education courses delivered by postsecondary institutions (54 vs. 30 and 33 percent, respectively). In addition, there was a smaller proportion of urban districts than suburban or rural districts that had students enrolled in distance education courses delivered by postsecondary institutions (22 vs. 44 and 53 percent, respectively).
- There was a greater proportion of large districts than small districts with students enrolled in distance education courses delivered by independent vendors (28 vs. 16 percent). Compared to rural districts, both urban and suburban districts had greater proportions of students enrolled in distance education courses delivered by independent vendors (15 vs. 29 and 23 percent, respectively).

Delivery of courses to students not regularly enrolled in the district

- During the 2002–03 12-month school year, about one-fifth (21 percent) of districts that offered distance education delivered courses to students who were not regularly enrolled in the district (e.g., to students from other districts, private school students, or homeschooled students).
- A smaller proportion of districts in the Southeast than in the Northeast or Central regions delivered distance education courses to students not regularly enrolled in the district (13 vs. 29 and 22 percent, respectively).

Reasons for having distance education courses

Districts who reported offering distance education courses were asked how important various reasons were for having distance education courses in the district in 2002–03. Reasons included offering courses not otherwise available at the school, offering Advanced Placement or college-level courses, addressing growing populations and limited space, reducing scheduling conflicts for students, permitting students who failed a course to take it again, meeting the needs of specific groups of students, and generating more district revenues.[6]

- The reason most frequently cited as very important for having distance education courses in the district was offering courses not otherwise available at the school (80 percent). Other reasons frequently cited as very important were meeting the needs of specific groups of students (59 percent) and offering Advanced Placement or college-level courses (50 percent). Reducing scheduling conflicts for students was mentioned as very important by 23 percent of districts. The remaining reasons were listed as very important by 4 to 17 percent of districts.
- Generating more district revenues as well as addressing growing populations and limited space were rated as not important more often than other reasons for having distance education courses (77 and 72 percent, respectively, vs. 9 to 64 percent).
- A greater proportion of small districts than medium or large districts rated offering courses not otherwise available at the school as a somewhat or very important reason for having distance education (93 vs. 86 and 82 percent, respectively). In addition, a greater proportion of rural districts than urban or suburban districts considered this to be a somewhat or very important reason for offering distance education courses (95 vs. 79 and 86 percent, respectively).
- A greater proportion of high-poverty districts than medium- or low-poverty districts rated meeting the needs of specific groups of students as a somewhat or very important reason for having distance education (88 vs. 79 and 80 percent, respectively).
- A greater proportion of small districts than medium or large districts rated offering Advanced Placement or college-level courses as a somewhat or very important reason for having distance education (74 vs. 54 and 59 percent, respectively). In addition, a greater proportion of rural districts than urban or suburban districts cited this as a somewhat or very important reason for having distance education (76 vs. 49 and 59 percent, respectively).
- A greater proportion of large districts than medium or small districts cited reducing scheduling conflicts for students as a somewhat or very important reason for having distance education (70 vs. 52 and 56 percent, respectively).
- A greater proportion of large districts than medium or small districts reported permitting students who failed a course to take it again as a somewhat or very important reason for having distance education (50 vs. 34 and 30 percent, respectively). In addition,

[6]Although respondents were able to specify some other reason for having distance education, the only available options for this response were somewhat important and very important. Therefore, these "other" responses are not discussed further.

a greater proportion of urban districts than suburban or rural districts cited this reason as somewhat or very important for having distance education (47 vs. 33 and 31 percent, respectively).

- A greater proportion of large districts than medium or small districts rated addressing growing populations and limited space as a somewhat or very important reason for having distance education (44 vs. 33 and 21 percent, respectively). Furthermore, a smaller proportion of small districts than medium districts rated this as a somewhat or very important reason for having distance education (21 vs. 33 percent).
- A greater proportion of high-poverty districts than low-poverty districts cited generating more district revenues as a somewhat or very important reason for having distance education (21 vs. 11 percent).

Future expansion of distance education courses

Districts that reported offering distance education courses were asked whether they planned to expand their distance education courses in the future. Those districts that planned to expand were asked about the extent to which various factors, if any, might be keeping them from expanding distance education courses. The factors included course development and/or purchasing costs; limited technological infrastructure to support distance education; concerns about course quality; restrictive federal, state, or local laws or policies; concerns about receiving funding based on student attendance for distance education courses; or some other reason.

- Seventy-two percent of districts with students enrolled in distance education courses planned to expand their distance education courses in the future. No differences were detected by district characteristics in plans to expand distance education courses.
- Costs were cited as a major factor more often than any other factor as preventing districts from expanding their distance education courses. Thirty-six percent of districts that were planning to expand their distance education courses selected course development and/or purchasing costs as a major factor preventing their expansion.
- Fifty-four percent of districts that were planning to expand their distance education courses said restrictive federal, state, or local laws or policies were not a factor preventing them from expanding. In addition, districts said the following were not factors preventing them from expanding distance education courses: limited technological infrastructure to support distance education (41 percent), concerns about receiving funding for distance education courses based on student attendance (40 percent), and concerns about course quality (30 percent).
- Among public school districts with plans to expand their distance education courses, approximately two-thirds (68 percent) said course development and/or purchasing costs were a moderate or major factor keeping the district from expanding distance education courses, followed by concerns about course quality (37 percent); concerns about receiving funding for distance education courses based on attendance (36 percent); limited infrastructure to support distance education (33 percent); restrictive federal, state, or local laws or policies (17 percent); and some other reason (10 percent) (figure 4).
- A greater proportion of urban districts than rural districts cited restrictive federal, state, or local laws or policies as a major or moderate factor preventing expansion of distance education courses (30 vs. 15 percent). Additionally, a greater proportion of urban districts than suburban or rural districts cited receiving funding based on attendance for distance education courses as a major or moderate factor preventing them from expanding (54 vs. 38 and 34 percent, respectively).
- A smaller proportion of districts in the Northeast than in other regions cited receiving funding based on attendance for distance education courses as a major or moderate factor preventing expansion (20 vs. 36 to 43 percent).

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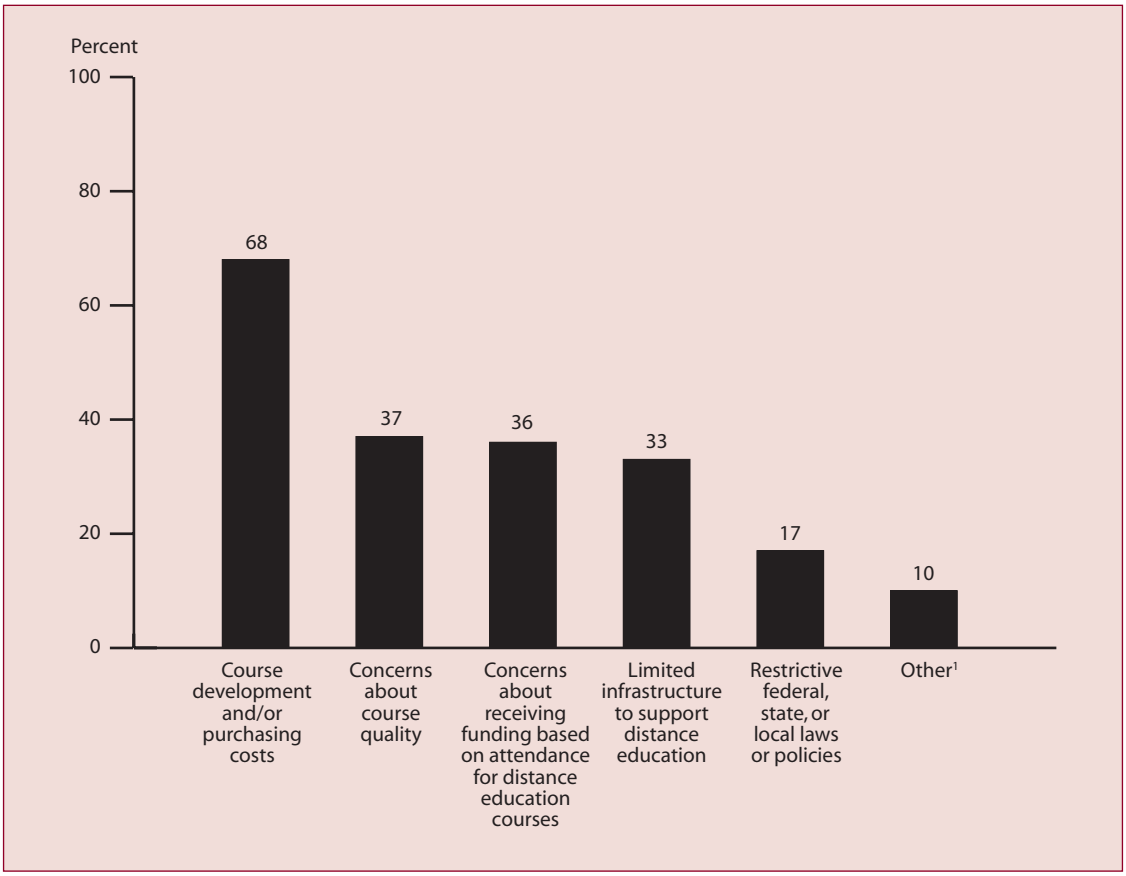
Figure 4. Percent of districts indicating that various factors were preventing them from expanding distance education courses to a moderate or major extent: 2002–03



[1]Other responses mentioned included scheduling conflicts, staffing issues, and lack of need.
NOTE: Percentages are based on unrounded numbers. Percentages are based on the estimated 3,960 districts that indicated they were planning to expand distance education courses.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Distance Education Courses for Public Elementary and Secondary School Students: 2002–03," FRSS 84, 2003.

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For technical information, see the complete report:

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Computer Technology in the Public School Classroom: Teacher Perspectives

Lawrence Lanahan and Janet Boysen

This article was originally published as an Issue Brief. The sample survey data are from the Teacher Follow-up Survey (TFS).

In recent years, U.S. public school teachers have seen the level of education technology in their schools and classrooms increase substantially. From 1994 to 2002, the percentage of public schools with access to the Internet increased from 35 to 99 percent. Furthermore, in 2001–02, 87 percent of public schools with internet access reported that professional development on how to integrate the use of the Internet into the curriculum was available to teachers (Kleiner and Lewis 2003).

Despite regular reports of increasing school-level access to computers and technology, little national-level data is available on teacher opinions regarding the availability and usefulness of the technology in their classrooms. This Issue Brief uses data from the 2000–01 Teacher Follow-up Survey (TFS) to examine teacher views on the technology in their classrooms.* Specifically, teachers reported which types of technology they considered essential for teaching and whether they felt such technology was sufficiently available in their classrooms.

Which Types of Classroom Technology Do Teachers Consider to Be Essential?

In 2000–01, teachers reported on the types of technology—regardless of availability—they considered essential for teaching. Topping the list were types of technology that reached outside the classroom. A "teacher's computer station with access to electronic mail" was most frequently reported as "essential" (68 percent) (figure 1). Following e-mail, classroom access to the World Wide Web (61 percent), a telephone in the classroom (56 percent), encyclopedias and other reference materials on CD-ROM (51 percent), and the presence of at least one computer for every four students (49 percent) were the items most frequently reported as essential. Following those items, 35 percent of teachers reported presentation software (e.g., PowerPoint) as essential. The items least frequently reported as essential were multimedia authoring programs (e.g., HyperCard), full-page scanners, and video cameras (21 percent, 20 percent, and 18 percent, respectively).

*The TFS sampling frame consists of all eligible teachers who responded to the Schools and Staffing Survey (SASS) teacher questionnaires in 1999–2000. Analyses in this Issue Brief are based on data from the 4,153 public and charter school teachers in the 2000–01 TFS sample—a subsample of those 1999–2000 SASS respondents who continued teaching—representing a target population of 3.1 million teachers. All differences discussed in this Issue Brief are statistically significant at the .05 level as measured by two-tailed Student's *t* tests. Bonferroni adjustments were made to control for multiple comparisons where appropriate.

Do Teachers Feel Technology Is Sufficiently Available in Their Classrooms?

Teachers also reported on the availability of technology in their classrooms. In 2000–01, a majority of teachers (57 percent) agreed with the statement "Computers and other technology for my classroom(s) were sufficiently available." Of all teachers, 25 percent "strongly" agreed that this was the case. However, 35 percent of all teachers disagreed with the statement, including 15 percent who "strongly" disagreed (figure 2).

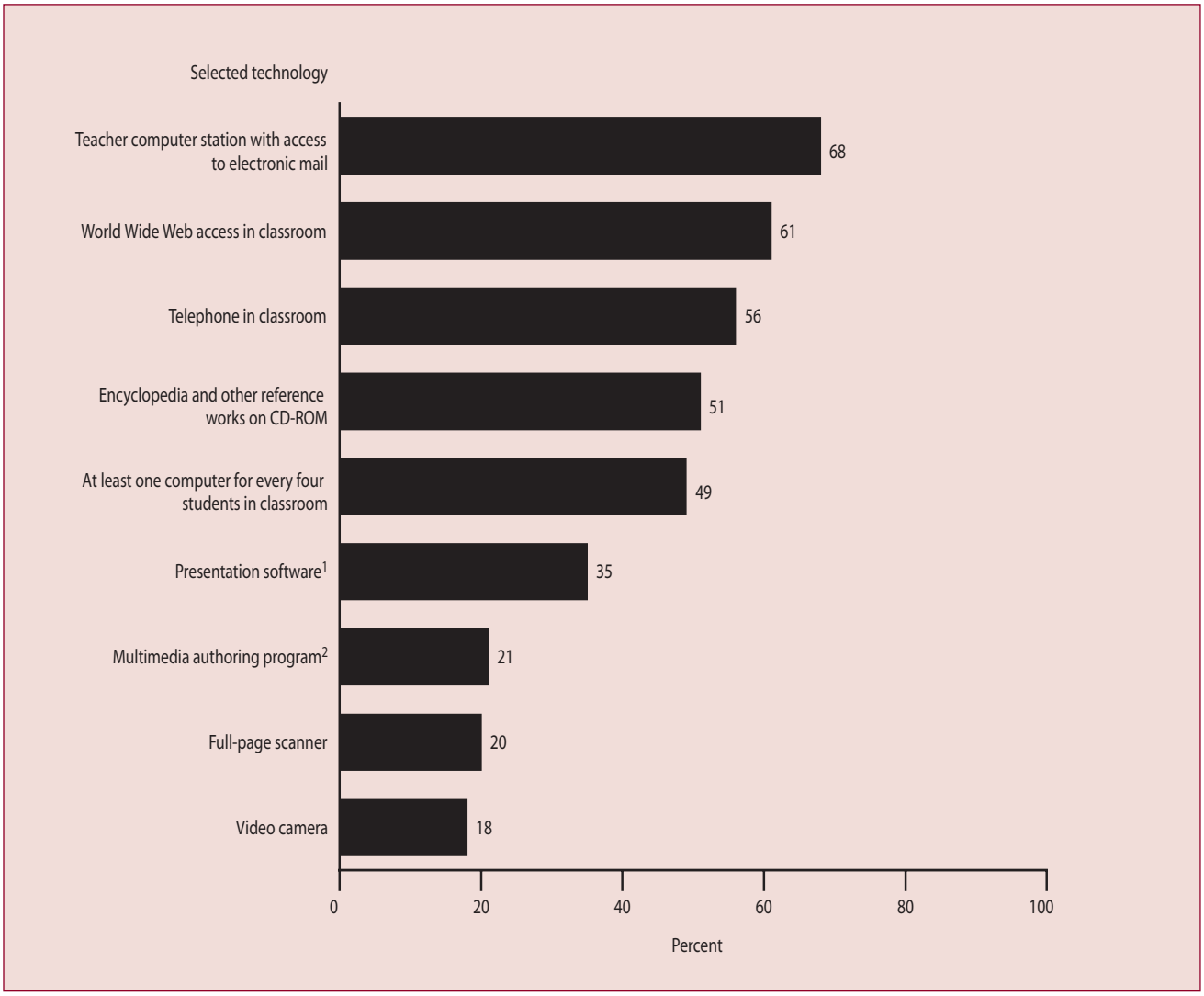
Teachers' familiarity with computers was related to whether they agreed that classroom technology was sufficiently available. Of the teachers who considered themselves "reasonably familiar and comfortable with using computers," 60 percent agreed that technology was sufficiently available in their classrooms, compared with 48 percent of those who did not report being "reasonably familiar and comfortable with using computers" (table 1). Also, teacher participation in technology-related professional development was related to views on classroom technology. Forty-seven percent of teachers who did not participate in this type of professional development agreed that classroom technology was sufficiently available, compared with 65 percent of teachers who had up to 16 hours and 61 percent of teachers who had 17 or more hours.

The presence of computers in the classroom was also related to teacher reports of sufficient availability of technology. Some 69 percent of teachers with a student-to-computer ratio of less than 4 agreed that classroom technology was sufficiently available. In contrast, 39 percent of teachers without classroom computers for students agreed that classroom technology was sufficiently available (table 1). In general, as the ratio of students to computers increased, teachers' dissatisfaction with the available classroom technology increased.

Conclusion

By presenting national data on teacher opinions on technology, this Issue Brief adds a new perspective to the literature on the proliferation of education technology. In 2000–01, technologies that allowed teachers to communicate with others or access resources outside the classroom (e-mail, the World Wide Web, and telephone) were among the most

Figure 1. Percentage of teachers who believed selected technologies were essential to their teaching: 2000–01



[1]Presentation software refers to software such as PowerPoint.
[2]Multimedia authoring program refers to software such as Hyperstudio or HyperCard.
NOTE: Standard errors are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005083.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2000–01, Questionnaire for Current Teachers.

frequently cited by teachers as being "essential" for their teaching. Most teachers reported that they found their classroom technology to be "sufficiently available." However, teachers with relatively few computers in the classroom reported sufficient availability of technology less often than teachers with more computers.

Reference

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Data source: The NCES 2000–01 Teacher Follow-up Survey (TFS).

For more information on the Teacher Follow-up Survey, visit http://nces.ed.gov/surveys/sass/overview.asp#whatstfs.

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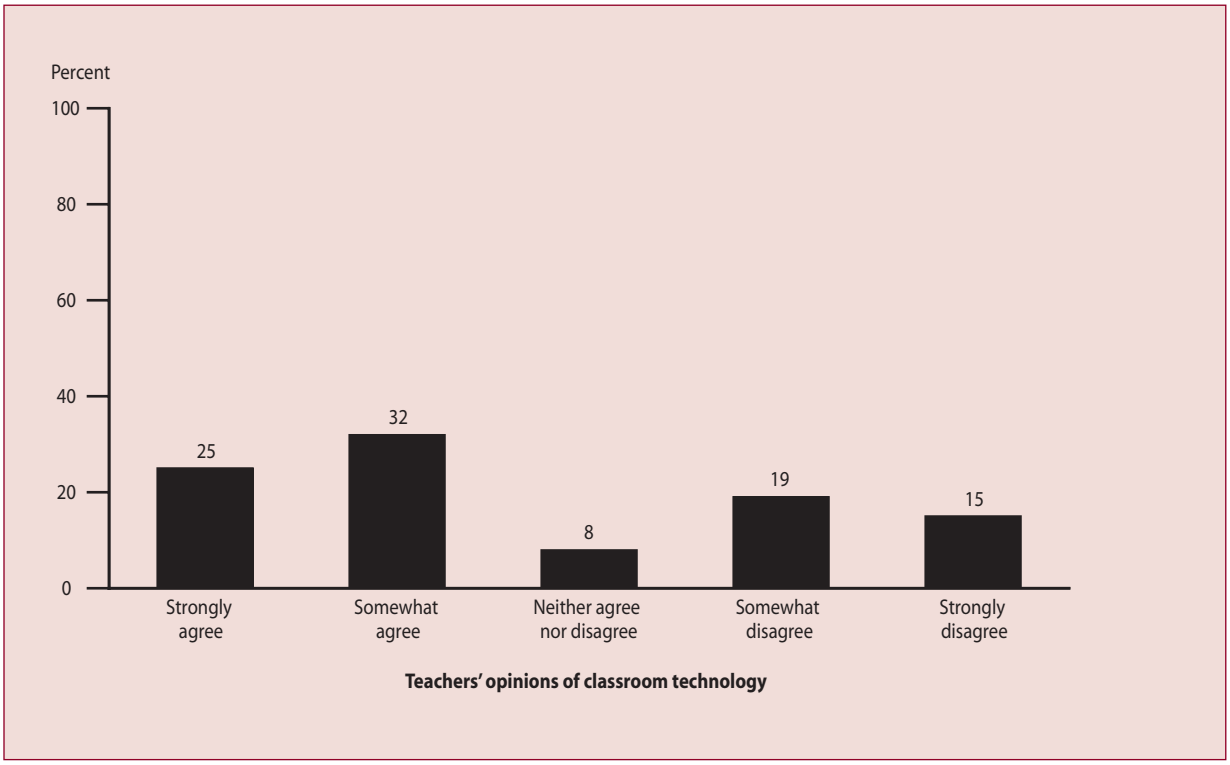
Figure 2. Percentage of teachers who agreed that computers and other technology for their classrooms were sufficiently available: 2000–01



NOTE: Standard errors are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005083.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2000–01, Questionnaire for Current Teachers.

Table 1. Percentage of teachers who agreed that computers and other technology for their classrooms were sufficiently available, by selected teacher characteristics: 2000–01

Teacher characteristic	Agree[1]	Neither agree nor disagree	Disagree[2]
Total	57	8	35
Main assignment			
Pre-K, kindergarten, and general elementary	58	7	35
Mathematics and science	62	9	29
English/language arts	59	8	33
Social science	64	5!	30
Special education	53	9	39
Foreign languages and bilingual/ESL	54	6!	40
Vocational/technical	56	8!	36
All others[3]	52	12	36
Hours of professional development for computers			
No professional development	47	10	43
Up to 16 hours	65	7	28
17 hours or more	61	8	32
Agrees with "I am reasonably familiar and comfortable with using computers"			
Strongly or somewhat agree	60	8	32
Neither agree nor disagree	53	14	33
Strongly or somewhat disagree	48	8	45
Student-to-computer ratio[4]			
With computers in classroom			
Less than 4	69	8	23
4 to less than 8	67	6	27
8 to less than 16	62	3	35
16 or greater	55	5	40
No computers in classroom	39	13!	48

! Interpret data with caution; estimates are unstable. The coefficient of variation is greater than 30 percent.
[1] Estimate combines those teachers who either "somewhat" agreed or "strongly" agreed that technology for their classrooms was sufficiently available.
[2] Estimate combines those teachers who either "somewhat" disagreed or "strongly" disagreed that technology for their classrooms was sufficiently available.
[3] Includes religion, philosophy, home economics, health, computer science, American Indian studies, military science, gifted programs, arts, physical education, remedial education, and others.
[4] The classroom student-to-computer ratio was calculated by dividing the number of students in one "typical" class, designated by the teacher within the main assignment, by the number of computers in the classroom where that designated class was taught. Teachers with no computers in the classroom were excluded from the calculation. Percentages are based on the 58 percent of teachers who reported that their students used computers during class time.
NOTE: Standard errors are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005083.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), 2000–01, Questionnaire for Current Teachers.

Qualifications of Public Secondary School Biology Teachers, 1999–2000

Daniel J. McGrath, Emily W. Holt, and Marilyn M. Seastrom

This article was originally published as an Issue Brief. The sample survey data are from the Schools and Staffing Survey (SASS).

Studies of the qualifications of elementary and secondary school teachers have focused on whether or not teachers have educational backgrounds (a postsecondary major/minor or equivalent) and state certification that match the subjects they teach (Ingersoll 1999; Seastrom et al. 2002). Teachers are described as "in field" or "out of field" based on the presence or absence of a postsecondary major and state certification in the subject taught. However, among teachers who are out of field, further analysis can show the extent to which their training is related to or distant from the field in which they teach.[1] To the extent that out-of-field teachers differ in the subjects in which they have been trained, teachers may differ in the useful knowledge they bring to instruction.

This Issue Brief introduces a measure of teacher qualifications that includes additional detail on the educational backgrounds and certifications of out-of-field teachers. The focal subject for the Issue Brief is biology/life science (called biology in this Issue Brief) at the secondary level. Biology was selected because of its high enrollment rates—in 1998, 93 percent of high school graduates had taken at least 1 year of biology at the secondary level (Roey et al. 2001). For each qualification—postsecondary major/minor and state certification—teachers are grouped first by whether or not they have the qualification in biology. Then, teachers lacking the qualification in biology are grouped by their fields of study or fields of certification. These subjects are grouped by similarity to each other in terms of subject matter and skills. The list of subjects is taken from Seastrom et al. (2002), the most recent National Center for Education Statistics (NCES) Statistical Analysis Report on out-of-field teaching.[2] Teachers are grouped first in terms of educational background and certification separately (table 1) and then grouped based on the combinations of their postsecondary majors/minors and certification (table 2). The Issue Brief makes no judgment about which subjects are further out of field than others, but provides the information that allows the reader to make such an assessment. Teachers who reported more than one nonbiology qualification are included in each group. Thus, the groups of teachers lacking biology qualifications are not mutually exclusive.

Data are drawn from the NCES 1999–2000 Schools and Staffing Survey (SASS) teacher and school surveys. The sample used in the analysis includes teachers who reported teaching predominately in the middle or high school grades (called "secondary level" in the balance of the Issue Brief) and teaching "biology or life science" to at least one student.[3] Information on teachers' qualifications and grade level and number of students is drawn from teachers' reports. Findings are reported in terms of the percentage of biology students taught by teachers of various qualifications (see also Seastrom et al. 2002).

Estimates are reported separately for students in each of four poverty categories based on the percentage of students eligible for free or reduced-price lunch. SASS schools were asked to report the number of students eligible for free and reduced-price lunch. Each category includes approximately 25 percent of the sample: less than 10 percent of students in school qualifying for free or reduced-price lunch, 10–25 percent, 25–50 percent, and more than 50 percent. This allows the Issue Brief to address the extent to which students in high- and low-poverty schools experience more or less out-of-field teaching in biology and to explore the variation of out-of-field teachers' qualifications across the settings.

Majors, Minors, and Certifications Reported Separately

What proportion of biology students has a teacher with a major or minor in biology?

About 60 percent of biology students at the secondary level in 1999–2000 were taught by teachers with a postsecondary major or minor in biology, leaving about 40 percent of students taught by teachers who were considered out of field in terms of their postsecondary education (table 1). Among this 40 percent of students, there were differences

[1]Research on biology and physics teachers has examined courses taken within science, but has not differentiated among teachers who have taken other science coursework in place of subject-specific coursework and those who have taken other science coursework in addition to subject-specific coursework; nor has other research examined coursetaking beyond science (see Wood 2002).

[2]Differences from the Seastrom et al. (2002) list are the addition of categories for "other subjects" and "no subjects" and the inclusion of arts, music, foreign languages, and bilingual education/English as a Second Language in the "other subjects" category. There were too few cases in which out-of-field biology teachers had qualifications in these subjects to provide an accurate estimate of their prevalence separate from the "other subjects" category.

[3]The sample includes 1,680 public school teachers. The analysis weighted cases using the TFNLWGT weighting variable.

Table 1. Percentage of public school students in biology classes taught by secondary-level teachers, by percentage of students in the school qualifying for free or reduced-price lunch, and by subject field of teachers' postsecondary majors, minors, and certification: Academic year 1999–2000

Teacher's subject field of major, minor, or certification	Total	Percent free/reduced-price lunch			
		<10%	10–25%	25–50%	>50%
Major or minor in biology	60.8	63.8	64.0	52.6	63.4
Major in biology	55.3	59.8	58.3	46.3	57.0
Minor in biology	5.6	4.0	5.7	6.4	6.4
No major or minor in biology	39.2	36.2	36.0	47.4	36.6
Major or minor in					
Other natural science	49.3	57.7	61.9	46.5	26.0
Elementary education	22.3	8.2!	19.0	22.0	46.2
English	3.9!	8.3	0.4!	3.3!	3.4!
Mathematics	7.8	1.8!	21.2	3.6!	5.3!
Physical education	15.4	12.0!	23.5	14.7!	10.6
Secondary education	14.9	23.0	8.8!	15.4	11.1!
Social science	11.7	12.4	9.3!	9.8	17.2
Special education	7.1	7.0	6.2	9.2	4.7!
Other subject	10.4	11.8	8.1	9.4	13.5!
No major or minor	4.7!	3.6!	#	11.8!	0.3!
Certification in biology	74.7	83.4	78.2	71.3	62.9
No certification in biology	25.3	16.6	21.8	28.7	37.1
Certification in					
Other natural science	36.6	18.0!	34.7	51.4	34.1!
Elementary education	5.7!	23.5!	0.5!	3.2!	1.7!
English	3.4!	5.7!	1.1!	5.7!	1.5!
Mathematics	7.9!	2.7!	21.9!	3.9!	3.9!
Physical education	8.3!	2.8!	3.6!	20.2!	3.2!
Social science	4.5	8.1!	3.3!	3.1!	4.6!
Special education	12.0	9.6	9.2!	9.9	18.0!
Other subject	3.2	3.7!	3.3!	1.1!	5.0!
No certification	35.5	32.9!	29.3	33.8	43.7

Rounds to zero.
! Interpret data with caution. Standard error is more than one-third as large as the estimate.
NOTE: Secondary-level teachers include teachers who taught students in grades 5–12; teachers who taught in grades 5–9 who identified themselves as elementary or special education teachers were not included. Detail may not sum to totals because of rounding. Detail below "No major or minor in biology" and "No certification in biology" do not sum to totals because they are not percentages of the table total, but percentages of the category ("No major or minor in biology" or "No certification in biology"); they do not add to 100 percent, because teachers could report majors/minors or certifications in multiple subjects. Not all apparent differences in this table are statistically significant. Standard errors are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005081.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), 1999–2000 "Public School Questionnaire," "Charter School Questionnaire," "Public Teacher Questionnaire," and "Charter Teacher Questionnaire."

across school settings in the educational backgrounds their teachers brought to the classroom. Students in the schools with the highest poverty rates were the least likely to have teachers with a major or minor in another natural science (26 percent of the more than 50 percent group, compared with 46 percent of the 25–50 percent group, 62 percent of the 10–25 percent group, and 58 percent of the less than 10 percent group). Secondary-level biology students in the highest poverty schools were more likely to have out-of-field teachers with elementary education majors or minors than those in all other types of school settings.

What proportion of biology students has a teacher with a certification in biology?

Overall, 25 percent of secondary-level biology students were taught by teachers without a state certification in biology. Students in the highest poverty schools were more likely to be taught by teachers with out-of-field certifications than were those in the two lowest school poverty categories (37 percent of the more than 50 percent group, compared with 22 percent of the 10–25 percent group and 17 percent of the less than 10 percent group).

Majors, Minors, and Certifications Reported in Combinations

Among students of teachers with a certification in biology

Fifty-two percent of secondary-level biology students had teachers with both a certification and a major or minor in biology (table 2). Students in the two lowest school poverty categories were more likely than those in the 25 to 50 percent school poverty category to have teachers with both qualifications (58 percent of the less than 10 percent group and 57 percent of the 10–25 percent group, compared with 44 percent of the 25–50 percent group).[4]

[4]In the highest poverty group, 46 percent of students had a teacher with both qualifications, but the estimate for this group had a large standard error and, as a result, apparent differences compared with the lower poverty groups are not statistically significant.

Table 2. Percentage of public school students in biology classes taught by secondary-level teachers, by percentage of students in the school qualifying for free or reduced-price lunch, and by combinations of teachers' postsecondary majors/minors and certification subject fields: Academic year 1999–2000

Teacher's combination of major/minor and certification	Total	Percent free/reduced-price lunch			
		<10%	10–25%	25–50%	>50%
Certification in biology	74.7	83.4	78.2	71.3	62.9
And major or minor in biology	51.8	57.8	57.1	44.5	46.3
Major in biology	47.4	54.7	51.7	40.2	41.4
Minor in biology	4.4	3.2	5.4	4.3	4.9!
And no major or minor in biology	22.9	25.6	21.1	26.8	16.6
Major or minor in					
Other natural science	55.5	58.5	57.2	56.3	44.9
Elementary education	17.6	4.4!	23.4!	16.2!	37.8
English	2.9!	6.0!	0.3!	2.1!	2.6!
Mathematics	4.1	0.4!	10.4!	2.5	4.1!
Physical education	19.1	14.4!	26.4	20.7!	13.0!
Secondary education	20.8	29.3	8.9!	23.8!	17.0!
Social science	12.2	11.7!	13.8!	10.4!	14.4!
Special education	5.0	4.4!	4.6!	8.3!	0.3!
Other subject	6.9	8.7!	5.4!	7.9!	3.7!
No major or minor	1.7!	5.1!	#	0.4!	#
No certification in biology	25.3	16.6	21.8	28.7	37.1
And major or minor in biology	9.0	6.0	6.9	8.2	17.1
Major in biology	7.9	5.2!	6.6	6.1	15.6
Minor in biology	1.2!	0.8!	0.3!	2.1!	1.5
And no major or minor in biology	16.3	10.6	14.9	20.6	20.0
Major or minor in					
Other natural science	40.4	55.7	68.6	33.7!	10.3!
Elementary education	29.1	17.4!	12.7!	29.7!	53.2
English	5.2!	13.7!	0.6!	5.0!	4.0!
Mathematics	13.1!	5.0!	36.6!	5.0!	6.3!
Physical education	10.2	6.3!	19.3!	6.8!	8.6!
Secondary education	6.5	7.8!	8.7!	4.5!	6.1!
Social science	10.9	14.0!	3.0!	9.0!	19.4!
Special education	10.0	13.5!	8.6!	10.4!	8.4!
Other subject	15.4	19.3!	11.9!	11.3!	21.6!
No major or minor	9.0!	#	#	26.7!	0.6!

Rounds to zero.
! Interpret data with caution. Standard error is more than one-third as large as the estimate.
NOTE: Secondary-level teachers include teachers who taught students in grades 5–12; teachers who taught in grades 5–9 who identified themselves as elementary or special education teachers were not included. Detail may not sum to totals because of rounding. Detail below "And no major or minor in biology" do not sum to totals because they are not percentages of the table total, but percentages of the category ("And no major or minor in biology"); they do not add to 100 percent, because teachers could report majors/minors or certifications in multiple subjects. Not all apparent differences in this table are statistically significant. Standard errors are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005081.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), 1999–2000 "Public School Questionnaire," "Charter School Questionnaire," "Public Teacher Questionnaire," and "Charter Teacher Questionnaire."

Among students taught by teachers who reported having in-field certification but out-of-field educational backgrounds, the most common type of postsecondary major or minor was natural science (56 percent of these students). Among the students with teachers who were certified but had out-of-field educational backgrounds, those in the highest poverty schools were more likely than those in the lowest poverty schools to have teachers with an elementary education major or minor (38 percent of the more than 50 percent group, compared with 4 percent of the less than 10 percent group).

Among students of teachers with no certification in biology

Overall, 9 percent of secondary-level biology students had a teacher who had no certification in biology but did have a major or minor in biology. This combination was more prevalent among the teachers of students in the highest poverty schools than in the two lowest school poverty categories (17 percent of the more than 50 percent group, compared with 7 percent of the 10–25 percent group and 6 percent of the less than 10 percent group).

Among all secondary-level biology students, 16 percent had teachers with neither a certification nor a major or minor in biology. For these students, those in schools in the two lowest school poverty categories were more likely than those in the highest poverty schools to have teachers with a major or a minor in a natural science (56 percent of the less than 10 percent group and 69 percent of the 10–25 percent group, compared with 10 percent of the more than 50 percent group). Also in this group, students in the highest poverty schools were more likely than those in the 10–25 percent school poverty category to have teachers with a major or minor in elementary education (53 percent of the more than 50 percent group, compared with 13 percent of the 10–25 percent group).

Conclusion

Measures of out-of-field teaching that report only the absence or presence of educational and certification qualifications provide important but incomplete information about student exposure to teachers with differing qualifications in the subjects they teach. For subjects like secondary-level biology in which close to 40 percent of students have teachers without a major or minor in the field, 25 percent have teachers without a certification in the field, and 16 percent have teachers with neither a certification nor a major or minor in the field, it is useful to examine in more detail what certifications and majors and minors these teachers actually have. This Issue Brief reported the combination of certifications and majors and minors to which secondary-level biology students are exposed and how these qualifications vary across schools with differing levels of student poverty. Students of teachers lacking a major or minor in biology in the highest poverty schools were less likely than those in all other schools to have teachers with a major or minor in another natural science and more likely than those in all other schools to have teachers with a major or minor in elementary education. Similarly, among those students with teachers who had neither a certification nor a major or minor in biology, students in the highest poverty schools were less likely than those in the two lowest school poverty categories to have a teacher with a major or minor in natural science.

Of course, certification and postsecondary education are not the only routes through which teachers can gain subject-matter expertise in the subjects they teach. Teachers may bring other professional and life experiences that provide them the subject-matter grounding needed to teach effectively; future data collections may address these issues. However, with current data, additional research could also examine if similar patterns of teacher qualifications across school settings are apparent among other subjects.

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Data source: The NCES 1999–2000 Schools and Staffing Survey (SASS).

For more information on the Schools and Staffing Survey, visit http://nces.ed.gov/surveys/sass.

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Private School Teacher Turnover and Teacher Perceptions of School Organizational Characteristics

Daniel J. McGrath and Daniel Princiotta

This article was originally published as an Issue Brief. The sample survey data are from the Schools and Staffing Survey (SASS) and the Teacher Follow-up Survey (TFS).

National studies have included both private and public school teachers in analyses of teacher turnover (Ingersoll 2001). These studies have shown that teacher turnover is associated with teacher perceptions of school organizational characteristics, including low levels of administrative support, little input into school decisions, student disciplinary problems, and insufficient salary (Ingersoll 2001). Private school teachers generally express less dissatisfaction with school organizational characteristics than do their public school counterparts (Ingersoll 2001; Holton 2003). However, teacher turnover rates are higher in private schools than in public schools; in 2000–01, 21 percent of private school teachers had switched schools or left the teaching force since the previous school year compared with 15 percent of public school teachers (Luekens, Lyter, and Fox 2004). Until recently, nationally representative data have not included sufficiently large sample sizes to allow for in-depth studies of teacher turnover in U.S. private schools.[1] Using the National Center for Education Statistics (NCES) 1999–2000 Schools and Staffing Survey (SASS) data file, this Issue Brief looks within the private sector to investigate teacher-perceived school organizational characteristics, and relationships between these characteristics and teacher turnover in Catholic, other religious, and nonsectarian private schools.

The 1999–2000 SASS data file includes school principal or head reports on teacher turnover.[2] As part of the sample selection for the Teacher Follow-up Survey (TFS), principals of elementary and secondary teachers in SASS schools in the year following SASS were asked to report whether the teachers had begun the 2000–01 school year in the same school, had moved to another school, or had left teaching entirely.[3] For the purposes of the current analysis, a teacher was defined as a "stayer" if the principal reported at the start of the 2000–01 school year that the teacher stayed in the same school as a teacher between 1999–2000 and 2000–01, a "mover" if the principal reported the teacher had changed schools, and a "leaver" if the principal reported the teacher had left the profession.[4] School organizational characteristics studied include teacher perceptions of administrative support, salary level, student discipline, and influence over classroom and school policies. Teachers were described as "low" on satisfaction if they scored among the 20 percent least satisfied on the organizational factor. Because low satisfaction was defined relatively, teachers who expressed satisfaction, but less satisfaction than others, may have been described as low on satisfaction. For example, because so few teachers reported serious student discipline problems, teachers who reported that discipline was a mild problem were described as having low satisfaction with student discipline.[5] Results are presented separately for teachers in Catholic, other religious, and nonsectarian private schools.[6]

Because SASS relies on principals for information regarding teacher turnover, a preliminary analysis compared principal and teacher reports on the teachers' turnover status for the subset of private school SASS teachers who were included in the TFS sample.[7] Agreement was sufficiently high to support use of the principal reports in the main analysis of the Issue Brief.[8]

[1]For example, the National Center for Education Statistics (NCES) Teacher Follow-Up Survey (TFS), a nationally representative survey often used to study teacher turnover, included about 1,600 private school teachers in 2001. This Issue Brief uses the NCES 1999–2000 Schools and Staffing Survey (SASS) dataset, which included, for the first time, teacher turnover between the 1999–2000 and 2000–01 school years, as reported by school principals. This dataset included approximately 7,000 private school teachers.

[2]The analyses in this Issue Brief are based on a sample of 7,057 teachers who completed the SASS Private School Teacher Questionnaire. When weighted using the TFNLWGT weighting variable, this sample is representative of U.S. private elementary and secondary school teachers during the 1999–2000 school year.

[3]This information was used to develop the sample for the 2001 TFS. Principals may have been new to the school in 2000–01.

[4]Teachers whose status was listed as unknown, deceased, or living outside the United States were not included. Altogether, there were 41 such teachers. Teachers who moved to administrative positions were considered leavers.

[5]Detailed descriptions of the school organization variables used in the analysis are included in the notes to table 1. Because of the distribution of teachers' scores on the variables, not all the variables included exactly 20 percent of all teachers; the range was between 18 and 34 percent. On tests of internal reliability, the standardized Cronbach's Alpha was 0.86 for the composite measure of satisfaction with administrative support, 0.84 for schoolwide influence, 0.78 for classroom influence, and 0.77 for student discipline.

[6]All findings presented in this Brief are descriptive in nature. All differences discussed are statistically significant at the .05 level as measured by two-tailed Student's *t* tests.

[7]This analysis was based on a sample of 1,631 teachers who participated in both SASS and TFS and whose SASS school principal reported the teacher as a stayer, mover, or leaver at the start of the 2000–01 school year.

[8]In 97 percent of the cases in which private school principals reported teachers had stayed in the same school across the 1999–2000 and 2000–01 school years, teachers also reported they had stayed. When principals reported teachers as being in the mover or leaver category, 92 percent of teachers agreed. A second way of assessing principals' accuracy is to look at teacher reports and see how often principal reports agreed. In 98 percent of the cases in which teachers reported they had stayed, principals had also reported the teachers stayed. In 87 percent of the cases in which teachers reported they had moved or left, principals had also reported the teachers moved or left.

Private School Type, School Organizational Characteristics, and Teacher Turnover

According to principal reports, between the 1999–2000 and 2000–01 school years, 19 percent of Catholic school teachers, 23 percent of other religious school teachers, and 21 percent of nonsectarian school teachers changed schools or left the teaching profession (not shown in tables). Table 1 presents the percentage of private school teachers who reported relatively low levels of administrative support and satisfaction with salary, relatively greater problems with student behavior at school, and relatively low levels of classroom and schoolwide influence by teachers' private school type and turnover status. The teacher reports on organizational characteristics are from 1999–2000.

Consistent with prior research (Ingersoll 2001), private school teachers who were reported to have left their schools (movers and leavers) were more likely than stayers to report relatively low levels of administrative support, satisfaction with salary, student discipline, control over classroom policies, and input in school policies. These relationships held within each of the private school types. There were differences, however, across private school type in terms of the percentage of all teachers, stayers, and movers and leavers who reported relatively low levels of organizational characteristics examined in this Issue Brief.

Teachers in Catholic schools were more likely than others to report strong dissatisfaction regarding their salary (48 percent compared with 23 percent of other religious and 31 percent of nonsectarian school teachers). They also were more likely to report relatively low levels of input at the school level (23 percent in low category compared with 19 percent of other religious and 13 percent of nonsectarian school teachers).

A greater percentage of teachers at private schools designated as "other religious schools" reported relatively low levels of classroom input (22 percent) than did those teaching in nonsectarian (15 percent) or Catholic (17 percent) schools. They were less likely than others to report relatively low administrative support (16 percent compared with 22 percent of Catholic and 23 percent of nonsectarian school teachers), satisfaction with salary, and student discipline (18 percent compared with 21 percent of Catholic and 27 percent of nonsectarian school teachers).

Teachers in nonsectarian schools were more likely to report relatively low levels of student discipline than teachers in other private schools. They were also less likely than teachers in other types of private schools to report relatively low levels of input schoolwide and less likely than teachers in other religious schools to report relatively low levels of input in their own classrooms.

In some cases, differences among the private school types were such that stayers in one private school type were at least as likely as movers and leavers in another private school type to express relatively low levels of certain organizational factors. For example, a higher percentage of Catholic school stayers reported strong dissatisfaction with salary (46 percent) than did movers or leavers from other religious schools (27 percent), and there was no statistically significant difference between Catholic school stayers and nonsectarian school movers and leavers (40 percent). Nonsectarian stayers (29 percent) were not significantly different from other religious school movers and leavers (27 percent) in reports of strong dissatisfaction with salary. Similarly, nonsectarian stayers were not significantly different from movers and leavers in Catholic and other religious schools in their likelihood of reporting relatively low student discipline (25 percent of nonsectarian stayers compared with 24 percent of Catholic and 22 percent of other religious movers and leavers).

Conclusion

In a study of teacher turnover in U.S. private schools between the 1999–2000 and 2000–01 school years, within each private school type (i.e., Catholic, other religious, and nonsectarian), teachers who left their school or the profession (movers and leavers) were more likely to report relatively low levels of administrative support, satisfaction with salary, student discipline, and teacher input in classroom and school decisions than were those who remained in the same school (stayers). The percentage of all teachers, stayers, and movers and leavers who reported relatively low levels of organizational characteristics varied across private school type.

By employing principal reports, this Issue Brief's analysis of teacher turnover took advantage of the large 1999–2000 SASS sample, which allowed for analysis of teachers by private school type.

Table 1. Percentage of private school teachers reporting relatively low levels of administrative support, satisfaction with salary, student discipline, and teacher input in classroom and school decisions, by turnover status and private school type: 1999–2000 to 2000–01

Private school type and teacher perceptions of school organizational factors	All teachers	Stayers	Movers and leavers
All private sector			
Low administrative support[1]	20.0	17.9	28.2
Low salary[2]	34.0	32.5	39.9
Poor student discipline[3]	21.1	20.0	25.6
Low teacher input in classroom decisions[4]	18.1	16.3	25.3
Low teacher input in school decisions[5]	18.9	17.6	24.2
Catholic			
Low administrative support[1]	21.5	19.8	29.9
Low salary[2]	47.5	45.7	56.1
Poor student discipline[3]	20.7	19.9	24.3
Low teacher input in classroom decisions[4]	16.6	15.2	22.9
Low teacher input in school decisions[5]	23.0	21.9	28.6
Other religious			
Low administrative support[1]	16.3	13.9	24.6
Low salary[2]	23.1	21.9	27.4
Poor student discipline[3]	17.8	16.5	22.3
Low teacher input in classroom decisions[4]	21.7	20.2	27.0
Low teacher input in school decisions[5]	19.0	17.6	24.0
Nonsectarian			
Low administrative support[1]	23.3	21.2	32.3
Low salary[2]	30.8	28.5	40.3
Poor student discipline[3]	26.8	25.2	33.4
Low teacher input in classroom decisions[4]	14.8	12.3	25.4
Low teacher input in school decisions[5]	12.6	11.2	18.3

[1]Teachers were described as reporting low administrative support if their mean response (on a scale from 1 = *strongly disagree* to 4 = *strongly agree*) was below the cut-off score closest to the 20th percentile for private school teachers with respect to the statements: the principal lets staff members know what is expected of them; the school administration's behavior toward the staff is supportive and encouraging; my principal enforces school rules for student conduct and backs me up when I need it; the principal knows what kind of school he/she wants and has communicated it to the staff; and in this school, staff members are recognized for a job well done. The cut-off score was 3.0 out of 4.0. To put this in context, the average score was 3.4 for private school teachers and 3.2 for public school teachers.
[2]Teachers were described as reporting low salary if their response (on a scale from 1 = *strongly disagree* to 4 = *strongly agree*) was at or below the cut-off score closest to the 20th percentile for private school teachers on the statement: I am satisfied with my salary. The cut-off score was 1.0 out of 4.0. To put this in context, the average score was 2.8 for private school teachers and 2.9 for public school teachers.
[3]Teachers were coded as reporting poor student discipline in their school if their mean response (on a scale from 1 = *serious problem* to 4 = *not a problem*) was below the cut-off score closest to the 20th percentile for private school teachers on a list of potential school problems: students cutting class; physical conflicts among students; robbery or theft; vandalism of school property; student possession of weapons; and student disrespect for teachers. The cut-off score was 3.5 out of 4.0. To put this in context, the average score was 3.6 for private school teachers and 3.2 for public school teachers.
[4]Teachers were described as reporting low classroom input if their mean response (on a scale from 1 = *no control* to 5 = *complete control*) was below the cut-off score closest to the 20th percentile for private school teachers on a set of questions concerning control over their job: selecting textbooks and other instructional materials; selecting content, topics, and skills to be taught; selecting teaching techniques; evaluating and grading students; disciplining students; and determining the amount of homework to be assigned. The cut-off score was 3.83 out of 5.0. To put this in context, the average score was 4.3 for private school teachers and 4.0 for public school teachers.
[5]Teachers were described as reporting low schoolwide input if their mean response (on a scale from 1 = *no influence* to 5 = a *great deal of influence*) was below the cut-off score closest to the 20th percentile for private school teachers on a set of questions concerning their influence: setting performance standards for students of this school; establishing curriculum; determining the content of in-service professional development programs; evaluating teachers; hiring new full-time teachers; setting discipline policy; and deciding how the school budget will be spent. The cut-off score was 2.14 out of 5.0. To put this in context, the average score was 2.8 for private school teachers and 2.5 for public school teachers.
NOTE: Not all apparent differences in this table are statistically significant. Standard errors are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005061.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Private Teacher Questionnaire," 1999–2000.

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Data sources: The NCES 1999–2000 Schools and Staffing Survey (SASS) and the 2000-01 Teacher Follow-up Survey (TFS).

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For more information about SASS, visit http://nces.ed.gov/surveys/sass.

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Parent and Family Involvement in Education: 2002–03

Nancy Vaden-Kiernan and John McManus

This article was originally published as the Highlights of the E.D. TAB of the same name. The sample survey data are from the Parent and Family Involvement in Education Survey of the National Household Education Surveys Program (PFI-NHES).

This report presents data on parents' and families' involvement in their children's education in the United States. The data are from the Parent and Family Involvement in Education Survey of the 2003 National Household Education Surveys Program (PFI-NHES:2003). The survey was completed by parents of over 12,000 children in kindergarten through grade 12. Data highlights are shown below, along with examples of questions for each topic area of the questionnaire.

The NHES:2003 sample was selected using random digit dial (RDD) methods, and the data were collected using computer-assisted telephone interviewing (CATI) technology. The sample for the 2003 survey is nationally representative of all children in kindergarten through grade 12 enrolled in regular school or homeschooled in the 50 states and the District of Columbia. A screener was used to collect information on household composition and interview eligibility. Screener interviews had a weighted screener unit response rate of 65 percent. In households with one eligible child, the child was selected for PFI with certainty. In households with two eligible children, both were selected for PFI with certainty. If there were more than two eligible children or youth, then two were sampled with equal probability. The parent interview had a weighted unit response rate of 83 percent using base weights. The overall unit response rate for the Parent and Family Involvement in Education Survey in 2003 was 54 percent. A unit nonresponse bias analysis was undertaken for NHES:2003 (see Montaquila, Brick, and Brock forthcoming). The analysis of unit nonresponse bias showed no evidence of bias in estimates computed with nonresponse adjusted weights from PFI-NHES:2003.

The results presented below were chosen to highlight some of the findings in the tables. To test the differences between estimates, Student's *t* statistics were calculated. All differences reported were significant at the .05 level. (More information about the statistical test used is in the Technical Notes section of the full report, along with a discussion of sampling methodology.)

Many of the tables include estimates for students in kindergarten through grade 12. However, some tables are divided into estimates for students in kindergarten through grade 5 or in grades 6 through 12. This is because for some topic areas (e.g., home activities), different questions were asked of parents of younger children than of parents of older children. Similarly, while a common set of selected school, household, and student characteristics is repeated across most tables, there are occasional variations in either the characteristics, the population, or both that are designed to fit particular data items. Students who were homeschooled were excluded from all of the tables.

School Practices Encouraging Parents' Involvement

Parents were asked about school communication with families, such as sending the family personal notes or e-mails specifically about their child; sending newsletters, memos, or notices; and calling the family on the telephone. Parents were also asked about school practices to provide information to parents, such as information about their child's performance and their opportunities to volunteer at the school.

- As the student's grade level increased, relatively fewer parents reported that schools sent home notes or e-mails. Relatively more parents of fourth- and fifth-graders reported that schools sent home notes or e-mails specifically about their children (55 percent) than parents of students in sixth to eighth grade (49 percent). Similarly, more parents of students in 6th to 8th grade reported that schools sent home notes or e-mails specifically about their children (49 percent) than parents of students in 9th and 10th grade (42 percent).

Parents' Involvement in Their Children's School

Parents were asked if they had attended a general school meeting, a regularly scheduled parent-teacher conference, or a school or class event. They were also asked if they had acted as a volunteer or served on a school committee and if they had participated in fundraising for the school.

- The percentage of students in kindergarten through grade 12 whose parents reported (in a single-item question) that they had acted as a volunteer at their children's schools or served on a school committee was higher for students in private schools that were either church related or not church related (70 and 63 percent) than for students in public schools that were either assigned or selected by parents* (38 and 40 percent) (table A).

*The analysis in this report divides private school students into those attending private, church-related and private, not church-related schools. Public school students are divided into those attending public assigned and public chosen schools.

Table A. Percentage of students in grades K through 12 whose parents reported participation in school-related activities, by activity type and selected characteristics: 2002–03

Characteristic	Number of students in grades K through 12 (thousands)	Participation in school activities by parent or other household member: Attended a general school meeting	Attended regularly scheduled parent-teacher conference	Attended a school or class event	Acted as volunteer or served on school committee	Participated in school fundraising
Total	51,388	88	77	70	42	62
School type						
Public, assigned	37,875	87	75	68	38	60
Public, chosen	7,915	85	80	66	40	61
Private, church-related	4,317	96	87	88	70	84
Private, not church-related	1,280	95	84	80	63	63
School schedule						
Traditional	47,768	88	77	71	42	63
Year-round	3,620	84	82	60	35	49
Household poverty status						
Above poverty level	41,418	90	78	73	45	66
At or below poverty level	9,970	79	75	57	27	46
Parents' highest education level						
Less than high school	3,638	70	68	42	16	33
High school graduate or equivalent	12,891	84	75	62	30	56
Vocational/technical education after high school or some college	16,186	89	78	70	39	63
College graduate	9,877	93	80	80	55	70
Graduate or professional school	8,797	93	79	80	60	71
Parents' language						
Both/only parent(s) speak(s) English	45,505	89	77	72	44	65
One of two parents speaks English	1,090	83	79	62	31	44
No parent speaks English	4,793	79	78	52	21	34
Student's grade level[1]						
K–1st grade	7,823	93	92	71	54	70
2nd–3rd grade	7,696	94	91	77	53	70
4th–5th grade	8,368	94	91	78	50	70
6th–8th grade	12,170	88	75	70	35	61
9th–10th grade	7,783	83	59	63	30	50
11th–12th grade	7,543	74	53	59	31	50
Student's race/ethnicity						
White, non-Hispanic	31,931	89	76	74	48	67
Black, non-Hispanic	8,165	89	79	63	32	59
Hispanic	8,250	83	78	61	28	45
Asian or Pacific Islander, non-Hispanic	1,453	89	78	65	34	61
Other, non-Hispanic	1,588	87	78	72	40	57
Student's sex						
Male	26,328	87	78	67	41	59
Female	25,060	88	76	73	42	65

See notes at end of table.

Table A. Percentage of students in grades K through 12 whose parents reported participation in school-related activities, by activity type and selected characteristics: 2002–03—Continued

Characteristic	Number of students in grades K-through 12 (thousands)	Participation in school activities by parent or other household member: Attended a general school meeting	Attended regularly scheduled parent-teacher conference	Attended a school or class event	Acted as volunteer or served on school committee	Participated in school fundraising
Student experiences in school						
Student participated in school activities	29,616	91	78	84	48	69
Teacher or school contacted parent about behavior problems	9,856	86	83	63	34	55
Teacher or school contacted parent about schoolwork problems	13,307	88	83	67	36	59
Student grades or marks[2]						
Mostly A's or excellent	20,868	91	77	78	50	69
Mostly B's or above average	18,673	87	76	69	40	61
Mostly C's or average	9,785	82	78	60	32	53
Mostly D's or lower, or below average or failing	2,062	81	81	43	21	43

[1]Students whose parents reported that their classes were "ungraded" were excluded from the analyses of grade level.
[2]Parents were asked whether overall, across all subjects, the student got mostly A's, mostly B's, mostly C's, mostly D's or lower, or whether the student's school did not give those grades. If the student's school did not give letter grades (e.g., A, B, C), parents were asked whether they would describe the student's work at school as excellent, above average, average, below average, or failing. The two questions about grades or marks were combined for the table.
NOTE: Students who were homeschooled were excluded from the table. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Parent and Family Involvement in Education Survey of the 2003 National Household Education Surveys Program (PFI-NHES:2003). (Originally published as table 3 on pp. 11–12 of the complete report from which this article is excerpted.)

- The percentage of students whose parents had attended a general school meeting was higher in households where parents had completed higher levels of education. Specifically, the percentage of students whose parents reported that they had attended a general school meeting was higher for children whose parents had attended graduate or professional school (93 percent) or completed college (93 percent) than for children whose parents had completed only a high school education or the equivalent (84 percent), and children whose parents had completed less than a high school education (70 percent) (table A).

Parents' Involvement in Their Children's Homework

Parents were asked about the frequency with which the student did homework at home and the number of hours the student spent doing homework. They were also asked if there is a place in their home set aside for the student to do homework, if an adult in the household checks that homework is done, and the number of days per week that persons inside or outside the household help with homework.

- In kindergarten through grade 12, 95 percent of children had parents who reported they assisted with homework. In addition, 85 percent of children in kindergarten through grade 12 had parents who reported that an adult in the household checked that homework was done.
- Overall, 90 percent of students in kindergarten through grade 12 had a place in their homes set aside for doing homework. Relatively fewer children of parents with less than a high school diploma had a place in their homes set aside for homework (80 percent), compared to children whose parents had completed a high school education or more—90 percent for high school education or the equivalent, 91 percent for vocational/technical education after high school or some college, 89 percent for completed college, and 92 percent for attended graduate or professional school.

Parents' Involvement With Their Children in Nonschool Activities

Parents of students in kindergarten through grade 3 were asked how often someone in the family had read to the student

in the past week. Parents of students in kindergarten through grade 12 were asked about home activities with the student in the past week and outings with the student in the past month.

- In kindergarten through grade 5, the percentage of students whose parents reported they had played sports, active games, or exercised with them increased as parents' education level increased. Specifically, the percentage of students in kindergarten through grade 5 whose parents reported that they had played sports, active games, or exercised with their children was lower for children whose parents had completed less than a high school education (68 percent) than for children whose parents' highest educational attainment was a high school education or the equivalent (77 percent), children whose parents had completed vocational or technical education after high school or some college (80 percent), children whose parents had completed college (84 percent), and children whose parents had attended graduate or professional school (87 percent).
- The percentage of students in kindergarten through grade 12 whose parents reported taking them to a public library in the past month was higher for Asian students (65 percent) than for White, non-Hispanic (41 percent), Black, non-Hispanic (49 percent), or Hispanic students (44 percent).

Student Experiences With Their Schools

Parents were asked about the extent to which they agreed or disagreed with statements about whether the student finds his or her schoolwork challenging, whether the student enjoys school, whether most students and teachers in the student's school respect each other, and whether the school makes it easy for the family to be involved.

- The percentage of students in kindergarten through grade 12 whose parents reported that they "strongly agreed" that the student's school makes it easy for the family to be involved was higher for students in households above the poverty level (45 percent) than for students in households at or below the poverty level (35 percent).

Parents' Expectations and Planned Financial Support for Their Children's Postsecondary Education

Parents were asked about the highest education level they expected their children to attain. Those who expected their children to continue education after high school were also asked questions about their plans to help pay for their children's education after high school.

- The percentage of students in kindergarten through grade 12 whose parents expected their children to earn a graduate or professional degree was higher among students in private schools that were not church related (48 percent) than in other types of private and public schools (28 to 41 percent) (table B).
- Among students in kindergarten through grade 12 whose parents expected them to continue their education after high school, the percentage whose parents planned to help pay for their children's postsecondary education was higher in households where parents had completed higher levels of education. Specifically, the percentage of students whose parents reported that they planned to help their children pay for education after high school was higher for children whose parents had attended graduate or professional school (93 percent) or completed college (91 percent) than for children whose parents' highest educational attainment was vocational or technical education after high school or some college (81 percent), children whose parents had completed only a high school education or the equivalent (75 percent), and children whose parents had completed less than a high school education (59 percent) (table B).

Student Activities in and out of School

Parents were asked whether the student participated in school activities. They were also asked about student participation in a variety of out-of-school activities, such as music lessons, sports, and educational programs.

- In kindergarten through grade 12, the percentage of students who reportedly participated in school activities increased as parents' education level increased. Specifically, the percentage of students in kindergarten through grade 12 whose parents reported that their children participated in school activities was higher for students whose parents had attended or completed graduate or professional school (70 percent) than for students whose parents' highest level of education completed was a vocational or technical education after high school or some college (58 percent), only a high school education or the equivalent (49 percent), and less than a high school education (35 percent).

Parents' Satisfaction With School

Parents were asked how well the school did at providing information in various areas related to the child and the school (e.g., their child's performance, opportunities to volunteer at the school). Parents were also asked about

Table B. Percentage of students in grades K through 12 whose parents reported educational expectations and plans to help pay for education after high school, by educational attainment expectation and selected characteristics: 2002–03

Characteristic	Number of students in grades K through 12 (thousands)	Parent expects student to . . .						Family plans to help pay for student education after high school[1]
		Receive less than a high school diploma	Graduate from high school	Attend vocational or technical school after high school	Attend 2 or more years of college	Finish 4- or 5-year college degree	Earn a graduate or professional degree	
Total	51,388	#	7	7	16	39	30	83
School type								
Public, assigned	37,875	#	8	8	17	39	28	82
Public, chosen	7,915	1	9	7	16	35	33	79
Private, church-related	4,317	#	2	2	9	45	41	91
Private, not church-related	1,280	1!	6	6	7	32	48	92
School schedule								
Traditional	47,768	#	7	7	15	39	31	83
Year-round	3,620	1!	11	8	17	34	29	66
Household poverty status								
Above poverty level	41,418	#	6	7	15	41	32	86
At or below poverty level	9,970	1	15	9	20	30	26	64
Parents' highest education level								
Less than high school	3,638	1!	23	10	20	27	20	59
High school graduate or equivalent	12,891	1	14	11	25	30	20	75
Vocational/technical education after high school or some college	16,186	#	6	9	18	39	27	81
College graduate	9,877	#	2	3	8	55	33	91
Graduate or professional school	8,797	#	1	3	4	38	54	93
Parents' language								
Both/only parent(s) speak(s) English	45,505	#	7	8	16	39	29	85
One of two parents speaks English	1,090	0	6	4	14	27	49	66
No parent speaks English	4,793	1!	9	4	10	36	41	61
Student's grade level[2]								
K–1st grade	7,823	#	6	4	13	44	34	†
2nd–3rd grade	7,696	#	7	5	15	40	33	†
4th–5th grade	8,368	#	7	7	16	39	30	†
6th–8th grade	12,170	#	8	8	15	37	31	83
9th–10th grade	7,783	1	10	10	17	35	27	82
11th–12th grade	7,543	1!	7	11	17	38	27	83
Student's race/ethnicity								
White, non-Hispanic	31,931	1	7	8	15	42	27	87
Black, non-Hispanic	8,165	#	9	7	17	30	36	76
Hispanic	8,250	#	8	6	16	36	34	72
Asian or Pacific Islander, non-Hispanic	1,453	#	2!	1!	9	30	56	76
Other, non-Hispanic	1,588	1!	10	8	20	31	29	85
Student's sex								
Male	26,328	1	9	10	15	38	28	82
Female	25,060	#	6	5	16	39	33	83

See notes at end of table.

Table B. Percentage of students in grades K through 12 whose parents reported educational expectations and plans to help pay for education after high school, by educational attainment expectation and selected characteristics: 2002–03—Continued

Characteristic	Number of students in grades K through 12 (thousands)	Parent expects student to …						
		Receive less than a high school diploma	Graduate from high school	Attend vocational or technical school after high school	Attend 2 or more years of college	Finish 4- or 5-year college degree	Earn a graduate or professional degree	Family plans to help pay for student education after high school[1]
Student grades or marks[3]								
Mostly A's or excellent	20,868	#	3	2	9	40	45	85
Mostly B's or above average	18,673	#	6	7	19	43	24	83
Mostly C's or average	9,785	1	16	14	22	31	15	76
Mostly D's or lower, or below average or failing	2,062	5	25	23	17	20	10	75

† Not applicable.
# Rounds to zero.
! Interpret data with caution.
[1]This question was only asked of parents of children in grades 6 through 12 who expected their children to continue education after high school.
[2]Students whose parents reported that their classes were "ungraded" were excluded from the analyses of grade level.
[3]Parents were asked whether overall, across all subjects, the student got mostly A's, mostly B's, mostly C's, mostly D's or lower, or whether the student's school did not give those grades. If the student's school did not give letter grades (e.g., A, B, C), parents were asked whether they would describe the student's work at school as excellent, above average, average, below average, or failing. The two questions about grades or marks were combined for the table.
NOTE: Students who were homeschooled were excluded from the table. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Parent and Family Involvement in Education Survey of the 2003 National Household Education Surveys Program (PFI-NHES:2003). (Originally published as table 10 on pp. 33–34 of the complete report from which this article is excerpted.)

their satisfaction with the school, their children's teachers in 2002–03, the academic standards of the school, and order and discipline at the school. In addition, parents were asked about the amount of homework assigned and the amount of standardized testing at the school.

- The percentage of students in kindergarten through grade 12 whose parents reported their children's school did "very well" at providing information about the student's performance was lower among students in public, assigned schools (58 percent) than in public schools selected by parents and private schools (64 to 76 percent).
- The percentage of students in kindergarten through grade 12 whose parents reported being "very satisfied" with their school was higher for students whose parents had graduated from college (64 percent) or attended graduate or professional school (64 percent) than for students whose parents' highest education was a high school education or the equivalent (59 percent) or less than a high school education (56 percent).

School Choice

Parents of public school students were asked if their children were in a regularly assigned school or a school that they chose. They were also asked whether the family had moved to the neighborhood so that the student would be eligible for the school.

- The percentage of public school students in kindergarten through grade 12 whose parents reported that their children attended a public school of choice was higher for Black, non-Hispanic students (25 percent) and Asian or Pacific Islander, non-Hispanic students (22 percent) than for White, non-Hispanic students (13 percent) (table C). The percentage of public school students in kindergarten through grade 12 whose parents reported their children attended a public school of choice was also higher for Black, non-Hispanic students (25 percent) than for Hispanic students (14 percent).
- The percentage of public school students in kindergarten through grade 12 whose parents reported they moved to the neighborhood so that their child would be eligible for the school was higher for students

Table C. Percentage distribution of public school students in grades K through 12 by school choice and percent of students whose families moved to neighborhood for students to attend school, by household and student characteristics: 2002–03

Characteristic	Number of students in grades K through 12 (thousands)	Enrollment by school choice			Family moved to neighborhood so student eligible for school
		Student is in assigned school	Student is in chosen school	Student's assigned school is school of choice	
Total	45,790	83	15	2	26
Household poverty status					
Above poverty level	36,181	83	15	2	27
At or below poverty level	9,609	82	17	2	22
Parents' highest education level					
Less than high school	3,535	80	18	2!	22
High school graduate or equivalent	12,262	83	15	2	24
Vocational/technical education after high school or some college	14,822	83	15	2	24
College graduate	8,144	83	14	2	29
Graduate or professional school	7,028	83	16	2	35
Parents' language					
Both/only parent(s) speak(s) English	40,298	83	16	2	26
One of two parents speaks English	991	76	22	3!	30
No parent speaks English	4,501	85	13	1	29
Student's grade level[1]					
K–1st grade	6,798	82	16	2	26
2nd–3rd grade	6,770	81	17	2	26
4th–5th grade	7,436	81	16	2	27
6th–8th grade	10,903	84	15	1	27
9th–10th grade	7,058	83	15	2	24
11th–12th grade	6,819	85	14	1	27
Student's race/ethnicity					
White, non-Hispanic	27,955	85	13	2	28
Black, non-Hispanic	7,472	74	25	1	19
Hispanic	7,672	84	14	2	26
Asian or Pacific Islander, non-Hispanic	1,252	78	22	#	33
Other, non-Hispanic	1,439	79	21	1!	19
Student's sex					
Male	23,496	83	15	2	26
Female	22,295	83	15	2	26

Rounds to zero.
! Interpret data with caution.
[1]Students whose parents reported that their classes were "ungraded" were excluded from the analyses of grade level.
NOTE: Students who were homeschooled were excluded from the table. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Parent and Family Involvement in Education Survey of the 2003 National Household Education Surveys Program (PFI-NHES:2003). (Originally published as table 14 on p. 49 of the complete report from which article is excerpted.)

whose parents had graduated from college (29 percent) or attended graduate or professional school (35 percent) than for children whose parents had completed vocational or technical education after high school or some college (24 percent), children whose parents' highest education was a high school education or the equivalent (24 percent), or children whose parents had less than a high school education (22 percent) (table C).

Services Provided for Students With Disabilities

Parents of students with disabilities were asked about the sources of services received for their children's special health needs (e.g., the local school district, a doctor, a clinic, or other health care provider), Individualized Education Program (IEP) services, and their children's participation in special education.

- The percentage of students with disabilities in kindergarten through grade 12 whose parents reported that their children received services through an IEP and that the family worked with the school to develop or change the student's IEP was lowest for students whose parents did not have a high school diploma (71 percent) and highest for students whose parents had attended graduate or professional school (96 percent).
- The percentage of students with disabilities in kindergarten through grade 12 whose parents reported that their children received services through an IEP and that the family worked with the school to develop or change the student's IEP was higher for White, non-Hispanic students (92 percent) than for Black, non-Hispanic students (81 percent), and higher for both White, non-Hispanic (92 percent) and Asian or Pacific Islander, non-Hispanic students (93 percent) than for Hispanic students (75 percent).

Reference

Montaquila, J.M., Brick, J.M., and Brock, S.P. (forthcoming). *Potential Nonresponse Bias in Estimates From the National Household Education Surveys Program of 2003*. U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Data source: The Parent and Family Involvement in Education Survey of the 2003 National Household Education Surveys Program (PFI-NHES:2003).

For technical information, see the complete report:

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To obtain the complete report (NCES 2005-043), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Dual Enrollment of High School Students at Postsecondary Institutions: 2002–03

Brian Kleiner and Laurie Lewis

This article was originally published as the Summary of the E.D. TAB of the same name. The sample survey data are from the "Dual Enrollment Programs and Courses for High School Students" survey conducted through the Postsecondary Education Quick Information System (PEQIS).

This article provides data from a nationally representative survey of Title IV degree-granting postsecondary institutions on the topic of dual enrollment of high school students. Dual enrollment, also known as "dual credit," "concurrent enrollment," and "joint enrollment," refers to the participation in college-level courses and the earning of college credits by high school students. Dual enrollment is viewed as providing high school students benefits such as greater access to a wider range of rigorous academic and technical courses, savings in time and money on a college degree, promoting efficiency of learning, and enhancing admission to and retention in college. By providing a pathway for students to move seamlessly between K–12 and postsecondary systems, dual enrollment is thought to promote greater support for students' college aspirations and greater collaboration between high schools and colleges (Bailey and Karp 2003; Clark 2001). In an effort to prepare high school students for college, 38 states have enacted dual enrollment policies that support the development of programs that promote a smoother transition between high school and postsecondary education (Karp et al. 2004). However, at present, there is no existing national source of information on dual enrollment of high school students at postsecondary institutions. The "Dual Enrollment Programs and Courses for High School Students" survey, undertaken by the National Center for Education Statistics (NCES), Institute of Education Sciences, U.S. Department of Education, was designed to provide policymakers, researchers, educators, and administrators with baseline information on the prevalence and characteristics of dual enrollment programs. While the majority of the survey's questions focused on dual enrollment programs, several key questions also revealed the prevalence of college coursetaking outside of dual enrollment programs by high school students. The survey was requested by the Office of Vocational and Adult Education, U.S. Department of Education.

The front page of the survey included a definition and description of dual enrollment. For this study, dual enrollment was defined as high school students who earn college credits for courses taken through a postsecondary institution. The definition specified that courses could be part of a dual enrollment program, or courses could be taken outside of a dual enrollment program. A dual enrollment program was defined as an organized system with special guidelines that allows high school students to take college-level courses. The guidelines might delineate entrance or eligibility requirements, funding, limits on coursetaking, and so on. High school students who simply enrolled in college courses and were treated as regular college students were not considered to be participating in a dual enrollment program. Credit for courses could be earned at both the high school and college levels simultaneously or only at the college level, and credit could be earned immediately or upon enrollment at the postsecondary institution after high school graduation. Courses could be taught on a college campus, on a high school campus, or at some other location. The time frame for the survey was the 2002–03 12-month academic year, including courses taken during summer sessions.[1] The survey definition also specified that information about summer bridge programs for students who had already graduated from high school should not be included.

This survey was conducted by NCES using the Postsecondary Education Quick Information System (PEQIS).[2] PEQIS is a survey system designed to collect small amounts of issue-oriented data from a previously recruited, nationally representative sample of institutions, with minimal burden on respondents and within a relatively short period of time. Questionnaires for the survey "Dual Enrollment Programs and Courses for High School Students" were mailed in February 2004 to the PEQIS survey coordinators at the approximately 1,600 Title IV degree-granting postsecondary institutions in the 50 states and the District of Columbia that compose the PEQIS panel. Coordinators were informed that the survey was designed to be completed by the person(s) at the institution most knowledgeable about the institution's dual enrollment programs and courses. Respondents were given the option of completing the survey online. Data were adjusted for questionnaire nonresponse and weighted to yield national estimates that represent all Title IV eligible, degree-granting institutions in the

[1]The summer session included in the 2002–03 12-month academic year (i.e., the summer session of 2002 or the summer session of 2003) was whichever one each institution considered to be part of that 12-month academic year.

[2]More information about PEQIS may be found at http://nces.ed.gov/surveys/peqis.

United States.[3] The unweighted response rate was 92 percent, and the weighted response rate[4] was 93 percent.

Survey respondents at selected postsecondary institutions were asked to report on the prevalence of college course-taking by high school students at their institutions during the 2002–03 12-month academic year, both within and outside of dual enrollment programs. Among institutions with dual enrollment programs, additional information was obtained on the characteristics of programs, including course location and type of instructors, program and course curriculum, academic eligibility requirements, and funding. Institutions with dual enrollment programs were also asked whether they had programs specifically geared toward high school students at risk of education failure; if they answered yes, they were asked a series of questions about the features of such special programs.

The primary focus of this article is to present national estimates on dual enrollment. In addition, selected survey findings are presented by the following institution characteristics:

- *Institution type:* public 2-year, private 2-year, public 4-year, and private 4-year. Institution type was created from a combination of level (2-year and 4-year) and control (public and private). Two-year institutions are defined as institutions at which the highest level of offering is at least 2 but less than 4 years (below the baccalaureate degree); 4-year institutions are those at which the highest level of offering is 4 or more years (baccalaureate or higher degree). Private institutions comprise private nonprofit and private for-profit institutions; these institutions are reported together because there are too few private for-profit institutions in the survey sample to report them as a separate category.
- *Size of institution:* less than 3,000 students, 3,000 to 9,999 students, and 10,000 or more students. These are referred to in the text as small, medium, and large institutions, respectively.

In general, comparisons by these institution characteristics are presented only where significant differences were detected and follow meaningful patterns. It is important to note that the characteristics of type and size are related to each other. For example, private institutions tend to be smaller than public ones. However, this E.D. TAB focuses on bivariate relationships between the analysis variables (institution type and size) and questionnaire variables rather than on more complex analyses.

All specific statements of comparison made in this report have been tested for statistical significance through *t* tests and are significant at the 95 percent confidence level. However, only selected findings are presented for each topic in the report. Throughout this report, differences that may appear large may not be statistically significant due to the relatively large standard errors surrounding the estimates (because of the small sample size).

Interested readers may refer to a companion E.D. TAB, published by NCES, entitled *Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2002–03* (Waits, Setzer, and Lewis 2005). The companion report describes nationally representative findings from a complementary high school-level survey requested by the Office of Vocational and Adult Education and conducted by NCES through the Fast Response Survey System (FRSS). Unlike the survey for the current report, which focused more broadly on dual *enrollment*, the FRSS survey focused on dual *credit*, where dual credit was defined as a course or program where high school students can earn both high school and postsecondary credits for the same course.

The findings in this article are organized as follows:

- prevalence of and enrollment in dual enrollment programs and college-level courses outside of dual enrollment programs;
- characteristics of dual enrollment programs and courses, such as location, instructors, curriculum, eligibility requirements, and funding; and
- dual enrollment programs specifically geared toward students at risk of education failure.

Prevalence of and Enrollment in Dual Enrollment Programs and College-Level Courses

The survey asked whether institutions had any high school students who took courses for college credit during the 2002–03 12-month academic year. Institutions that did were then asked whether high school students took college-level courses outside of any dual enrollment program, followed by a question on whether any high school students took courses for college credit that were part of a dual

[3]Institutions participating in Title IV federal student financial aid programs (such as Pell grants or Stafford loans) 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 with the Office of Postsecondary Education (OPE), U.S. Department of Education. Degree-granting institutions are those that offer an associate's, bachelor's, master's, doctoral, or first-professional degree (Knapp et al. 2001).

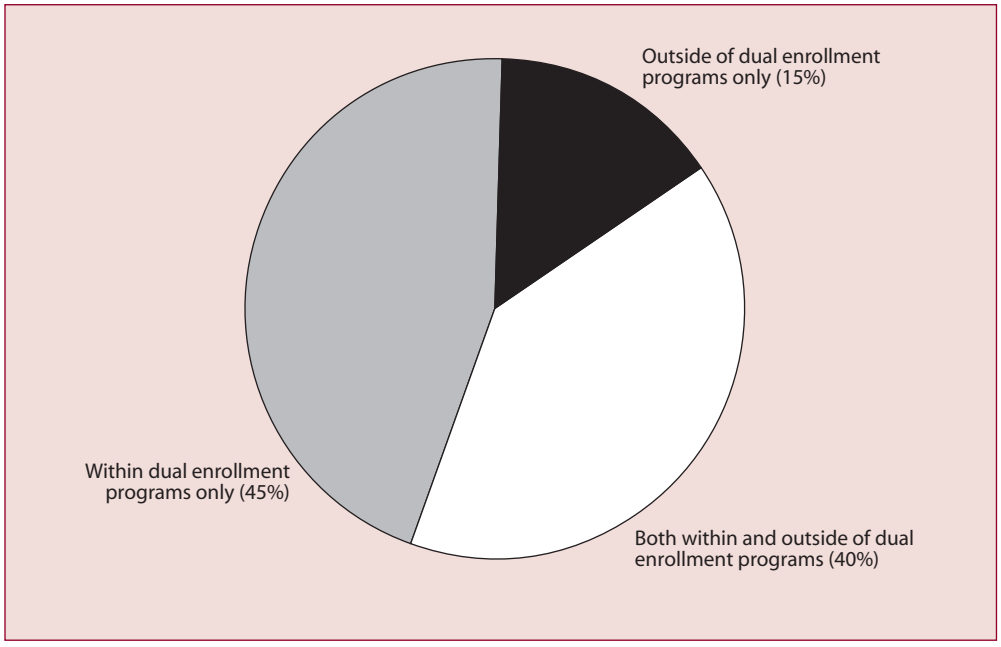
[4]All weighted response rates were calculated using the base weight (i.e., the inverse of the probability of selection).

enrollment program. If any high school students took courses outside of or within dual enrollment programs, institutions were asked to provide the number of students who did so.

Prevalence of dual enrollment programs and college coursetaking

- During the 2002–03 12-month academic year, 57 percent of all Title IV degree-granting institutions had high school students taking courses for college credit within or outside of dual enrollment programs. Forty-eight percent of institutions had dual enrollment programs for high school students taking college courses, and 31 percent of institutions had high school students taking college courses outside of such programs.
- Of the 57 percent of institutions that had high school students who took courses for college credit during the 2002–03 12-month academic year, 85 percent had high school students taking courses for college credit in dual enrollment programs, and 55 percent had students who took college courses outside of dual enrollment programs.
- Of those institutions with any high school students taking courses for college credit, 45 percent had high school students taking college-level courses within dual enrollment programs only, 15 percent had high school students taking college-level courses outside of dual enrollment programs only, and 40 percent had high school students taking college-level courses both within and outside of those programs (figure 1).
- Ninety-eight percent of public 2-year institutions had high school students taking courses for college credit during the 2002–03 12-month academic year, compared to 77 percent of public 4-year institutions, 40 percent of private 4-year institutions, and 17 percent of private 2-year institutions.
- Among all institutions, a greater percentage of public 2-year institutions than public 4-year and private 4-year institutions had high school students taking college-level courses within dual enrollment programs (93 percent versus 64 and 29 percent, respectively). Similarly, a greater percentage of public 2-year institutions than public 4-year and private 4-year institutions had high school students taking college-level courses *outside* of dual enrollment programs (63 percent versus 40 and 18 percent, respectively).

Figure 1. Percentage distribution of Title IV degree-granting institutions with any high school students taking courses for college credit, by whether courses were taken within dual enrollment programs only, outside of dual enrollment programs only, or both within and outside of programs: 12-month academic year, 2002–03



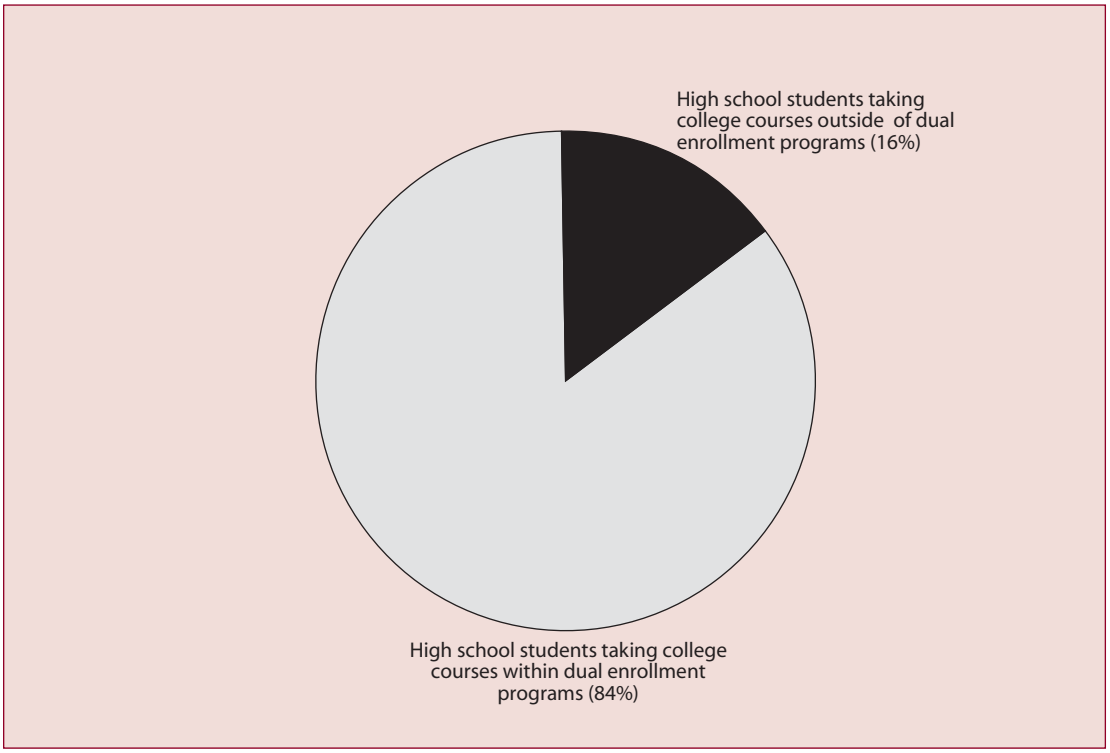
NOTE: Percentages are based on the 2,410 institutions with any high school students taking courses for college credit. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

- Among institutions with high school students taking college-level courses, a higher percentage of public 2-year institutions than public 4-year and private 4-year institutions had high school students taking courses within dual enrollment programs (95 percent versus 83 and 73 percent, respectively). Similarly, among those institutions with high school students taking college-level courses, a higher percentage of public 2-year institutions than public 4-year and private 4-year institutions had high school students taking courses *outside* of dual enrollment programs (64 percent versus 52 and 45 percent, respectively).
- Forty-four percent of small institutions had high school students taking courses for college credit, compared to 83 percent of medium institutions and 94 percent of large institutions.
- Based on all institutions, a lower percentage of small institutions than medium and large institutions had high school students taking courses for college credit within dual enrollment programs (36 percent versus 74 and 79 percent, respectively). In addition, based on all institutions, a lower percentage of small institutions than medium and large institutions had high school students taking courses *outside* of dual enrollment programs (22 percent versus 51 and 50 percent, respectively).

Enrollment of high school students in dual enrollment programs and college-level courses

- Overall, approximately 813,000 high school students took college-level courses through postsecondary institutions, either within or outside of dual enrollment programs, during the 2002–03 12-month academic year. This number represents about 5 percent of all high school students. In fall 2001 (the last year for which data are available), there were over 15 million students enrolled in public and private high schools in the United States (U.S. Department of Education 2003).
- Approximately 680,000 high school students took courses for college credit within dual enrollment programs. Fewer high school students (approximately 133,000) took college-level courses outside of dual enrollment programs. Thus, 84 percent of high school students who took courses for college credit through postsecondary institutions did so as part of a dual enrollment program (figure 2).

Figure 2. Percentage distribution of high school students taking courses for college credit within or outside of dual enrollment programs: 12-month academic year, 2002–03



NOTE: Percentages are based on the 812,700 high school students who took college-level courses at the 2,410 Title IV degree-granting institutions with any high school students taking courses for college credit during the 2002–03 12-month academic year. 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), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

- Public 2-year institutions had more high school students who took college-level courses than public 4-year and private 4-year institutions during the 2002–03 12-month academic year (619,000 versus 122,000 and 67,000, respectively). Thus, 77 percent of high school students who took college-level courses were in public 2-year institutions, versus 15 percent in public 4-year and 8 percent in private 4-year institutions (figure 3).
- Public 2-year institutions also had more high school students than public 4-year and private 4-year institutions within dual enrollment programs (517,000 versus 100,000 and 60,000, respectively) and outside of dual enrollment programs (102,000 versus 22,000 and 7,000, respectively).
- Small institutions had fewer high school students taking college-level courses than medium and large institutions during the 2002–03 12-month academic year (171,000 versus 308,000 and 333,000, respectively). Similarly, small institutions had fewer high school students taking college-level courses than medium and large institutions, both within dual enrollment programs (149,000 versus 249,000 and 282,000, respectively) and outside of dual enrollment programs (23,000 versus 59,000 and 51,000, respectively).

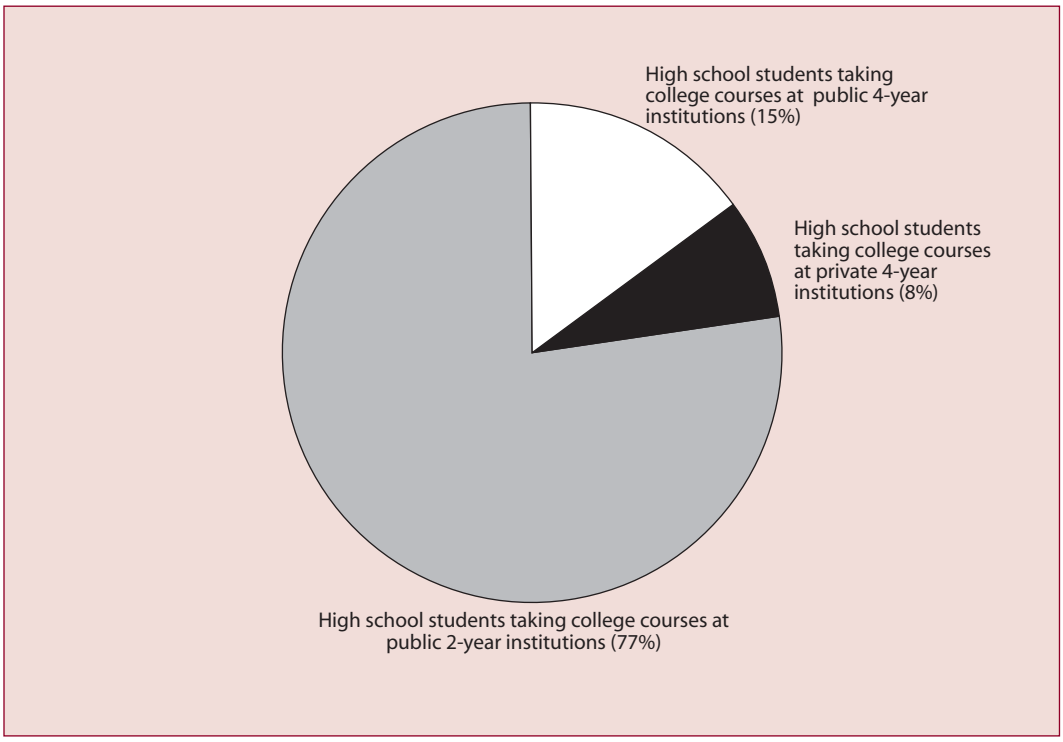
Characteristics of Dual Enrollment Programs

Those institutions that reported having high school students who took courses for college credit within dual enrollment programs were asked about the characteristics of their programs. The topics explored in the survey included course location, course instructors, program curriculum, academic eligibility requirements, and funding.

Course location and type of instructors

Institutions with dual enrollment programs were asked whether high school students in the dual enrollment programs took courses on the campus of the institution, on a high school campus, or at some other location. Institutions with courses taught on a high school campus were also asked whether the courses in the dual enrollment programs were taught by college instructors only, high school instructors only, or by both high school and college instructors. If institutions indicated that at least some courses were taught by high school instructors, they were asked how the minimum qualifications for high school instructors who

Figure 3. Percentage distribution of high school students taking courses for college credit, by institution type: 12-month academic year, 2002–03



NOTE: Percentages are based on the 812,700 high school students who took college-level courses at the 2,410 Title IV degree-granting institutions with any high school students taking courses for college credit during the 2002–03 12-month academic year. Data for private 2-year institutions are not reported in a separate category because too few private 2-year institutions in the sample had any dual enrollment of high school students in 2002–03 to make reliable estimates. 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), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

taught the courses compared to the qualifications required for college instructors.

- Among institutions with dual enrollment programs, 80 percent offered courses taken by high school students on their college campus, 55 percent offered courses on a high school campus, and 12 percent offered courses at some other location.[5]
- A greater percentage of public 2-year than public 4-year and private 4-year institutions offered the courses taken by high school students on a high school campus (73 percent versus 47 and 28 percent, respectively).
- Of those institutions with dual enrollment programs with courses taught on a high school campus, 26 percent reported that the courses were taught by college instructors only, 32 percent reported high school instructors only, and 42 percent reported both college and high school instructors.
- A smaller percentage of private 4-year institutions had the courses taught on a high school campus taught by college instructors only, compared to public 2-year and public 4-year institutions (10 percent versus 28 and 31 percent, respectively).
- Of those institutions with dual enrollment programs with at least some courses taught by high school instructors, 86 percent said that the minimum qualifications for high school instructors were the same as those required for college instructors, compared to 6 percent that said that the minimum qualifications were different. Four percent of institutions said that they had no set policy with respect to minimum qualifications, and 5 percent said that it varied.
- A higher percentage of public 2-year institutions than public 4-year institutions reported the same minimum qualifications for high school instructors as for college instructors with respect to teaching college-level courses (90 percent versus 73 percent).

Curriculum and coursetaking patterns

Institutions were asked several questions regarding dual enrollment program curriculum and coursetaking patterns, including the typical coursetaking pattern for high school students and the maximum number of courses allowed per academic term. Institutions were also asked whether the curriculum for courses taken in the programs was specially designed for high school students.

- Among institutions with dual enrollment programs, 48 percent of institutions responded that one course per academic term most closely resembled the typical high school enrollment pattern during the 2002–03 12-month academic year, compared to 19 percent that responded two courses per academic term, and 4 percent that responded three or more courses per academic term. Twenty-eight percent of institutions said that it varied.[6]
- A higher percentage of public 4-year and private 4-year institutions than public 2-year institutions reported one course per academic term as the typical pattern of high school enrollments (56 and 64 percent, respectively, versus 36 percent). A higher percentage of public 2-year institutions than public 4-year and private 4-year institutions reported that the typical pattern varied (37 percent versus 28 and 12 percent, respectively).
- Fourteen percent of institutions with dual enrollment programs said that one course was the maximum number allowed per academic term, 30 percent reported allowing a maximum of two courses per academic term, and 25 percent reported allowing three or more courses per academic term. Another 31 percent of institutions said that there was no maximum number of courses per academic term.
- A greater percentage of private 4-year institutions than public 2-year and public 4-year institutions allowed a maximum of one course per academic term (33 percent versus 5 and 11 percent, respectively). Thirty-eight percent of public 2-year institutions had no maximum number of courses per academic term, compared to 31 percent of public 4-year and 19 percent of private 4-year institutions.
- A smaller percentage of large institutions allowed a maximum of one course per academic term, compared to small and medium institutions (8 percent versus 18 and 11 percent, respectively).
- Eighty-nine percent of institutions said that the curriculum of the college-level courses taken by high school students as part of their dual enrollment programs was the same as for regular college students, compared to 3 percent of institutions that said

[5]The percentage of institutions with courses for high school students offered on their college campus, on a high school campus, or at some other location sum to more than 100 percent because institutions may have offered courses at more than one location. Other locations included community centers, vocational/technical schools, and hospitals. Respondents also included online courses as "other locations."

[6]The "it varied" response could indicate that there was no typical pattern of high school enrollments within a single program, or else that multiple programs within an institution had different typical patterns.

that the curriculum was specially designed for high school students, and 8 percent that said it varied.[7]

Credit awarded

Institutions were asked about when high school students were generally awarded college credit for courses taken, and whether they earned credit at the high school level for courses taken.

- Ninety-four percent of institutions with dual enrollment programs awarded college credit for courses immediately after course completion, compared to 3 percent that awarded credit upon enrollment of students at their institutions and another 3 percent that awarded credit in some other way.[8]
- Fifty-nine percent of institutions with dual enrollment programs indicated that credit for college courses was earned at both the high school and college level, compared to 6 percent where credit was earned at the college level only, and 21 percent where it varied.[9] Fourteen percent of institutions did not know whether credit was earned at the high school level.
- A greater percentage of respondents at private 4-year institutions than at public 2-year and public 4-year institutions did not know whether credit for courses was earned at the high school level (25 percent versus 9 and 14 percent, respectively).

Academic eligibility requirements

Institutions with dual enrollment programs were asked a series of questions pertaining to academic eligibility requirements for high school students to participate in the dual enrollment programs. Institutions were asked whether they had academic eligibility requirements, what were the requirements, and whether their academic eligibility requirements were the same or different than their institutions' admissions standards for regular college students. In addition, institutions were asked to identify the grade levels at which high school students were eligible to take courses in dual enrollment programs.

Prevalence and type of requirements

- Among institutions with dual enrollment programs, 85 percent had academic eligibility requirements for high school students to participate. A higher percentage of public 4-year institutions than public 2-year and private 4-year institutions had academic eligibility requirements (93 percent versus 83 and 81 percent, respectively).
- A higher percentage of institutions with dual enrollment programs that had academic eligibility requirements had a minimum high school grade point average (GPA) requirement, compared to other kinds of requirements (66 percent versus 16 to 45 percent). Forty-five percent of the institutions used a minimum score on a standardized test, 44 percent used a college placement test, and 16 percent used minimum high school class rank as academic eligibility requirements for high school students to participate in dual enrollment programs. Thirty-one percent had some other academic eligibility requirements, including recommendations or permission (from a high school principal, guidance counselor, or parent/guardian), course prerequisites, strong high school attendance, junior or senior grade level, or an essay or written letter.
- Public 4-year and private 4-year institutions used minimum high school GPA as an academic eligibility requirement more frequently than 2-year institutions (79 and 86 percent, respectively, versus 46 percent). A higher percentage of public 2-year institutions than public 4-year and private 4-year institutions required passing a college placement test (73 percent versus 22 and 13 percent, respectively).
- A greater percentage of public 4-year institutions than public 2-year and private 4-year institutions required a minimum score on a standardized test (60 percent versus 43 and 37 percent, respectively) and a minimum high school class rank (28 percent versus 8 and 19 percent, respectively).

Minimum high school GPA

- Of those institutions with dual enrollment programs that had a minimum high school GPA requirement, the highest percentage (44 percent) required a minimum GPA between 2.75 and 3.24, compared to 7 percent that required between 1.75 and 2.24, 10 percent that required between 2.25 and 2.74, 22 percent that required between 3.25 and 3.74, and 3 percent that

[7] "It varied" could mean that the curriculum varied within a single program (e.g., was the same as for regular college students for some courses, but different for others), or else that the curriculum varied across multiple programs within an institution (i.e., was the same as for regular college students in one program, but specially designed for high school students in another program).

[8] Of the roughly 20 "other ways" cited by respondents, about half noted that credits were awarded after high school graduation. The remaining responses varied.

[9] The "it varied" response could indicate that credit was earned in various ways within a single program, or else that credit was earned in different ways across multiple programs within an institution.

required a minimum GPA of 3.75 or above. Fourteen percent of institutions said that it varied.[10]

- A lower percentage of public 2-year institutions than public 4-year and private 4-year institutions required a minimum GPA between 3.25 and 3.74 (15 percent versus 27 and 29 percent, respectively).

Comparability of admissions standards

- Of the 85 percent of institutions with dual enrollment programs that had academic eligibility requirements for high school students to participate, 38 percent indicated that their requirements were the same as admissions standards for regular college students, while 62 percent indicated that their requirements were different from admissions standards for regular college students.
- Fifty-five percent of public 2-year institutions reported that their academic eligibility requirements were the same as admissions standards for regular college students, compared to 21 percent of public 4-year and 27 percent of private 4-year institutions.

Eligible grade levels

- Among institutions with dual enrollment programs, 96 percent allowed grade 12 high school students to take courses in the programs,[11] 86 percent allowed grade 11 students, 28 percent allowed grade 10 students, 16 percent allowed grade 9 students, and 2 percent allowed students in grades lower than grade 9.
- A greater percentage of public 2-year institutions than public 4-year and private 4-year institutions allowed grade 9 (21 percent versus 15 and 12 percent, respectively) and grade 10 high school students (35 percent versus 26 and 18 percent, respectively) to take courses in dual enrollment programs. A smaller percentage of private 4-year institutions allowed grade 11 high school students to take courses in dual enrollment programs, compared to public 2-year and public 4-year institutions (76 percent versus 93 and 89 percent, respectively).
- A greater percentage of large than of small or medium institutions allowed grade 9 (26 percent versus 14 and 16 percent, respectively), grade 10 (40 percent versus 23 and 30 percent, respectively), and grade 11 (93 percent versus 83 and 88 percent, respectively) high school students to take courses in dual enrollment programs.

[10]"It varied" could indicate that the minimum GPA varied within a single program, or else that the minimum required GPA was different across multiple programs within an institution.

[11]Four percent of institutions did not allow grade 12 students to participate in dual enrollment programs, while they did allow students in other grades (predominantly grade 11) to participate in dual enrollment programs.

Funding

Institutions with dual enrollment programs were asked two questions relating to sources of funding for courses taken by high school students in their programs. The first addressed the various sources for tuition payment, and the second addressed how much high school students (and their parents) generally paid out of pocket for the college-level courses taken as part of dual enrollment programs.

- Sixty-four percent of institutions with dual enrollment programs reported that parents and students were a source for tuition for courses taken as part of the programs. Thirty-eight percent of institutions indicated that their own postsecondary institution was a source for tuition (including both actual contributions and tuition waivers), 37 percent said that high schools and public school districts were a source, and 26 percent said that their state was a source for tuition.[12] Nine percent indicated that there was some other source(s) for tuition. The most commonly cited other sources included various federal and county grants, as well as scholarships from local businesses and nonprofit organizations.
- A lower percentage of private 4-year institutions than public 2-year and public 4-year institutions indicated that high schools/public school districts (21 percent versus 45 and 41 percent, respectively) and the state (15 percent versus 31 and 25 percent, respectively) were sources for tuition for courses taken in their dual enrollment programs. However, a higher percentage of private 4-year institutions than public 2-year and public 4-year institutions said that their own institution was a source for tuition (50 percent versus 33 percent each).
- A smaller percentage of public 2-year institutions reported that parents and students were a source for tuition for courses taken in dual enrollment programs, compared to public 4-year and private 4-year institutions (56 percent versus 72 and 71 percent, respectively).
- Twenty percent of institutions with dual enrollment programs indicated that students and parents generally paid full tuition for college-level courses taken in their dual enrollment programs. Another 20 percent

[12]Multiple sources could have been selected.

said that students and parents generally paid partial tuition. Twenty-three percent said that students and parents generally paid for books and/or fees only, and 19 percent said that students and parents generally paid nothing for courses in the dual enrollment programs. Nineteen percent of institutions reported that the amount paid out of pocket by students and parents varied.[13]

- A greater percentage of public 4-year institutions than public 2-year and private 4-year institutions indicated that students and parents generally paid full tuition for courses taken in dual enrollment programs (28 percent versus 20 and 13 percent, respectively). Thirty-eight percent of private 4-year institutions said that students and parents generally paid partial tuition out of pocket, compared to 10 percent of public 2-year and 17 percent of public 4-year institutions.

Dual Enrollment Programs Specifically for Students at Risk of Education Failure

Some postsecondary institutions have developed programs for at-risk students as a way of promoting high school retention as well as enthusiasm for education among a population of students at risk of complete withdrawal from the education system. Institutions with dual enrollment programs were asked whether they had a formal dual enrollment program geared specifically toward high school students who were at risk of education failure. If there was a dual enrollment program for at-risk high school students, institutions were then asked about features of that program, such as the number of students in the program, the primary focus of the program, the typical pattern of enrollments, and any extra support services provided to the at-risk students.

- Among the estimated 2,050 institutions with dual enrollment programs, approximately 110 (5 percent) had dual enrollment programs specifically geared toward high school students at risk of education failure. Two percent of all institutions had such programs.
- During the 2002–03 12-month academic year, there were approximately 6,400 students enrolled in dual enrollment programs geared specifically toward high school students at risk of education failure.[14]
- Thirty-nine percent of institutions with dual enrollment programs geared toward students at risk of education failure reported that the primary focus of the program was career/technical (figure 4). Thirty-four percent said that the primary focus was academic, and 21 percent said that the primary focus was equally academic and career/technical. Six percent reported some other primary focus.
- Forty percent of institutions with dual enrollment programs for at-risk students indicated that the most common pattern of enrollments in such programs was one course per academic term, 14 percent reported two courses per academic term, 8 percent reported three or more courses per academic term, and 38 percent reported that the number of courses students took varied considerably (figure 5).
- Sixty percent of institutions with programs for at-risk students provided extra support services specifically for the students in the program, such as tutoring, academic advising, study skills workshops, and precollege counseling.[15]
- Of those institutions with programs for at-risk students that provided extra support services, 84 percent provided academic advising, 82 percent provided tutoring, 76 percent provided study skills workshops, 75 percent offered college application/selection counseling, 62 percent offered financial aid counseling, and 38 percent offered other support services (figure 6). Mentoring and career counseling were commonly cited as other support services.

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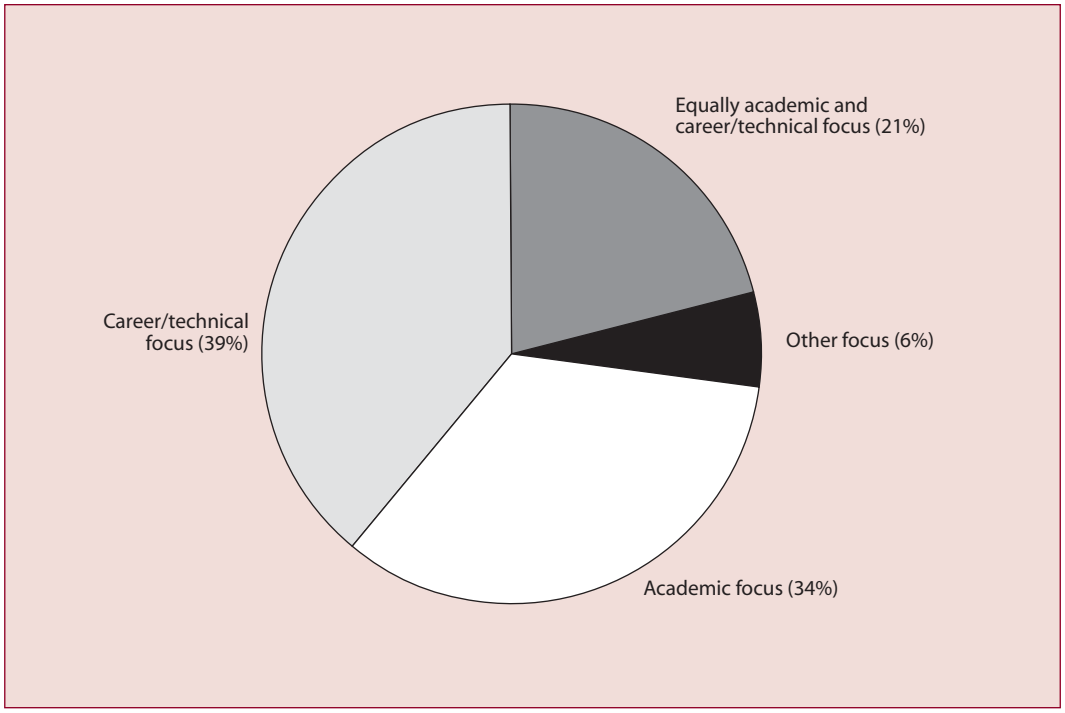
[13] "It varied" could indicate that the amount paid out of pocket by students and parents varied within a single program, or else that the amount paid varied across multiple programs within an institution.

[14] Standard error = 1,110.

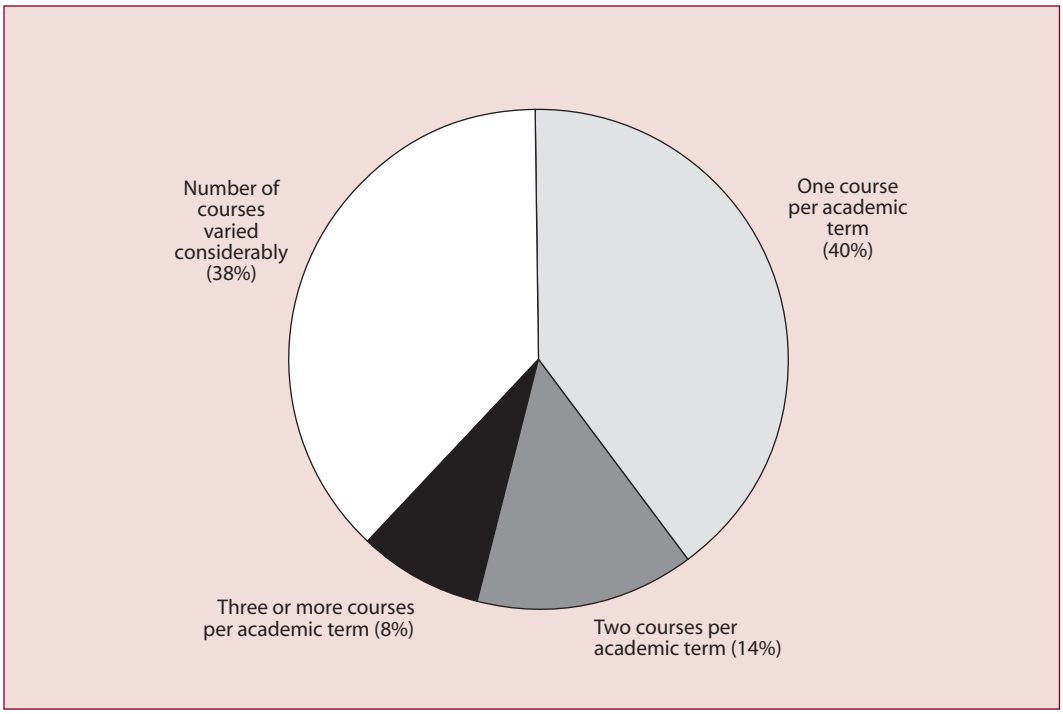
[15] Standard error = 8.4. Respondents were asked to include only those support services beyond those usually provided to students taking courses through their institution.

Figure 4. Percentage distribution of Title IV degree-granting institutions with dual enrollment programs for at-risk high school students, by primary focus of such programs: 12-month academic year, 2002–03



NOTE: Percentages are based on the 110 institutions that had dual enrollment programs for at-risk high school students. 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), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

Figure 5. Percentage distribution of Title IV degree-granting institutions with dual enrollment programs for at-risk high school students, by typical patterns of enrollments in such programs: 12-month academic year, 2002–03



NOTE: Percentages are based on the 110 institutions that had dual enrollment programs for at-risk high school students. 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), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

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Data source: The NCES Postsecondary Education Quick Information System (PEQIS), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

For technical information, see the complete report:

Kleiner, B., and Lewis, L. (2005). *Dual Enrollment of High School Students at Postsecondary Institutions: 2002–03* (NCES 2005-008).

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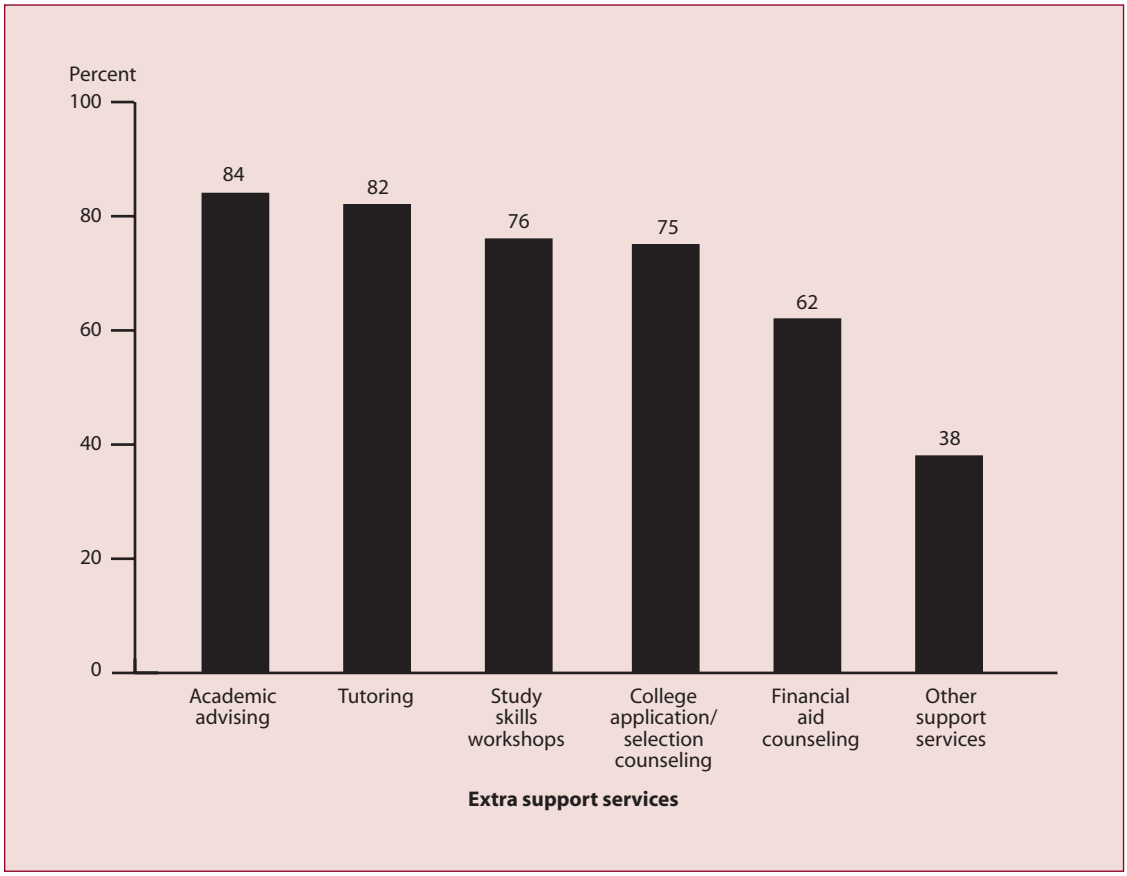
To obtain the complete report (NCES 2005-008), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Figure 6. Percent of Title IV degree-granting institutions with dual enrollment programs for at-risk high school students that had extra support services, by specific extra support services: 12-month academic year, 2002–03



NOTE: Percentages are based on the 60 institutions that had dual enrollment programs for at-risk high school students and provided extra support services to students.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System (PEQIS), "Dual Enrollment Programs and Courses for High School Students," PEQIS 14, 2004.

Dual Credit, AP, and IB Courses

Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2002–03

Tiffany Waits, J. Carl Setzer, and Laurie Lewis

This article was originally published as the Summary of the E.D. TAB of the same name. The sample survey data are from the survey "Dual Credit and Exam-Based Courses," conducted through the Fast Response Survey System (FRSS).

Background

Dual credit, whereby high school students can earn both high school and postsecondary credits for the same course, is an area in which interest has grown rapidly over the past decade (Bailey and Karp 2003; Clark 2001; Education Commission of the States 2004). However, there has been no existing national source of information on dual credit courses at the high school level. This survey was requested by the Office of Vocational and Adult Education, U.S. Department of Education, to provide baseline information regarding the prevalence and characteristics of dual credit courses. This survey also collected information on two types of exam-based courses, Advanced Placement (AP) and International Baccalaureate (IB). These types of courses provide high school students with another way of bridging K–12 and postsecondary education.

Respondents for this survey were those selected by the school principal as the most knowledgeable about the school's dual credit, AP, and IB courses. This was typically the school's director of guidance counseling. Respondents were provided with a definition and description of dual credit and exam-based courses. For this study, dual credit was defined as a course or program where high school students can earn both high school and postsecondary credits for the same course. Dual credit courses could be located on a high school campus or the campus of a postsecondary institution, or taught through distance education. These courses might include courses with an academic focus, such as English, history, or foreign language, or those with a career and technical/vocational focus, such as computer maintenance technology and automotive technology. Additionally, the dual credit options must be either legislated by the state or have an articulated or other formal written agreement between the high school and the postsecondary institution.

AP courses were defined as courses that follow the content and curricular goals as described in the AP Course Description booklets, developed and published by the College Board. A qualifying score on an AP exam may give the student college credit or advanced standing in a college in the subject area in which the course/exam was taken. IB courses were defined as courses that compose a 2-year liberal arts curriculum that leads to a diploma and meets the requirements established by the International Baccalaureate program. Students taking these courses are in grades 11 and 12 and must meet all requirements and pass examinations in each subject area in order to receive the IB diploma. In some schools, students who are not seeking the IB diploma are allowed to take individual IB courses. AP and IB credit is only given at the discretion of the colleges and therefore occurs after students have applied and been accepted to a college, whereas dual credit courses are actual college courses and the credit is usually recorded on a college transcript from the postsecondary institution.

The survey asked respondents to report on the prevalence and enrollment of dual credit and exam-based courses in their high schools. Additional information was obtained on dual credit courses, including the location and educational focus of these courses, dual credit course characteristics, and school requirements surrounding dual credit courses. The time frame for this survey is the 2002–03 12-month school year. As specified on the front of the questionnaire, this includes courses during the summer of 2002 or the summer of 2003, depending upon how the schools kept their records.

This survey was conducted by the National Center for Education Statistics (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 the survey "Dual Credit and Exam-Based Courses" were mailed in fall 2003 to a representative sample of 1,499 regular public secondary schools in the 50 states and the District of Columbia. The sample was selected from the 2001–02 NCES Common Core of Data (CCD) Public School Universe file, which was the most current file available at the time of selection. The sampling frame includes 17,059 regular secondary schools. The estimated number of schools in the survey universe decreased to an estimated 16,483 because some of the schools were determined to be ineligible for the FRSS survey during data collection. Data have been weighted to yield national estimates. The unweighted and weighted response rates were both 92 percent. Detailed information about the

survey methodology is provided in appendix A of the full report, and the questionnaire can be found in appendix B of the full report.

The primary purpose of this report is to present national estimates. In addition, selected survey findings are presented by the following school characteristics, which are defined in more detail in appendix A of the full report:

- school enrollment size[1] (enrollment of less than 500; 500 to 1,199; 1,200 or more);
- locale (city, urban fringe, town, rural);
- region (Northeast, Southeast, Central, West); and
- percent minority enrollment (less than 6 percent, 6 to 20 percent, 21 to 49 percent, 50 percent or more).

In general, comparisons by these school characteristics are presented only where significant differences were detected and follow meaningful patterns. It is important to note that many of the school characteristics used for independent analysis may also be related to each other. For example, school enrollment size and locale are related, with city schools typically being larger than rural schools. Other relationships between these analysis variables may exist. However, this E.D. TAB report focuses on the bivariate relationships between the school characteristics and the data gathered in the survey, rather than more complex analyses, to provide descriptive information about dual credit and exam-based courses.[2]

All specific statements of comparison made in this report have been tested for statistical significance through trend analysis tests and *t* tests and are significant at the 95 percent confidence level. However, only selected findings are presented for each topic in the report. Throughout this report, differences that may appear large (particularly those by school characteristics) may not be statistically significant. This may be due to the relatively large standard errors surrounding the estimates. A detailed description of the statistical tests supporting the survey findings can be found in appendix A of the full report.

Selected Findings

The findings in this report are organized as follows:

- prevalence of courses for dual credit and exam-based course offerings in regular public high schools;
- location and educational focus of courses for dual credit;
- characteristics of courses for dual credit; and
- school requirements related to dual credit courses.

Prevalence of Courses for Dual Credit and Exam-Based Course Offerings in Regular Public High Schools

The survey asked whether schools offered dual credit, Advanced Placement, and/or International Baccalaureate courses during the 2002–03 12-month school year. Schools offering such courses were asked to indicate the course enrollment totals during the survey time frame.

Prevalence of dual credit and exam-based courses

- During the 2002–03 12-month school year, most public high schools offered dual credit and/or exam-based courses. Overall, 71 percent of public high schools offered courses for dual credit, 67 percent offered AP courses, and 2 percent offered IB courses.[3]
- The size of public high schools was positively related to the percentage of schools offering dual credit and/or AP courses. In 2002–03, 63 percent of small schools, 75 percent of medium-sized schools, and 82 percent of large schools offered courses for dual credit. Similarly, 40 percent of small schools, 82 percent of medium-sized schools, and 97 percent of large schools offered AP courses.
- Schools located in cities were less likely than schools located in either towns or urban fringe areas to report offering dual credit courses (65 vs. 79 and 74 percent, respectively). In addition, schools located in rural areas were less likely to offer these types of courses than were schools located in towns (70 vs. 79 percent). Furthermore, schools located in rural areas were the least likely to report offering AP courses at their schools when compared to all other locales (50 vs. 72 to 87 percent), while schools located in urban fringe areas were the most likely to report offering these courses (87 vs. 50 to 77 percent).
- Public high schools in the Central region were the most likely to offer courses for dual credit (80 vs. 58 to 71 percent) and schools in the Northeast were the least likely to do so (58 vs. 69 to 80 percent). The reverse was true with regard to AP courses. Schools in the Central region were the least likely

[1] Throughout this report, school enrollment size will be referred to as small, medium, or large schools.

[2] E.D.TAB reports are designed to focus on the presentation of selected descriptive data in tabular format.

[3] Percentages sum to more than 100 because schools could offer more than one type of course.

to offer AP courses (54 vs. 69 to 84 percent), and schools in the Northeast were the most likely to do so (84 vs. 54 to 69 percent).

- While schools with the highest minority enrollment were the least likely to offer dual credit courses when compared to schools with lower minority enrollment (58 vs. 72 to 78 percent), schools with the lowest minority enrollment were the least likely to offer AP courses when compared to schools with higher minority enrollment (58 vs. 69 to 75 percent).
- Public high schools reported the total enrollment in dual credit courses, AP courses, and IB courses. In the 12-month 2002–03 school year, there were an estimated 1.2 million enrollments in courses for dual credit, 1.8 million enrollments in AP courses, and 165,000 enrollments in IB courses.[4] If a student was enrolled in multiple courses, schools were instructed to count the student for each course in which he or she was enrolled. Thus, enrollments may include duplicated counts of students.

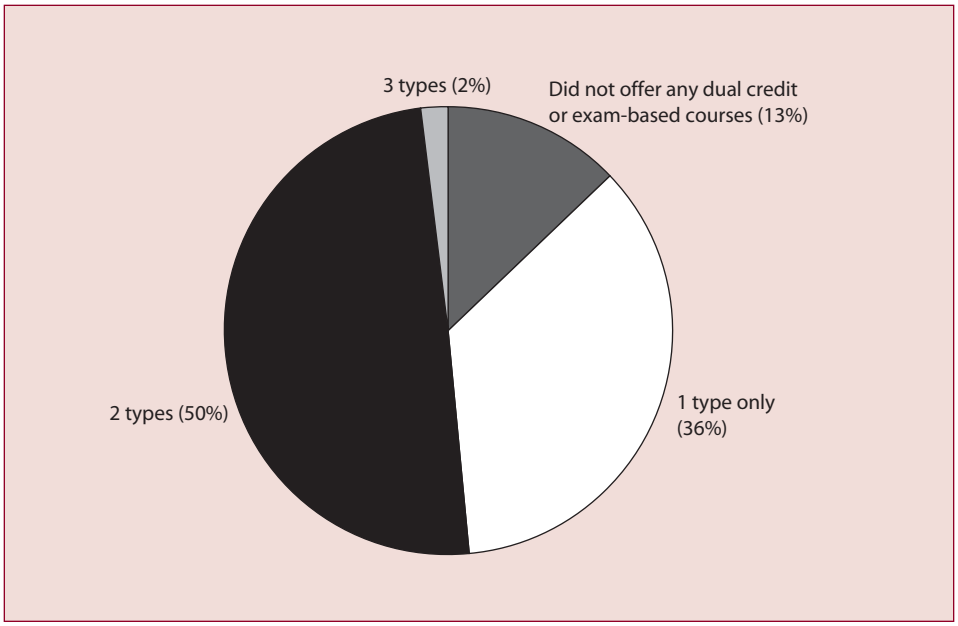
[4]To put these numbers into context, NCES reports 13,736,000 students enrolled in public high schools in fall 2001 (Snyder, Tan, and Hoffman 2004). It is important to note that the dual credit enrollments collected in the FRSS survey may include duplicated counts of students, while the NCES estimate of 13,736,000 students enrolled is an unduplicated count.

Combinations of dual credit and exam-based courses

In order to provide an overall picture of the ways in which public high schools offer dual credit and exam-based courses, combinations of the two types of dual credit and exam-based courses were examined. These have been grouped as follows: the school offered dual credit courses only; AP courses only; AP and IB courses; AP and dual credit courses; IB and dual credit courses; AP, IB, and dual credit courses; and no exam-based courses or courses for dual credit.

- Thirteen percent of public high schools did not offer any dual credit or exam-based courses during the 2002–03 12-month school year (figure 1). Thirty-six percent offered either dual credit or one of the types of exam-based courses, 50 percent offered a combination of two types of dual credit and exam-based courses, and 2 percent offered all three types of courses (dual credit, AP, and IB).

Figure 1. Percentage distribution of public high schools by whether they offered dual credit and/or exam-based courses and the number of types of these courses offered during the 2002–03 12-month school year: 2003



NOTE: Types of courses include Advanced Placement, International Baccalaureate, and any courses taken for dual credit. Percentages are based on all public high schools (16,500). Percentages are based on unrounded numbers. 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), "Dual Credit and Exam-Based Courses," FRSS 85, 2003.

- Forty-nine percent of public high schools offered both dual credit and AP courses, 20 percent offered only courses for dual credit, 16 percent offered only AP courses, 1 percent offered both courses for dual credit and IB courses, and 2 percent offered a combination of all three types of courses (dual credit, AP, and IB). There were no schools that offered IB courses exclusively.
- A greater proportion of small schools than medium schools did not offer any dual credit or exam-based courses (25 vs. 4 percent). School enrollment size was positively related to the likelihood of offering a combination of both dual credit and AP courses (28 percent for small schools, 61 percent for medium schools, and 74 percent for large schools).
- Public high schools located in rural areas were more likely than high schools in other locales to report that they offered dual credit courses only (32 vs. 7 to 21 percent). However, public high schools located in rural areas were the least likely to report that they offered a combination of both dual credit and AP courses, compared with schools in all other locales (37 vs. 53 to 63 percent). In addition, schools in rural areas were more likely than schools located in either urban fringe areas or towns to not offer any dual credit or exam-based courses (18 vs. 5 and 8 percent, respectively). Furthermore, schools located in cities were more likely than schools located in urban fringe areas to not offer these types of courses (15 vs. 5 percent).
- Schools with the highest minority enrollment were the most likely to indicate that they did not offer any dual credit or exam-based courses. Twenty percent of these schools indicated that they did not offer any dual credit or exam-based courses, compared with 6 to 12 percent of schools with lower minority enrollment.

Location and Educational Focus of Courses for Dual Credit

Schools reported whether their students were offered courses for dual credit at three locations: courses taught on the high school campus, courses taught on the campus of a postsecondary institution, and courses taught through distance education technologies. In addition, schools also reported dual credit course enrollment totals, and whether the courses for dual credit taught on a high school or postsecondary campus had an academic focus (such as English, history, or foreign language) or a career and technical/vocational focus (such as computer maintenance technology and automotive technology).

Location of courses

- *Overview*. Of the 11,700 public high schools that offered courses for dual credit, 61 percent indicated that they offered courses for dual credit taught on a high school campus, 65 percent offered courses for dual credit taught on the campus of a postsecondary institution, and 25 percent offered courses for dual credit taught through distance education technologies.[5]
- *High school campus*. Schools located in towns reported offering dual credit courses taught on a high school campus more often (73 percent) than did schools located in cities (54 percent), urban fringe areas (59 percent), or rural areas (61 percent). Schools with the highest minority enrollment were the least likely to offer dual credit courses on the high school campus (51 vs. 63 to 64 percent).
- *Postsecondary campus*. There was a positive relationship between enrollment size and the proportion of schools reporting that their courses for dual credit were taught on the campus of a postsecondary institution (57 percent of small schools, 68 percent of medium schools, and 74 percent of large schools). In addition, schools located in cities and schools in urban fringe areas were both more likely to report that their dual credit courses were taught on the campus of a postsecondary institution than were schools located in rural areas (78 and 70 percent vs. 58 percent). A greater proportion of schools with the highest minority enrollment offered courses for dual credit taught on a campus of a postsecondary institution (76 percent) than did schools with the lowest minority enrollment (59 percent).
- *Distance education*. For dual credit courses taught through distance education, there was a negative relationship between enrollment size and the likelihood of offering these courses through distance education (35 percent of small schools, 21 percent of medium schools, and 17 percent of large schools). Schools in rural areas and schools in towns were both more likely than either schools in cities or schools in urban fringe areas to offer courses for dual credit through

[5]The percentage of schools with courses for dual credit taught on a high school campus, on the campus of a postsecondary institution, and through distance education sum to more than 100 percent because many schools offered courses for dual credit at more than one location. An estimated 21 percent of schools offered courses for dual credit at both the high school and postsecondary institution campus, and an estimated 6 percent offered dual credit courses at the high school campus, postsecondary institution campus, and via distance education.

distance education (33 and 29 percent vs. 11 and 18 percent, respectively).

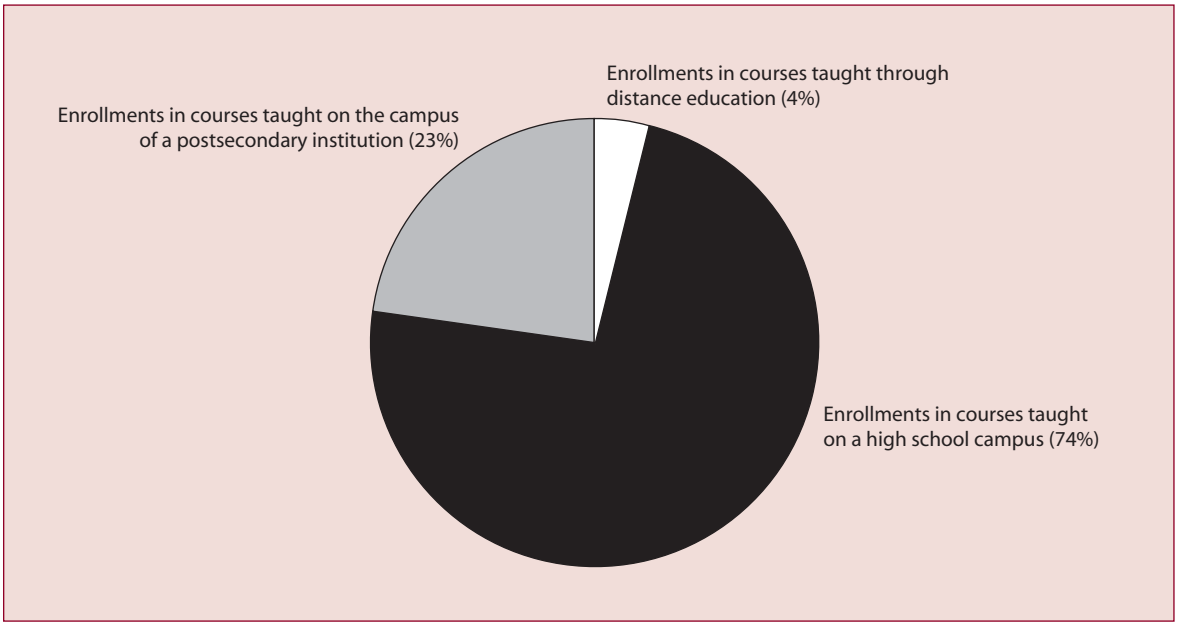
- *Enrollment*. During the 2002–03 12-month school year, there were approximately 1.2 million enrollments in dual credit courses. Of these, 74 percent (855,000 enrollments) were in courses taught on a high school campus, 23 percent (262,000 enrollments) were in courses taught on the campus of a postsecondary institution, and 4 percent (44,900 enrollments) were in dual credit courses taught through distance education (figure 2).

Educational focus of courses

Schools that reported offering courses for dual credit located on either a high school campus or on the campus of a postsecondary institution were asked to report separately for each location about courses with an academic focus and courses with a career and technical/vocational focus. Schools that offered dual credit courses taught through distance education were not asked to report on the educational focus of their dual credit courses. To examine the extent to which schools offered dual credit courses with an academic or a career and technical/vocational focus across locations, dual credit courses with an academic focus that were taught on a high school campus or on the campus of a postsecondary institution were combined into one category, while dual credit courses with a career and technical/vocational focus, regardless of course location, were combined into a second category.

- *Overview*. Of the 11,400 schools that offered courses for dual credit that were taught on a high school campus or on the campus of a postsecondary institution, 92 percent indicated that they offered dual credit courses with an academic focus, and 51 percent reported that they offered dual credit courses with a career and technical/vocational focus.
- *Academic focus*. Schools located in towns were more likely to offer dual credit courses with an academic focus than were schools located in urban fringe areas (96 vs. 90 percent).
- *Career and technical/vocational focus*. School enrollment size was positively related to the likelihood of offering dual credit courses with a career and technical/vocational focus. In 2002–03, 43 percent of small schools, 52 percent of medium schools, and 61 percent of large schools offered these types of courses. Schools in rural areas were less likely to offer dual credit courses with a career and technical/vocational focus than were schools located in either urban fringe

Figure 2. Percentage distribution of enrollment in courses for dual credit, by course location: 2003



NOTE: Percentages are based on the total 1,162,000 enrollments in dual credit courses. Percentages are based on unrounded numbers. 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), "Dual Credit and Exam-Based Courses," FRSS 85, 2003.

areas or towns (43 vs. 56 and 63 percent, respectively). Schools located in the West (62 percent) were the most likely to report that they offered dual credit courses with a career and technical/vocational focus, while schools in the Northeast (30 percent) were the least likely to do so. Finally, schools with less than 6 percent minority enrollment were less likely than schools with 6 to 49 percent minority enrollment to report that they offered these types of courses.

- *Enrollment*. During the 2002–03 12-month school year, there were 1.1 million enrollments in dual credit courses taught on a high school campus or the campus of a postsecondary institution. Of these, 64 percent (719,000 enrollments) were in courses with an academic focus, while 36 percent (398,000 enrollments) were in courses with a career and technical/vocational focus (figure 3).

Educational focus by course location

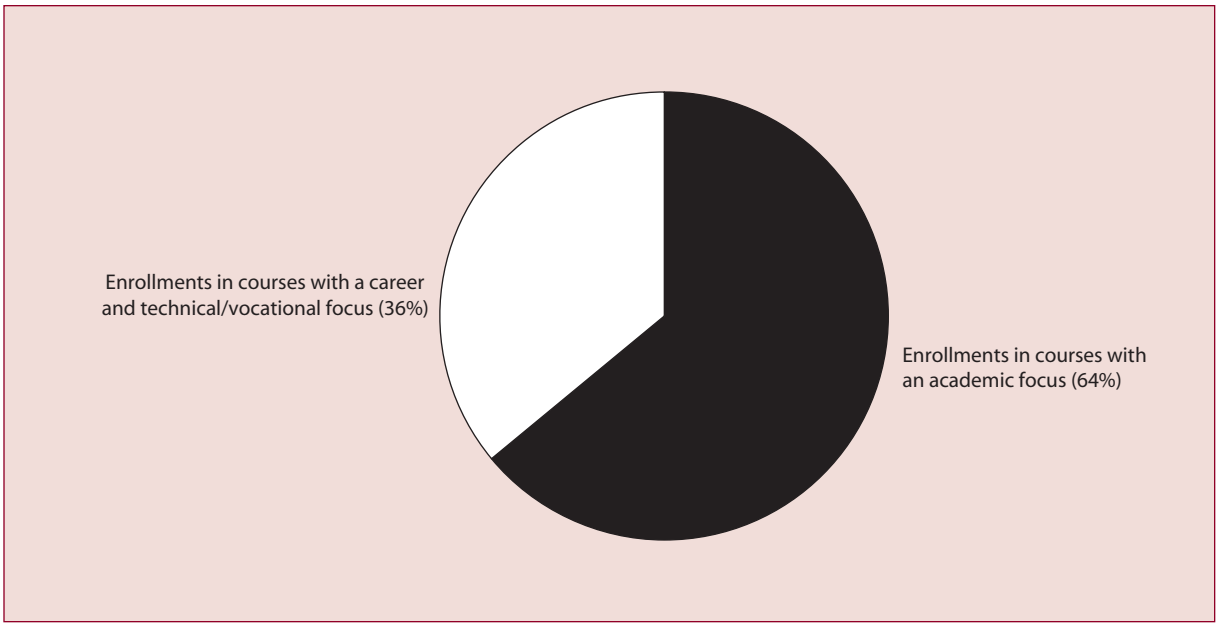
Schools reported the educational focus of the dual credit courses they offered separately for those courses that were located on a high school campus and for those located on the campus of a postsecondary institution.

Courses for dual credit taught on a high school campus

Schools that reported offering dual credit courses taught on their campus indicated whether any of these courses had an academic focus and whether any had a career and technical/vocational focus. Schools could offer both types of courses.

- *Overview*. Of the schools that offered courses for dual credit taught on a high school campus, 83 percent offered courses that had an academic focus and 49 percent offered courses with a career and technical/vocational focus.
- *Academic focus*. Of the schools that offered dual credit courses taught at the high school, small schools were more likely than large schools to offer such courses with an academic focus (87 vs. 78 percent).
- *Career and technical/vocational focus*. School enrollment size was positively related to the likelihood of offering dual credit courses on a high school campus with a career and technical/vocational focus. In 2002–03, 40 percent of small schools, 50 percent of medium schools, and 59 percent of large schools offered these types of courses. Rural schools were less likely than schools in all other locales to offer these dual credit courses on a high school campus (37 vs. 56 to 58 percent). In addition, schools in the West

Figure 3. Percentage distribution of enrollment in courses for dual credit taught on a high school campus or on the campus of a postsecondary institution, by educational focus of those courses: 2003



NOTE: Percentages are based on the 1,117,100 enrollments in dual credit courses taught on a high school campus and/or the campus of a postsecondary institution. Percentages are based on unrounded numbers. 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), "Dual Credit and Exam-Based Courses," FRSS 85, 2003.

were more likely than those in any other region to offer these dual credit courses on a high school campus (60 vs. 37 to 47 percent).

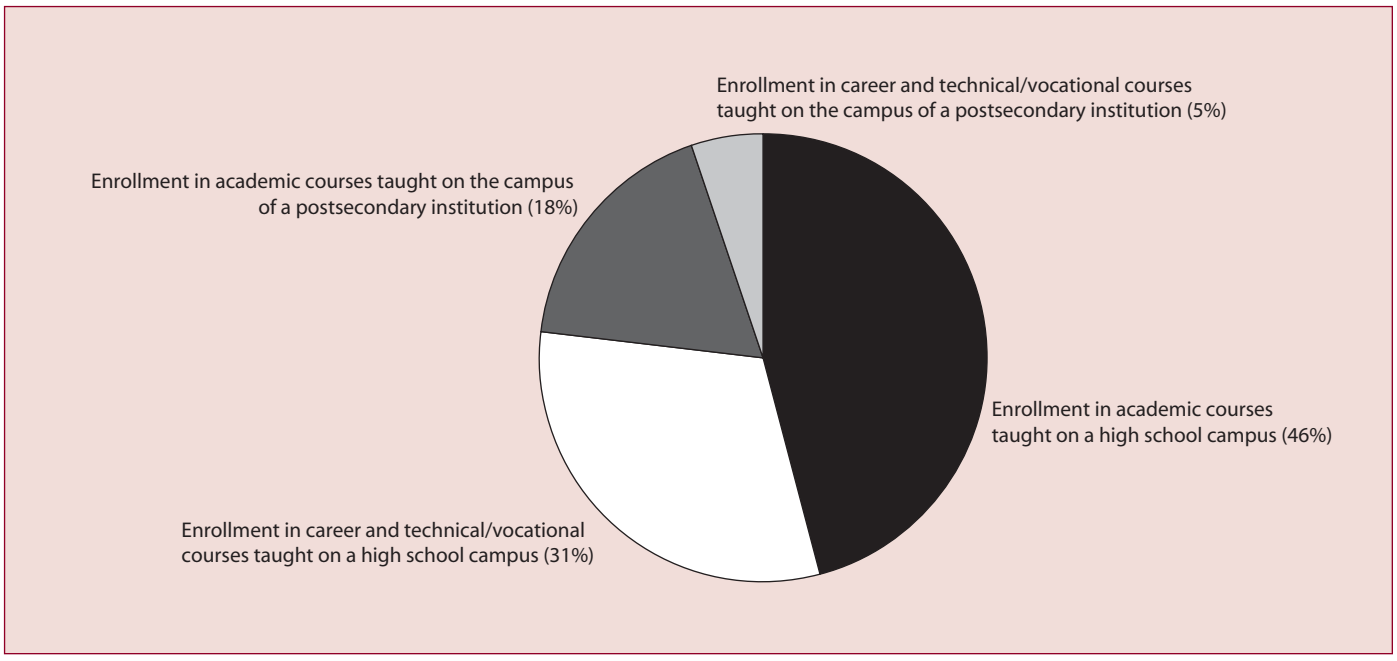
- *Enrollment*. During the 2002–03 12-month school year, among dual credit courses taught on high school campuses, there were approximately 513,000 enrollments in dual credit courses with an academic course focus, and 342,000 enrollments in courses with a career and technical/vocational focus. These enrollments represent 46 percent and 31 percent, respectively, of the total enrollments in dual credit courses taught on either a high school campus or at a postsecondary institution (figure 4).

Courses for dual credit taught on the campus of a postsecondary institution

Schools that reported offering dual credit courses taught on the campus of a postsecondary institution indicated whether any of these courses had an academic focus and whether any had a career and technical/vocational focus. Schools could offer both types of courses.

- *Overview*. Of the schools that offered dual credit courses taught on the campus of a postsecondary institution, 92 percent offered courses with an academic focus and 46 percent offered courses with a career and technical/vocational focus.
- *Academic focus*. Schools in the Northeast (99 percent) were more likely than schools in the Southeast (90 percent), Central region (90 percent), or the West (92 percent) to report offering dual credit courses with an academic focus on the campus of a postsecondary institution.
- *Career and technical/vocational focus*. Schools located in towns were more likely than those located in cities or rural areas to offer courses for dual credit with a career and technical/vocational focus on a postsecondary campus (57 vs. 42 percent respectively). Furthermore, schools in the Northeast were less likely than those in other regions to offer these courses on a postsecondary campus (13 percent vs. 48 to 54 percent).
- *Enrollment*. During the 2002–03 12-month school year, there were 205,000 enrollments in academic dual credit courses that were taught on the campus of a postsecondary institution, and 56,000 enrollments in career and technical/vocational courses that were taught on the campus of a postsecondary institution. These enrollments represent 18 percent and 5 percent, respectively, of the total enrollments in dual credit courses taught on the campus of a high school or postsecondary institution (figure 4).

Figure 4. Percentage distribution of enrollment in courses for dual credit, by course location and educational focus: 2003



NOTE: Percentages are based on the 1,117,100 enrollments in dual credit courses taught on a high school campus and/or the campus of a postsecondary institution. Percentages are based on unrounded numbers. 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), "Dual Credit and Exam-Based Courses," FRSS 85, 2003.

Characteristics of Courses for Dual Credit

Dual credit courses vary greatly with regard to a number of characteristics, including whether (1) they are offered individually ("cafeteria style") or in a sequence of courses, (2) they are taught by high school instructors and/or postsecondary instructors, (3) they serve only public high school students or a mixture of public high school students and postsecondary students, and (4) the postsecondary credit is awarded immediately upon course completion or is held in escrow until after the student graduates from public high school and attends a specific postsecondary institution.

Course structure

In addition to dual credit course location or focus, high schools reported whether students could select courses for dual credit cafeteria style, whereby students selected individual courses from a wide range of courses for which prerequisites were met; and whether students could select the courses for dual credit as part of a sequence, such as a series of courses in a specific content area, such as math, history, nursing, or automotive technology. Respondents could offer these courses both ways.

Sequence of courses

- Among high schools offering dual credit courses on their campus, 53 percent of those offering courses with an academic focus and 72 percent of those offering courses with a career and technical/vocational focus indicated that some or all of these courses were offered as part of a sequence.
- Similarly, among schools offering dual credit courses on the campus of a postsecondary institution, 53 percent of those offering courses with an academic focus and 72 percent of those offering courses with a career and technical/vocational focus reported that some or all of these courses were offered as part of a sequence.
- Among schools that offered dual credit courses with an academic focus on a high school campus, 59 percent of schools located in towns reported offering some or all of these courses as part of a sequence, compared with 42 percent of schools located in cities.
- Among schools that offered dual credit courses with an academic focus on a postsecondary institution's campus, a greater proportion of schools located in urban fringe areas than in cities offered some or all of these courses as part of a sequence (60 vs. 46 percent, respectively).

Cafeteria-style courses

- Among schools that offered dual credit courses taught on a high school campus, 35 percent of those offering courses with an academic focus reported that some or all of these courses were offered cafeteria style, while 41 percent of those offering courses with a career and technical/vocational focus indicated that some or all of these courses were offered cafeteria style.
- Among public high schools reporting that they offered dual credit courses taught on the campus of a postsecondary institution, 68 percent of those that offered dual credit courses with an academic focus and 59 percent of those that offered courses with a career and technical/vocational focus indicated that some or all of these courses were offered cafeteria style.
- Of the schools that offered career and technical/vocational dual credit courses taught on a high school campus, fewer schools located in cities (29 percent) reported that some or all of these courses were offered cafeteria style, compared with 50 percent in urban fringe areas and 44 percent in towns. In addition, schools in the Southeast region offering career and technical/vocational dual credit courses on a high school campus were less likely to indicate that some or all of these courses were offered cafeteria style than were schools in the other regions (25 vs. 42 to 46 percent).
- Of the schools that offered career and technical/vocational dual credit courses taught on the campus of a postsecondary institution, schools in the Northeast were more likely to report that some or all of these courses were offered cafeteria style than were schools in all other regions (100 vs. 55 to 59 percent).

Course instructors

Public high schools indicating that they offered dual credit courses taught on their high school campus were asked to specify whether these courses were taught by high school instructors only, postsecondary instructors only, or both high school and postsecondary instructors.[6] Most dual credit courses taught on a high school campus were taught by high school instructors only, regardless of the educational focus of the dual credit courses.

- Of the schools that offered academic courses for dual credit taught on a high school campus, 64 percent indicated that these courses were taught solely by

[6]Information about course instructors was not collected for dual credit courses taught at a postsecondary institution, because research during survey development indicated that these courses are almost always taught by postsecondary faculty.

high school instructors, 24 percent reported that both high school and postsecondary instructors taught the courses, and 11 percent stated that the courses were taught only by postsecondary instructors.

- For schools that offered career and technical/vocational courses for dual credit taught on a high school campus, 76 percent indicated that these courses were taught by high school instructors only, 12 percent of schools reported that the courses were taught by both high school and postsecondary instructors, and 12 percent reported that the courses were taught by postsecondary instructors only.

Student composition

Schools that offered dual credit courses taught on the campus of a postsecondary institution were asked to indicate whether the most common student composition in these courses was high school students only or a combination of high school students and postsecondary students. The most common student composition for dual credit courses taught on the campus of a postsecondary institution was a mix of both high school and postsecondary students, regardless of the educational focus.

- Of the schools that offered academic dual credit courses on a postsecondary campus, 82 percent reported that these courses enrolled both high school and postsecondary students, while 18 percent reported enrolling high school students only.
- Similarly, of the schools that offered career and technical/vocational dual credit courses on a postsecondary campus, 78 percent reported that these courses contained both high school and postsecondary students, while 22 percent reported they contained high school students only.

Awarding of postsecondary credit

There are two primary ways in which postsecondary credit for dual credit courses is awarded. The credit can be awarded immediately upon completion of the dual credit course, or it can be held in escrow until the student has graduated from public high school and enrolls in a specific postsecondary institution that accepts the credit. Students taking courses for dual credit were most commonly awarded postsecondary credit immediately upon completion of the course, regardless of course location or educational focus.

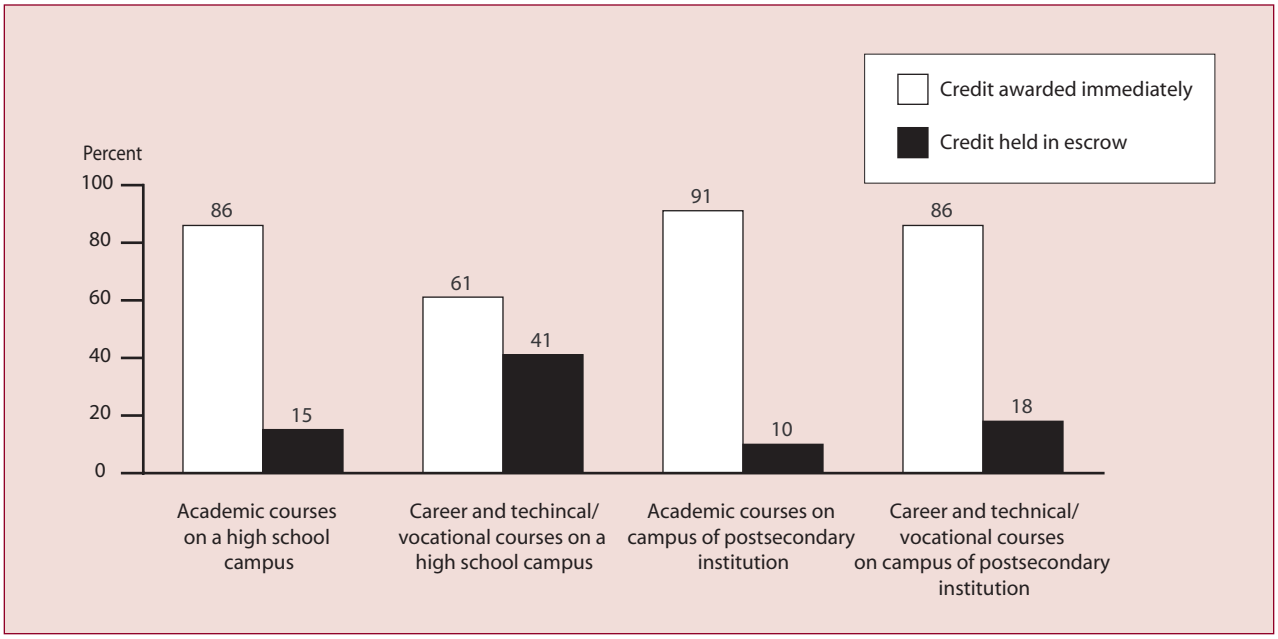
- Among schools that offered academic dual credit courses on a high school campus, 86 percent awarded postsecondary credits to their students immediately and 15 percent held credits in escrow. Sixty-one percent of schools offering career and technical/vocational dual credit courses reported immediate award of credits and 41 percent reported holding credits in escrow.
- Among schools that offered academic dual credit courses taught on the campus of a postsecondary institution, 91 percent awarded postsecondary credits to their students immediately and 10 percent held credits in escrow. Eighty-six percent of schools offering career and technical/vocational dual credit courses reported immediate award of credits and 18 percent of schools reported holding credits in escrow.
- Schools that offered courses for dual credit on a high school campus or on the campus of a postsecondary institution were more likely to report that the postsecondary credit was awarded immediately rather than held in escrow, regardless of course location or focus. However, the percentage point difference between schools that offered postsecondary credit immediately and those that held it in escrow was smaller for dual credit courses with a career and technical/vocational focus taught on a high school campus than for any other dual credit course location or focus (20 percentage point difference vs. 68 to 81 percentage point difference) (figure 5).

School Requirements Related to Dual Credit Courses

Schools that offered courses for dual credit were asked whether their school had established any entrance requirements, other than state or specific postsecondary entrance requirements, that their students must meet in order to enroll in courses for dual credit. Schools that had such requirements were asked to indicate which requirements students must meet.

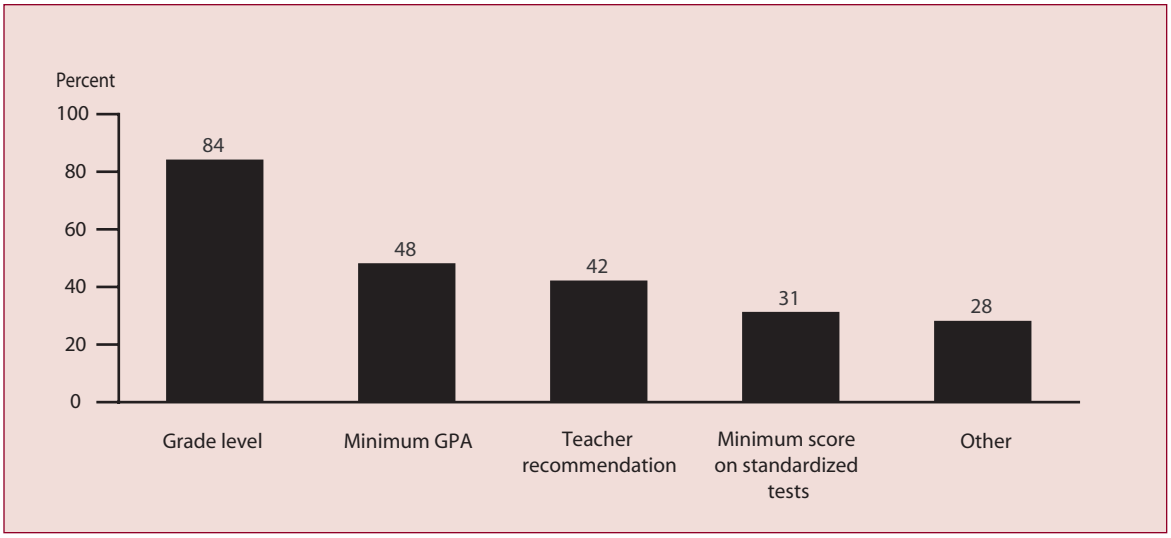
- Sixty-two percent of schools that offered courses for dual credit indicated that their school had established requirements for students to enroll in dual credit courses. Among schools with requirements, the most common requirement was grade level (84 percent), followed by minimum GPA (48 percent), teacher recommendation (42 percent), and minimum score on standardized tests (31 percent) (figure 6). Twenty-eight percent reported that their school had established some other requirement(s) than those listed.
- A greater proportion of schools located in urban fringe areas reported that their school had specific requirements for taking dual credit courses (56 percent) than schools located in cities or towns

Figure 5. Percent of public high schools that offered courses for dual credit during the 2002–03 12-month school year indicating whether postsecondary credit was awarded immediately or held in escrow, by dual credit course location and focus: 2003



NOTE: Percentages are based on unrounded numbers. Detail may not sum to totals since schools could select more than one response option.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Dual Credit and Exam-Based Courses," FRSS 85, 2003.

Figure 6. Percent of public high schools reporting established requirements that students must meet in order to enroll in courses for dual credit: 2003



NOTE: Percentages are based on the 7,300 schools that reported having established requirements that students must meet to enroll in dual credit courses. Percentages are based on unrounded numbers.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Dual Credit and Exam-Based Courses," FRSS 85, 2003.

(69 and 68 percent, respectively). Furthermore, a greater proportion of schools in the Northeast (70 percent) and the Southeast (70 percent) than in the West (61 percent) or Central region (55 percent) reported having specific requirements.

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Data source: The NCES Fast Response Survey System (FRSS).

For technical information, see the complete report:

Waits, T., Setzer, J.C., and Lewis, L. (2005). *Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2002–03* (NCES 2005-009).

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To obtain the complete report (NCES 2005-009), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Public Elementary and Secondary Students, Staff, Schools, and School Districts: School Year 2002–03

Lee Hoffman, Jennifer Sable, Julia Naum, and Dell Gray

This article was originally published as the Summary of Findings of the E.D. TAB of the same name. The universe data are from the Common Core of Data (CCD).

Introduction

This report presents information about public elementary and secondary education for the 2002–03 school year. The data were provided by state education agencies through the Common Core of Data (CCD) survey system. Discussion of data is limited to the 50 states and the District of Columbia, and excludes the Bureau of Indian Affairs, Department of Defense schools, and five outlying areas: American Samoa, Guam, the Northern Marianas, Puerto Rico, and the Virgin Islands. (Note that tables include data for all jurisdictions.)

Selected Findings

More than 48.2 million students were enrolled in public schools in 2002–03. Among the states with the largest number of students in membership were California (6.4 million); Texas (4.3 million); and Florida, Illinois, and New York, which each reported more than 2 million students. The total 2002–03 student membership was an increase of 5.4 million, or 13 percent more students than in 1992–93 (table A).

Approximately 6.4 million students, or 13 percent of the total membership, had special education individualized education programs (IEPs) and received special education services in 2002–03 (table B). English language learner (ELL) services were provided to 4 million students (8 percent of all students), and 16.4 million (34 percent) were eligible for free or reduced-price meals.

A total of 2.6 million students were awarded a high school diploma in 2001–02, and an additional 45,000 received a certificate of completion or comparable credential (table C).

The average student/teacher ratio in 2002–03 was 15.9, or about 16 students for every teacher employed. This was a decrease from the pupil/teacher ratio of 17.4 in 1992–93 (derived from table A). In 2002–03, California, Oregon, and Utah had student/teacher ratios of more than 20 to 1.

Overall, public education employed almost 6 million full-time-equivalent (FTE) positions in 2002–03 (table D). More than 3 million of these were teachers and 664,000 were teacher aides. These instructional staff accounted for 62 percent of the reported personnel. School and school district administrators accounted for 4 percent of all staff.

More than 92,000 public schools had students in membership during 2002–03. Of these schools, 57 percent were primary schools, 17 percent were middle schools, and 19 percent were high schools. An additional 6 percent of schools had some other grade configuration.

The average number of students in primary schools was 439 in 2002–03, in middle schools it was 617, and in high schools 754. In Florida, Hawaii, and Maryland, the average-size high school had more than 1,200 students.

In 2002–03, almost 13 percent of all public schools were in large cities. Another 29 percent were located in rural areas. The remaining 59 percent of schools were in midsize cities, urban fringes, or towns.

Across the states that reported these school characteristics, there were almost 50,000 Title I eligible schools in 2002–03 and these schools accounted for about 50 percent of all students. There were close to 2,600 charter schools. About 45 percent were administered directly by public school districts that also included noncharter schools, and 55 percent were administered by exclusively charter districts.

Not all local education agencies in 2002–03 were regular school districts. While 83 percent of local agencies were in this category, another 8 percent provided other services (e.g., administration, staff development) to local school districts. The remaining 8 percent of agencies were state- or federally administered, or charter school, districts.

Data sources: The NCES Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey," 2002–03, Version 1a; "State Nonfiscal Survey of Public Elementary/Secondary Education," 1992–93, Version 1c, 2002–03, Version 1a; and "Local Education Agency Universe Survey," 2002–03, Version 1a.

For technical information, see the complete report:

Hoffman, L., Sable, J., Naum, J., and Gray, D. (2005). *Public Elementary and Secondary Students, Staff, Schools, and School Districts: School Year 2002–03* (NCES 2005-314).

Author affiliations: L. Hoffman, NCES; J. Sable, Education Statistics Services Institute; J. Naum and D. Gray, U.S. Census Bureau.

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To obtain the complete report (NCES 2005-314), call the toll-free ED pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Table A. Public school student membership and number of teachers: United States and other jurisdictions, school years 1992–93 and 2002–03

State	Total student membership			Number of teachers		
	1992–93	2002–03	Percent change from 1992–93 to 2002–03	1992–93	2002–03	Percent change from 1992–93 to 2002–03
United States[1]	42,823,312	48,202,324[2]	12.6	2,458,956	3,034,064	23.4
Alabama	731,634	739,678[2]	1.1	41,961	47,104[2]	12.3
Alaska	122,487	134,364	9.7	7,282	8,080	11.0
Arizona	673,477	937,755	39.2	36,076	47,101	30.6
Arkansas	441,490	450,985	2.2	26,017	30,330	16.6
California	5,254,844	6,356,348[3]	21.0	218,566	307,672[3]	40.8
Colorado	612,635	751,862	22.7	33,419	45,401	35.9
Connecticut	488,476	570,023	16.7	34,193	42,296	23.7
Delaware	104,321	116,342	11.5	6,252	7,698	23.1
District of Columbia	80,937	76,166	-5.9	6,064	5,005[4]	-17.5
Florida	1,981,407	2,539,929	28.2	107,590	138,226	28.5
Georgia	1,207,186	1,496,012	23.9	66,942	96,044	43.5
Hawaii	177,448	183,829	3.6	10,083	10,973	8.8
Idaho	231,668	248,515	7.3	11,827	13,896	17.5
Illinois	1,873,567	2,084,187	11.2	111,461	131,045	17.6
Indiana	960,630	1,003,875	4.5	54,552	59,968	9.9
Iowa	494,839	482,210	-2.6	31,403	34,573	10.1
Kansas	451,536	470,957	4.3	29,753	32,643	9.7
Kentucky	655,041	660,782	0.9	37,868	40,662	7.4
Louisiana	797,985	730,464	-8.5	46,904	50,062	6.7
Maine	216,453	204,337	-5.6	15,375	16,837	9.5
Maryland	751,850	866,743	15.3	44,495	55,382	24.5
Massachusetts	859,948	982,989	14.3	57,225	74,214	29.7
Michigan	1,603,610	1,785,160	11.3	82,301	89,595[5]	8.9
Minnesota	793,724	846,891	6.7	45,050	52,808	17.2
Mississippi	506,668	492,645	-2.8	27,829	31,598	13.5
Missouri	859,357	924,445	7.6	52,984	66,717	25.9
Montana	160,011	149,995	-6.3	10,135	10,362	2.2
Nebraska	282,414	285,402	1.1	19,323	21,043	8.9
Nevada	222,974	369,498	65.7	11,953	20,037	67.6
New Hampshire	181,247	207,671	14.6	11,654	14,977	28.5
New Jersey	1,130,560	1,367,438	21.0	83,057	107,004	28.8
New Mexico	315,668	320,234	1.4	17,912	21,172	18.2
New York	2,689,686	2,888,233	7.4	176,375	210,926[4]	19.6
North Carolina	1,114,083	1,335,954	19.9	66,630	87,677	31.6
North Dakota	118,734	104,225	-12.2	7,794	8,078	3.6

See notes at end of table.

Table A. Public school student membership and number of teachers: United States and other jurisdictions, school years 1992–93 and 2002–03—Continued

State	Total student membership			Number of teachers		
	1992–93	2002–03	Percent change from 1992–93 to 2002–03	1992–93	2002–03	Percent change from 1992–93 to 2002–03
Ohio	1,795,199	1,838,285	2.4	106,233	125,372	18.0
Oklahoma	597,096	624,548	4.6	38,433	40,638	5.7
Oregon	510,122	554,071	8.6	26,634	27,126	1.8
Pennsylvania	1,717,613	1,816,747	5.8	100,912	118,256	17.2
Rhode Island	143,798	159,205	10.7	10,069	11,196[4]	11.2
South Carolina	640,464	694,584	8.5	37,295	46,578	24.9
South Dakota	134,573	128,039	-4.9	8,767	9,257	5.6
Tennessee	855,231	928,000[2]	8.5	43,566	58,652	34.6
Texas	3,541,769	4,259,823	20.3	219,385	288,655	31.6
Utah	463,870	489,072	5.4	19,191	22,415	16.8
Vermont	98,558	99,978	1.4	7,521	8,542	13.6
Virginia	1,031,925	1,177,229	14.1	68,181	99,919	46.5
Washington	896,475	1,014,798	13.2	44,295	52,953	19.5
West Virginia	318,296	282,455	-11.3	20,961	20,119	-4.0
Wisconsin	829,415	881,231	6.2	53,387	60,385	13.1
Wyoming	100,313	88,116	-12.2	5,821	6,795[2]	16.7
Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas						
DoDDS: DoD schools (overseas)	—	72,722	—	—	4,793	—
DDESS: DoD schools (domestic)	—	32,115	—	—	2,424	—
Bureau of Indian Affairs	—	46,126	—	—	—	—
American Samoa	13,994	15,984	14.2	725	943	30.1
Guam	30,077	—	—	1,628	—	—
Northern Marianas	8,086	11,251	39.1	425	545	28.2
Puerto Rico	637,034	596,502	-6.4	38,381	42,369	10.4
Virgin Islands	22,887	18,333	-19.9	1,595	1,502	-5.8

— Not available.
[1]U.S. totals include the 50 states and the District of Columbia.
[2]Includes prekindergarten data imputed based on current-year (fall 2002) data.
[3]California did not report the number of ungraded teachers, and the total number of teachers in California is therefore underestimated.
[4]Data imputed based on prior-year (fall 2001) data.
[5]Data disaggregated from reported total.
NOTE: Teacher counts are full-time-equivalency (FTE) counts.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1992–93, Version 1c; and "State Nonfiscal Survey of Public Elementary/Secondary Education," 2002–03, Version 1a. (Originally published as table 2 on pp. 5–6 of the complete report from which this article is excerpted.)

Table B. Number and percentage of public school students participating in selected programs: United States and other jurisdictions, school year 2002–03

State	Number of students with IEPs	Percent of students with IEPs	Number of students receiving ELL services	Percent of students receiving ELL services	Number of students receiving migrant services during school year[1]	Number of students receiving migrant services during summer	Number of students eligible for free or reduced-price meals	Percent of all students eligible for free or reduced-price meals
Reporting states[2]	6,449,904	13.4	4,029,340	8.4	—	—	16,955,477	35.2
Alabama	94,343	12.9	10,568	1.4	7,825	2,630	364,226	50.1
Alaska	18,131	13.5	16,378	12.2	10,220	1,369	34,846	25.9
Arizona	101,648	10.6	143,744	14.9	2,094	8,635	(3)	(3)
Arkansas	57,185	12.7	15,146	3.4	8,813	1,558	218,277	48.4
California	673,935	10.8	1,599,542	25.6	230,478	151,112	3,002,890	48.1
Colorado	75,585	10.1	86,128	11.5	12,653	3,026	214,115	28.5
Connecticut	74,020	12.9	22,651	4.0	4,551	2,206	145,017	25.4
Delaware	16,723	14.4	3,449	3.0	291	170	41,319	35.5
District of Columbia	12,400	16.3	5,798	7.6	814	115	47,189	62.0
Florida	389,632	15.3	203,712	8.0	49,091	4,357	1,148,685	45.4
Georgia	177,608	11.9	70,464	4.7	9,539	3,671	674,800	45.1
Hawaii	22,814	12.4	12,853	7.0	1,520	271	80,630	43.9
Idaho	28,904	11.6	18,747	7.5	8,347	4,284	90,447	36.4
Illinois	305,970	14.7	168,727	8.1	—	2,441	741,954	35.6
Indiana	166,414	16.6	42,629	4.2	—	—	325,856	32.5
Iowa	73,123	15.2	13,961	2.9	4,538	833	137,404	28.5
Kansas	63,845	13.6	17,942	3.8	12,526	3,444	168,744	36.0
Kentucky	100,294	15.2	6,343	1.0	14,801	4,873	434,012	69.0
Louisiana	99,729	13.7	11,108	1.5	4,077	3,443	443,102	60.7
Maine	33,763	16.1	2,632	1.3	—	2,730	62,047	30.4
Maryland	106,299	12.3	27,311	3.2	348	900	265,989	30.7
Massachusetts	150,551	15.3	51,622	5.3	2,203	—	257,359	26.2
Michigan	238,273	13.3	(3)	(3)	—	(3)	553,124	31.0
Minnesota	111,960	13.2	51,275	6.1	987	3,326	231,450	27.3
Mississippi	63,738	12.9	2,250	0.5	2,405	950	321,712	65.3
Missouri	143,383	15.5	13,121	1.4	4,616	485	333,964	36.2
Montana	19,162	12.8	6,642	4.4	—	—	47,877	31.9
Nebraska	45,018	15.8	13,803	4.8	13,419	3,382	92,423	32.4
Nevada	42,504	11.5	58,753	15.9	548	40	125,660	34.1
New Hampshire	29,238	14.1	3,270	1.6	155	—	32,132	15.5
New Jersey	218,533	16.0	57,548	4.2	868	1,298	371,392	27.2
New Mexico	63,593	19.9	65,317	20.4	1,924	583	182,469	57.0
New York	420,274	14.4	178,909	6.1	—	—	(3)	(3)
North Carolina	190,146	14.2	59,849	4.5	15,132	9,021	452,486	33.9
North Dakota	13,653	13.1	883	0.8	291	438	29,270	28.1

See notes at end of table.

Table B. Number and percentage of public school students participating in selected programs: United States and other jurisdictions, school year 2002–03—Continued

State	Number of students with IEPs	Percent of students with IEPs	Number of students receiving ELL services	Percent of students receiving ELL services	Number of students receiving migrant services during school year[1]	Number of students receiving migrant services during summer	Number of students eligible for free or reduced-price meals	Percent of all students eligible for free or reduced-price meals
Ohio	248,127	13.5	25,782	1.4	([3])	—	535,072	29.2
Oklahoma	91,184	14.6	40,192	6.4	—	631	320,600	51.3
Oregon	71,433	12.9	52,331	9.4	20,394	5,105	211,674	38.5
Pennsylvania	242,837	13.4	—	—	8,768	7,446	528,011	29.1
Rhode Island	32,500	20.4	10,087	6.3	—	—	53,084	33.4
South Carolina	109,423	15.8	7,467	1.1	518	1,022	343,810	49.6
South Dakota	17,241	13.5	4,524	3.5	2,265	245	38,800	30.3
Tennessee	142,566	15.8	—	—	—	—	—	—
Texas	502,700	11.8	630,686	14.8	108,649	—	1,968,976	46.2
Utah	56,085	11.6	43,299	8.9	4,105	3,485	149,728	30.9
Vermont	13,765	13.8	1,057	1.1	858	411	25,501	25.5
Virginia	169,237	14.4	49,845	4.2	1,273	569	355,212	30.2
Washington	122,277	12.0	70,431	6.9	—	6,608	347,562	34.2
West Virginia	50,259	17.8	1,281	0.5	135	—	136,469	48.3
Wisconsin	126,259	14.3	25,764	2.9	1,028	394	242,158	27.5
Wyoming	11,620	13.4	3,519	4.1	210	291	25,953	30.0
Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas								
DoDDS: DoD schools (overseas)	6,056	8.3	6,140	8.4	—	—	—	—
DDESS: DoD schools (domestic)	3,212	10.0	1,892	5.9	—	—	—	—
Bureau of Indian Affairs	—	—	—	—	—	—	—	—
American Samoa	867	5.4	15,447	96.6	—	—	15,891	99.4
Guam	—	—	—	—	—	—	—	—
Northern Marianas	542	4.8	—	—	1,030	1,199	11,070	98.4
Puerto Rico	69,327	11.6	—	—	14,128	([3])	484,069	81.2
Virgin Islands	1,497	8.2	1,223	6.7	—	—	—	—

— Not available.
[1]Migrant students include those who were enrolled at any time during the previous (2001–02) regular school year. They are reported for each school in which they enrolled; because this is a duplicated count, the table does not show migrants as a percentage of all students.
[2]Reporting states total includes the 50 states and the District of Columbia. It is suppressed if data were missing for 15 percent or more of all schools or agencies. State totals exclude states for which data were missing for 20 percent or more of the schools or agencies.
[3]Data were missing for more than 20 percent of schools or districts.
NOTE: IEP is the acronym for individualized education program. ELL is the acronym for English language learner. Some data items were more likely to be missing from charter schools than from other schools. Free lunch data were missing for 459 of 2,575 charter schools in the 50 states and District of Columbia, and migrant student data were missing for 417. Data on ELL students were missing for 248 of the total 1,241 operational charter school districts in the 50 states and District of Columbia. Percentages are based on schools and agencies reporting. 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," 2002–03, Version 1a; and "Local Education Agency Universe Survey," 2002–03, Version 1a. (Originally published as table 3 on pp. 7–8 of the complete report from which this article is excerpted.)

Table C. Number of public high school completers, by type of completion: United States and other jurisdictions, school year 2001–02

State	Total high school completers	Diploma recipients	Other high school completers[1]	High school equivalency recipients[2]
Reporting states[3]	—	2,635,277	45,081	—
Alabama	—	35,887	3,529	—
Alaska	8,106	6,945	28	1,133
Arizona	—	47,175	1,208	—
Arkansas	33,942	26,984	1,909	5,049
California	—	325,895	†	—
Colorado	45,239	40,760	232	4,247
Connecticut	33,323	32,327	158	838
Delaware	6,796	6,482	134	180
District of Columbia	—	3,090	213	—
Florida	139,666	119,537	5,602	14,527
Georgia	—	65,983	6,581	—
Hawaii	—	10,452	217	—
Idaho	—	15,874	34	—
Illinois	—	116,657	†	—
Indiana	62,102	56,722	1,531	3,849
Iowa	35,617	33,789	43	1,785
Kansas	—	29,541	†	—
Kentucky	—	36,337	332	—
Louisiana	42,553	37,905	903	3,745
Maine	12,858	12,596	29	233
Maryland	—	50,881	510	—
Massachusetts	—	55,272	†	—
Michigan	97,530	95,001	666	1,863
Minnesota	62,228	57,440	†	4,788
Mississippi	25,612	23,740	1,603	269
Missouri	56,530	54,487	†	2,043
Montana	11,488	10,554	†	934
Nebraska	—	19,910	95	—
Nevada	18,608	16,270	685	1,653
New Hampshire	—	12,452	—	947
New Jersey	83,393	77,664	†	5,729
New Mexico	—	18,094[4]	—	—
New York	—	153,879	4,889	—
North Carolina	75,217	65,955	691	8,571
North Dakota	9,473	8,114	†	1,359

See notes at end of table.

Table C. Number of public high school completers, by type of completion: United States and other jurisdictions, school year 2001–02—Continued

State	Total high school completers	Diploma recipients	Other high school completers[1]	High school equivalency recipients[2]
Ohio	114,694	110,608	†	4,086
Oklahoma	46,277	36,852	†	9,425
Oregon	41,466	31,153	3,927	6,386
North Dakota	123,510	114,943	†	8,567
Rhode Island	10,364	9,006	9	1,349
South Carolina	—	31,302	2,384	—
South Dakota	—	8,796	†	—
Tennessee	—	40,894	3,728	—
Texas	233,476	225,167	†	8,309
Utah	33,329	30,183	155	2,991
Vermont	7,190	7,083	92	15
Virginia	72,850	66,519	2,753	3,578
Washington	58,974	58,311	152	511
West Virginia	18,417	17,128	19	1,270
Wisconsin	—	60,575	—	12,543
Wyoming	—	6,106	40	—
Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas				
DoDDS: DoD schools (overseas)	—	2,554	†	—
DDESS: DoD schools (domestic)	—	565	†	—
Bureau of Indian Affairs	—	—	†	—
American Samoa	885	823	7	55
Guam	—	—	†	—
Northern Marianas	417	416	†	1
Puerto Rico	(5)	(5)	(5)	(5)
Virgin Islands	—	883	†	—

— Not available.
† Not applicable.
[1] Includes individuals who receive certificates of attendance or some other credential in lieu of diplomas. Total other high school completers does not include New Hampshire, New Mexico, and Wisconsin.
[2] Includes recipients ages 19 or younger, except in Minnesota, where they are ages 20 or younger.
[3] U.S. totals include the 50 states and the District of Columbia.
[4] Data imputed based on prior-year (fall 2001) data.
[5] Number was withheld from publication because the number of completers exceeded 12th-grade membership in 2001–02.
NOTE: High school completer categories may include students not included in 12th-grade membership in the 2001–02 school year.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2002–03, Version 1a. (Originally published as table 4 on pp. 9–10 of the complete report from which this article is excerpted.)

Table D. Number of staff employed by public elementary and secondary school systems and percentage of total staff, by category: United States and other jurisdictions, school year 2002–03

State	Total staff	Teachers		Instructional aides		Instructional coordinators and supervisors		Guidance counselors	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
United States[3]	5,956,689[4]	3,034,064	50.9[4]	664,385	11.2[4]	47,998	0.8[4]	100,901	1.7[5]
Alabama	88,882[4]	47,104	53.0[4]	6,169	6.9	667	0.8	1,696	1.9
Alaska	17,101[2]	8,080	47.2	2,328	13.6	172	1.0[4]	289	1.7
Arizona	96,639	47,101	48.7	13,650	14.1	187	0.2	1,264	1.3
Arkansas	63,815	30,330	47.5	6,217	9.7	613	1.0	1,436	2.3
California	581,664[4]	307,672	52.9[4,6]	72,242	12.4	6,664	1.1	6,684	1.1
Colorado	90,396	45,401	50.2	11,008	12.2	926	1.0	1,390	1.5
Connecticut	86,361	42,296	49.0	12,076	14.0	400	0.5	1,328	1.5
Delaware	14,449	7,698	53.3	1,388	9.6	181	1.3	238	1.6
District of Columbia	11,549[5]	5,005	43.3[5]	1,536	13.3[5]	20	0.2[5]	243	2.1[5]
Florida	287,090	138,226	48.1	31,040	10.8	658	0.2	5,640	2.0
Georgia	197,944	96,044	48.5	23,792	12.0	1,490	0.8	3,319	1.7
Hawaii	20,703	10,973	53.0	2,603	12.6	524	2.5	649	3.1
Idaho	24,897	13,896	55.8	2,641	10.6	274	1.1	591	2.4
Illinois	258,234[4]	131,045	50.7	32,902	12.7[4]	1,298	0.5	2,942	1.1
Indiana	126,998	59,968	47.2	17,426	13.7	1,623	1.3	1,812	1.4
Iowa	67,426	34,573	51.3	8,439	12.5	477	0.7	1,197	1.8
Kansas	63,911	32,643	51.1	6,805	10.6	118	0.2	1,142	1.8
Kentucky	95,839	40,662	42.4	14,078	14.7	846	0.9	1,460	1.5
Louisiana	102,333	50,062	48.9	11,372	11.1	1,348	1.3	3,094	3.0
Maine	34,578	16,837	48.7	5,903	17.1	218	0.6	646	1.9
Maryland	102,642	55,382	54.0	9,726	9.5	948	0.9	2,228	2.2
Massachusetts	143,944[5]	74,214	51.6	19,945	13.9	3,603	2.5	2,924	2.0
Michigan	187,093	89,595	47.9	22,664	12.1	2,988	1.6	2,660	1.4
Minnesota	105,311	52,808	50.1	14,758	14.0	439	0.4	1,063	1.0
Mississippi	66,133	31,598	47.8	8,314	12.6	619	0.9	966	1.5
Missouri	128,124	66,717	52.1	11,884	9.3	1,057	0.8	2,730	2.1
Montana	19,379[4]	10,362	53.5	2,368	12.2[4]	171	0.9	432	2.2
Nebraska	40,743	21,043	51.6	4,692	11.5	408	1.0	777	1.9
Nevada	33,441	20,037	59.9	3,220	9.6	254	0.8	715	2.1
New Hampshire	30,087	14,977	49.8	6,050	20.1	196	0.7[7]	772	2.6
New Jersey	199,381	107,004	53.7	22,671	11.4	1,464	0.7	3,611	1.8
New Mexico	43,826	21,172	48.3	5,158	11.8	660	1.5	775	1.8
New York	428,038[5]	210,926	49.3[5]	42,479	9.9	2,167	0.5[5]	7,241	1.7
North Carolina	169,328	87,677	51.8	27,476	16.2	889	0.5	3,422	2.0
North Dakota	15,090	8,078	53.5	1,798	11.9	126	0.8	279	1.8

See notes at end of table.

Table D. Number of staff employed by public elementary and secondary school systems and percentage of total staff, by category: United States and other jurisdictions, school year 2002–03—Continued

State	Total staff	Teachers		Instructional aides		Instructional coordinators and supervisors		Guidance counselors	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Ohio	242,372	125,372	51.7	17,397	7.2	501	0.2	3,587	1.5
Oklahoma	74,422	40,638	54.6	6,323	8.5	217	0.3	1,570	2.1
Oregon	55,042	27,126	49.3	8,313	15.1	434	0.8	1,172	2.1
Pennsylvania	231,251	118,256	51.1	24,497	10.6	1,464	0.6	4,292	1.9
Rhode Island	18,774[5]	11,196	59.6[5]	2,344	12.5[5]	67	0.4[5]	351	1.9[5]
South Carolina	63,165[4]	46,578	73.7	1,947	3.1	741	1.2	1,717	2.7
South Dakota	19,031	9,257	48.6	3,312	17.4	376	2.0	320	1.7
Tennessee	114,357	58,652	51.3	14,199	12.4	1,179	1.0[5]	1,878	1.6
Texas	594,002	288,655	48.6	58,933	9.9	1,335	0.2	9,924	1.7
Utah	41,555	22,415	53.9	5,602	13.5	653	1.6	684	1.6
Vermont	18,384	8,542	46.5	4,210	22.9	325	1.8	418	2.3
Virginia	162,994[4]	99,919	61.3	2,632	1.6	1,465	0.9	2,362	1.4
Washington	112,740	52,953	47.0	10,116	9.0	2,394	2.1	1,972	1.7
West Virginia	38,132	20,119	52.8	3,087	8.1	336	0.9	660	1.7
Wisconsin	113,262	60,385	53.3	12,851	11.3	1,663	1.5	1,948	1.7
Wyoming	13,837[4]	6,795	49.1[4]	1,804	13.0	155	1.1	391	2.8
Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas									
DoDDS: DoD schools (overseas)	7,044	4,793	68.0	228	3.2	102	1.4	258	3.7
DDESS: DoD schools (domestic)	4,199	2,424	57.7	399	9.5	47	1.1	105	2.5
Bureau of Indian Affairs	—	—	—	—	—	—	—	—	—
American Samoa	1,735	943	54.4	147	8.5	44	2.5	46	2.7
Guam	—	—	—	—	—	—	—	—	—
Northern Marianas	1,093	545	49.9	212	19.4	9	0.8	16	1.5
Puerto Rico	74,553	42,369	56.8	233	0.3	360	0.5	995	1.3
Virgin Islands	3,036	1,502	49.5	313	10.3	19	0.6	84	2.8

See notes at end of table.

Table D. Number of staff employed by public elementary and secondary school systems and percentage of total staff, by category: United States and other jurisdictions, school year 2002–03—Continued

State	Librarians		Student/other support staff[1]		School administrators		School district administrators		Administrative support staff[2]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
United States[3]	54,207	0.9[5]	1,416,221	23.8[4]	164,180	2.8[5]	62,791	1.1[5]	411,942	6.9[4]
Alabama	1,359	1.5	23,774	26.7	3,424	3.9	1,273	1.4	3,416	3.8
Alaska	161	0.9	3,593	21.0	567	3.3	527	3.1	1,384	8.1
Arizona	855	0.9	23,434	24.2	2,205	2.3	192	0.2	7,751	8.0
Arkansas	1,012	1.6	18,451	28.9	1,766	2.8	673	1.1	3,317	5.2
California	1,388	0.2	114,420	19.7	13,478	2.3	2,750	0.5	56,366	9.7
Colorado	847	0.9	20,800	23.0	2,344	2.6	969	1.1	6,711	7.4
Connecticut	785	0.9	21,030	24.4	2,216	2.6	1,291	1.5	4,939	5.7
Delaware	126	0.9	3,420	23.7	367	2.5	273	1.9	758	5.2
District of Columbia	119	1.0[5]	3,644	31.6[5]	284	2.5[5]	49	0.4[5]	649	5.6[5]
Florida	2,666	0.9	71,430	24.9	6,750	2.4	1,733	0.6	28,947	10.1
Georgia	2,142	1.1	54,053	27.3	5,006	2.5	1,879	0.9	10,219	5.2
Hawaii	291	1.4	3,765	18.2	509	2.5	131	0.6	1,258	6.1
Idaho	176	0.7	5,124	20.6	724	2.9	123	0.5	1,348	5.4
Illinois	1,940	0.8	60,277	23.3[4]	6,304	2.4	4,029	1.6	17,497	6.8[4]
Indiana	1,029	0.8	33,926	26.7	2,946	2.3	973	0.8	7,295	5.7
Iowa	612	0.9	14,951	22.2	2,182	3.2	967	1.4	4,028	6.0
Kansas	950	1.5	16,107	25.2	1,728	2.7	1,263	2.0	3,155	4.9
Kentucky	1,159	1.2	24,710	25.8	2,506	2.6	1,216	1.3	9,202	9.6
Louisiana	1,245	1.2	26,282	25.7	2,642	2.6	277	0.3	6,011	5.9
Maine	242	0.7	7,354	21.3[7]	920	2.7	573	1.7	1,885	5.5[7]
Maryland	1,091	1.1	24,567	23.9	3,094	3.0	869	0.8	4,737	4.6
Massachusetts	1,007	0.7	26,616	18.5	3,153	2.2	765	0.5	11,717	8.1[5]
Michigan	1,367	0.7	47,545	25.4	4,403	2.4	2,979	1.6	12,892	6.9
Minnesota	968	0.9	22,083	21.0[7]	2,157	2.0	1,063	1.0	9,972	9.5[7]
Mississippi	942	1.4	17,154	25.9	1,702	2.6	966	1.5	3,872	5.9
Missouri	1,668	1.3	31,069	24.2	3,093	2.4	1,318	1.0	8,588	6.7
Montana	357	1.8	3,781	19.5[4]	499	2.6	150	0.8	1,259	6.5[4]
Nebraska	562	1.4	9,596	23.6	1,007	2.5	566	1.4	2,092	5.1
Nevada	327	1.0	5,595	16.7	1,032	3.1	253	0.8	2,008	6.0
New Hampshire	289	1.0	5,479	18.2[7]	520	1.7[7]	508	1.7	1,296	4.3[7]
New Jersey	1,855	0.9	39,844	20.0	4,889	2.5	1,885	0.9	16,158	8.1
New Mexico	290	0.7	10,542	24.1	1,015	2.3	834	1.9	3,380	7.7
New York	3,190	0.7[5]	118,605	27.7[5]	8,410	2.0	2,956	0.7[5]	32,064	7.5[5]
North Carolina	2,299	1.4	41,242	24.4	4,708	2.8	1,580	0.9	35	0.0
North Dakota	199	1.3	3,299	21.9	400	2.7	429	2.8	482	3.2

See notes at end of table.

Table D. Number of staff employed by public elementary and secondary school systems and percentage of total staff, by category: United States and other jurisdictions, school year 2002–03—Continued

State	Librarians		Student/other support staff[1]		School administrators		School district administrators		Administrative support staff[2]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Ohio	1,615	0.7	54,587	22.5	6,543	2.7	6,549	2.7	26,221	10.8
Oklahoma	1,031	1.4	16,475	22.1	2,007	2.7	714	1.0	5,447	7.3
Oregon	510	0.9	10,492	19.1	1,597	2.9	701	1.3	4,697	8.5
Pennsylvania	2,227	1.0	58,495	25.3	4,581	2.0	1,639	0.7	15,800	6.8
Rhode Island	61	0.3[5]	2,748	14.6[5]	452	2.4[5]	199	1.1[5]	1,356	7.2[5]
South Carolina	1,131	1.8	1,780	2.8	3,141	5.0	299	0.5	5,831	9.2[4]
South Dakota	162	0.9	3,940	20.7	415	2.2	443	2.3	806	4.2
Tennessee	1,522	1.3	23,803	20.8[7]	4,895	4.3	1,197	1.0	7,032	6.1[7]
Texas	4,875	0.8	165,064	27.8	29,391	4.9	7,950	1.3	27,875	4.7
Utah	282	0.7	7,999	19.2	1,010	2.4	165	0.4	2,745	6.6
Vermont	234	1.3	3,098	16.9	430	2.3	145	0.8	982	5.3
Virginia	1,851	1.1	39,479	24.2	4,108	2.5[5]	1,855	1.1	9,323	5.7
Washington	1,325	1.2	33,649	29.8	2,717	2.4	1,037	0.9	6,577	5.8
West Virginia	391	1.0	9,873	25.9	1,063	2.8	415	1.1	2,188	5.7
Wisconsin	1,340	1.2	24,176	21.3	2,538	2.2	923	0.8	7,438	6.6
Wyoming	135	1.0	3,001	21.7	342	2.5	278	2.0	936	6.8
Department of Defense (DoD) dependents schools, Bureau of Indian Affairs, and outlying areas										
DoDDS: DoD schools (overseas)	153	2.2	487	6.9	268	3.8	39	0.6	716	10.2
DDESS: DoD schools (domestic)	70	1.7	671	16.0	113	2.7	36	0.9	334	8.0
Bureau of Indian Affairs	—	—	—	—	—	—	—	—	—	—
American Samoa	6	0.3	263	13.5	82	4.7	39	2.2	165	9.5
Guam	—	—	—	—	—	—	—	—	—	—
Northern Marianas	0	0.0	151	12.8	33	3.0	7	0.6	120	11.0
Puerto Rico	1,050	1.4	21,877	29.1	1,537	2.1	1,571	2.1	4,561	6.1
Virgin Islands	39	1.3	707	23.2	86	2.8	79	2.6	207	6.8

— Not available.
[1] Student/other support services include library support staff, student support services staff, and all other nonadministrative support staff.
[2] Administrative support staff includes district and school-level administrative support staff.
[3] U.S. totals include the 50 states and the District of Columbia.
[4] Data imputed based on current-year (fall 2002) data.
[5] Data imputed based on prior-year (fall 2001) data.
[6] California did not report the number of ungraded teachers, and the total numbers of teachers in California is therefore underestimated.
[7] Data disaggregated from reported total.
NOTE: All staff counts are full-time-equivalency (FTE) counts. 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), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2002–03, Version 1a. (Originally published as table 6 on pp. 13–16 of the complete report from which this article is excerpted.)

Revenues and Expenditures

Revenues and Expenditures by Public School Districts: School Year 2001–02

Frank Johnson

This article was originally published as the E.D. TAB of the same name. The universe data are from the Common Core of Data (CCD) "School District Finance Survey (F-33)." The Methodology and Definitions sections from the original report have been omitted.

This report presents findings from the Common Core of Data (CCD) "School District Finance Survey." These data are collected annually from state education agencies through the U.S. Census Bureau's "Survey of Local Government Finances: School Systems." Data in the "School District Finance Survey" include revenues by source, expenditures by function and object, long-term and short-term debt, and student membership for each school district in the United States.

This short report on school district revenues and expenditures is a companion to the state-level E.D. TAB, *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2001–02* (Cohen and Johnson 2004), which presents total state and national spending on public elementary and secondary education. These data were collected and edited between March 2003 and March 2004. These data are final.

Only regular school districts with student counts greater than 0, current expenditures per student between $2,500 and $35,000, and that are on the CCD "Local Education Agency Universe Survey" file were included in this analysis. There were 14,002 such districts in school year 2001–02.

Data on the number of students and districts within each state also show the variation in the organization of education across the country. For example, Florida, with over 2 million students, has 67 school districts, whereas Nebraska, with fewer than 300,000 students, has 524 school districts. The number and size of school districts may affect administrative and other overhead costs.

The District of Columbia is a single urban school district. It is treated separately from the states in the analysis below, because it is often an outlier with larger revenues and expenditures per student than 95 percent of the districts in most states. The District of Columbia did not report any finance data for its charter schools.

The federal range ratio is used in this report as an indicator of the difference between districts with relatively high revenues (or expenditures) per student and districts with relatively low revenues (or expenditures) per student, within the state and the nation. It is the difference between the amount per student of the district at the 95th percentile and the district at the 5th percentile, divided by the amount for the district at the 5th percentile.[1]

Highlights

Revenues per student received by school districts

- In the 2001–02 school year, the median school district received $8,572 per student in revenues from state, local, and federal sources (table 1). The median revenue per student indicates that half of the districts received less than $8,572 per student and half of the districts received more than $8,572 per student.
- Median school district revenues per student among the states ranged from $6,039 in Tennessee to $16,342 in Alaska. Revenues in the District of Columbia were $16,627.
- Ninety percent of the school districts in the country received between $6,208 and $16,286 per student. When school district revenues per student are ranked from highest to lowest, the value for the district at the 5th percentile was $6,208, and the value for the district at the 95th percentile was $16,286. The federal range ratio indicates the difference, or "disparity," between the 5th and 95th percentile. The federal range ratio for total revenues per student was 1.62, indicating that the district at the 95th percentile received 162 percent more revenue per student as the district at the 5th percentile.
- The federal range ratio varied from 0.3 in Kentucky, Maryland, and West Virginia to 2.7 in Montana. In 25 states the revenues per student were relatively homogeneous, with districts at the 95th percentile reporting less than twice the amount of revenue per student as the district at the 5th percentile; that is, their federal range ratios were under 1.0. On the other hand, the top 5 percent of the districts in four states received revenues per student of more than three times the revenue per student of the districts

[1] Comparisons using the federal range ratio exclude the top and bottom 5 percent of districts, and reduce the influence of extreme cases. The federal range ratio conveys an idea of the magnitude of differences between districts with relatively high revenues or expenditures per student and districts with relatively low revenues or expenditures per student, after excluding extremes. The federal range ratio has been used by Berne and Stiefel (1984); Parrish, Matsumoto, and Fowler (1995); and Hussar and Sonnenberg (2000).

at the bottom 5 percent; that is, their federal range ratios were greater than 2.0.

Total expenditures per student by school districts

- In 2001–02, the median total expenditure by school districts in the nation was $8,424 per student (table 2). This included current operating expenditures, capital outlays (for school construction and equipment), expenditures for programs other than elementary/secondary education (such as adult education and community service programs), interest payments on long-term debt, and payments to state and local governments. Total expenditures do not include payments to other school districts. (Revenues received from other school districts are included in total revenues.)
- Tables 2 and 3 include median expenditures across districts in all states for specific types of expenditures and for the total of these expenditures. The median district in total expenditures is unlikely to be the median district in current expenditures or other types of expenditures. Therefore, the median expenditures for the components (e.g., current, instruction, support services, etc.) do not sum to the median for total expenditures.
- Total expenditures per student ranged between $6,001 and $16,184 for 90 percent of the school districts in the country (i.e., those districts between the 5th and 95th percentiles; table 2). The federal range ratio for total expenditures per student was 1.70, indicating that the district at the 95th percentile spent 170 percent more per student as the district at the 5th percentile. The federal range ratio was slightly less for current expenditures (1.38) and instruction (1.44) and slightly more for support services (1.90).
- Per student spending on capital outlay (for school construction and equipment) in districts with per student expenditures at the 95th percentile was 8,417 percent more than that of districts at the 5th percentile (table 2). Most of the expenditures reported for capital outlay are for school construction. School districts with stable student populations may not need to make large expenditures for school construction, whereas districts experiencing a growing population of children tend to spend more money on school construction. In addition, expenditures for construction do not appear regularly from one year to the next. Districts may build several schools at the same time. This results in a large expenditure for capital outlays one year and small expenditures in subsequent years.
- Per student spending for programs other than elementary/secondary education was approximately 29 times greater in high-spending districts than the national median ($263 vs. $9; table 2). The adult education and community service programs that make up most of the other program spending do not exist in many school districts. At least 5 percent of all school districts do not have programs other than elementary/secondary education, nor do they have interest payments or payments to other government agencies.
- Median total expenditures per student ranged from $5,954 in Mississippi to $16,456 in Alaska (table 3). Total expenditures in the District of Columbia were $16,738. The median total expenditure per student was over $10,000 in Alaska, Connecticut, Delaware, the District of Columbia, Massachusetts, New Jersey, New Mexico, New York, and Wyoming.
- Median per student expenditures for instruction (teacher salaries, classroom supplies, etc.) ranged from $3,254 in Mississippi to $8,931 in Alaska (table 3). Among the 10 states with the highest median expenditures per student for instruction, 8 were in the Northeast.[2]
- Median per student expenditures for capital projects (primarily school construction) ranged from $145 in Vermont to $1,597 in Delaware (table 3) among the 50 states. Capital expenditures per student were $3,198 in the District of Columbia.

Current expenditures per student

Because of the variation in the kinds of programs run by school districts and the large swings in school construction expenditures, researchers often use current rather than total expenditures when reporting and comparing school district expenditures. Current expenditures are expenditures for the day-to-day operations of schools and school districts. They do not include expenditures for construction, equipment, debt financing, and programs outside of public elementary/secondary education.

- The median current expenditure per student for the nation was $7,294 (table 4).
- Per student spending in districts at the 95th percentile was more than 138 percent more than per student spending in districts at the 5th percentile (i.e., the federal range ratio was 1.38). Spending in districts at the 95th percentile was less than 50 percent higher

[2]These states are New York, New Jersey, Rhode Island, Connecticut, Massachusetts, Maine, Vermont, and Delaware. Instruction expenditures per student in the District of Columbia were higher than any state's median per student instruction expenditures, except in Alaska and New York.

than spending in districts at the 5th percentile in 13 states (i.e., the federal range ratio was less than 0.50).

- The median current expenditure per student in Alaska ($14,549) and the District of Columbia ($13,330) was larger than the current expenditure per student in 95 percent of all districts in the nation (in other words, greater than $13,026).
- The three states with the highest federal range ratio in current expenditures per student were Alaska, Montana, and Nevada. Expenditures per student were more than three times greater in the district at the 95th percentile than the district at the 5th percentile in these states (i.e., their federal range ratio was greater than 2.0). The ratio was lowest in Alabama, Florida, Kentucky, Maryland, and West Virginia. In the five lowest states, current expenditures per student at the 95th percentile were less than 35 percent greater than spending at the 5th percentile.

Current expenditures for charter schools

Independent charter schools are public schools that are exempted from significant state or local rules that normally govern the operation and management of public schools. A charter school may be affiliated with a regular school district, a university, or a private organization. In order to include all charter schools in its files, NCES created a separate school district record for each charter school (or charter school organization) that is not affiliated with a school district. In this report, data for charter schools that are associated with regular school districts are included with the data reported for the entire school district, and the data for those schools and the affiliated districts are indistinguishable from districts that do not have charter schools.

Data for independent charter schools that are not affiliated with a regular school district were included in this report if they could be matched to the CCD "Local Education Agency Universe Survey," if they had a student membership count greater than 0, and if they had both total revenues and total expenditures greater than 0. Data for independent charter school districts are reported at the bottom of each table in this report and are not included in the national totals or averages. Certain charter school districts in Arizona, Arkansas, California, Connecticut, Delaware, Georgia, Michigan, Minnesota, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas fell into this category. These data are kept separate because in many cases the data are not complete or fail to meet NCES editing standards. This is to be expected if the districts are not required to report finance data to a district or other local government agency. In some cases a charter school district may operate more than one charter school.

- The median revenue per student for independent charter schools (not affiliated with a public school district) was $7,283 (table 1). The median revenue for 90 percent of these districts ranged from $3,876 to $13,894.
- The median total expenditure per student for independent charter schools was $7,066 (table 2).
- Current expenditures per student in charter schools ranged from $3,952 to $12,133 for 90 percent of the charter school districts.

Current expenditures for unified districts

District-level analyses and comparisons can be complicated by the variety of administrative structures that exist across the nation in regular school districts. States such as Florida, Maryland, Nevada, and West Virginia have large districts that are coterminous with counties and encompass all levels and types of public schools. School districts in other states may exist in small communities with only one school, or in larger communities where all elementary schools are in one school district and all secondary schools are in another. In some states, all special education schools are administered by a few specific districts; in other states, each district may have all kinds of different schools and programs.[3] This variety in the types of school districts makes comparison of expenditures among school districts difficult.

The information presented in tables 1 through 4 is based on all regular education school districts reporting student counts that are reported on the CCD "Local Education Agency Universe Survey," regardless of grades served. Table 5 presents current expenditures per student in regular unified districts only. Unified districts are school districts with both elementary and secondary education programs.

In nine states, fewer than half of the school districts were unified (Arizona, California, Illinois, Maine, Montana, Nebraska, New Hampshire, New Jersey, and Vermont). In two states, Montana and Vermont, fewer than half of the students attended schools in unified districts. The federal range ratio was reduced from 1.38 to 1.17 when only unified school districts were analyzed.

- Unified school districts serve students in all grades. The median current expenditure for unified school districts in the nation was $7,157 per student, with 90 percent of all districts ranging between $5,505

[3]Special education districts were not included in regular districts.

and $11,931 (table 5). The federal range ratio was 1.17, indicating a slight reduction in variation of per student spending compared with all regular school districts (1.38) reported in table 4.

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Data source: The NCES Common Core of Data (CCD), "School District Finance Survey (F-33)," FY 2002.

For technical information, see the complete report:

Johnson, F. (2005). *Revenues and Expenditures by Public School Districts: School Year 2001–02* (NCES 2005-342).

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To obtain the complete report (NCES 2005-342), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Table 1. Revenues per student for public elementary and secondary school districts, by state: School year 2001–02

State	Revenues per student			Federal range ratio[1]	Number of districts	Number of students
	5th percentile	Median	95th percentile			
United States	$6,208	$8,572	$16,286	1.62	14,002	46,941,294
Alabama	6,149	6,768	8,492	0.38	128	726,367
Alaska	7,930	16,342	28,555	2.60	53	133,010
Arizona	5,659	8,173	18,035	2.19	230	864,264
Arkansas	5,956	6,611	8,974	0.51	310	449,161
California	6,710	7,979	14,628	1.18	971	6,066,162
Colorado	6,607	8,272	14,653	1.22	178	741,319
Connecticut	9,357	11,300	16,820	0.80	166	543,829
Delaware	9,102	10,239	12,295	0.35	16	105,752
District of Columbia	†[2]	16,627	†[2]	†[2]	1	68,449
Florida	6,512	7,207	9,435	0.45	67	2,500,179
Georgia	6,973	8,119	10,632	0.52	179	1,466,836
Hawaii	†[2]	10,239	†[2]	†[2]	1	184,546
Idaho	5,730	7,510	13,691	1.39	114	246,415
Illinois	6,439	8,135	13,680	1.12	891	2,047,836
Indiana	7,360	8,474	11,144	0.51	292	994,348
Iowa	7,225	8,332	11,477	0.59	371	485,932
Kansas	6,858	8,392	11,460	0.67	303	470,204
Kentucky	6,167	6,837	8,021	0.30	176	654,363
Louisiana	6,126	7,220	9,367	0.53	66	725,027
Maine	8,158	10,620	20,750	1.54	224	204,949
Maryland	8,202	9,250	11,017	0.34	24	860,640
Massachusetts	8,164	10,623	19,685	1.41	302	935,424
Michigan	7,617	8,715	12,098	0.59	553	1,661,301
Minnesota	7,414	8,775	12,013	0.62	342	832,369
Mississippi	5,246	6,087	8,085	0.54	152	492,198
Missouri	6,201	7,513	11,321	0.83	522	909,918
Montana	5,278	8,148	19,325	2.66	442	151,745
Nebraska	5,125	8,551	16,750	2.27	524	283,789
Nevada	6,938	8,309	17,348	1.50	17	356,814
New Hampshire	7,309	10,618	21,521	1.94	162	203,072
New Jersey	9,775	12,458	19,636	1.01	551	1,306,347
New Mexico	6,792	10,404	18,727	1.76	89	320,068
New York	10,283	12,838	20,939	1.04	687	2,846,644
North Carolina	6,497	7,475	9,836	0.51	117	1,296,156
North Dakota	5,902	8,355	16,957	1.87	218	105,936
Ohio	6,848	8,045	14,991	1.19	611	1,796,601
Oklahoma	5,520	6,897	10,677	0.93	542	621,573
Oregon	7,107	8,322	19,671	1.77	197	549,604
Pennsylvania	7,819	9,167	12,296	0.57	500	1,766,513
Rhode Island	8,751	10,142	14,682	0.68	36	156,624

See notes at end of table.

Table 1. Revenues per student for public elementary and secondary school districts, by state: School year 2001–02—Continued

State	Revenues per student			Federal range ratio[1]	Number of districts	Number of students
	5th percentile	Median	95th percentile			
South Carolina	6,904	8,349	10,642	0.54	85	674,347
South Dakota	6,354	7,516	13,574	1.14	173	127,129
Tennessee	5,300	6,039	7,822	0.48	137	897,695
Texas	6,718	8,280	15,673	1.33	1,045	4,115,727
Utah	5,426	6,738	11,335	1.09	40	481,182
Vermont	8,661	14,376	24,525	1.83	240	96,427
Virginia	6,960	8,042	10,801	0.55	132	1,162,045
Washington	6,944	8,390	17,128	1.47	296	1,009,200
West Virginia	7,533	8,244	9,731	0.29	55	282,145
Wisconsin	8,386	9,757	12,009	0.43	426	875,216
Wyoming	8,658	12,063	22,898	1.64	48	87,897
Independent charter school districts	3,876	7,283	13,894	2.58	943	260,188

† Not applicable.
[1]The federal range ratio indicates the difference between the district at the 5th percentile and the 95th percentile (when districts are ranked by revenues per student within the state) as a ratio of the value to revenues per student for the district at the 5th percentile.
[2]The District of Columbia and Hawaii consist of one school district each.
NOTE: National figures do not include independent charter school districts, i.e., those not affiliated with a non-charter school district. Charter schools that are affiliated with regular school districts are included in the national and state figures. Only regular school districts matching the Common Core of Data (CCD) Agency Universe and with student membership > 0 were used in creating the national and state figures. Regular school districts with current expenditures per student between $2,500 and $35,000 were included in the national and state figures; 99.87 percent of the school districts met this criterion. Charter school districts with revenues > 0 or expenditures > 0 were included in the charter school analysis; 99.79 percent of charter school districts met this criterion. It is assumed that some charter school districts did not report all revenues.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "School District Finance Survey (F-33)," FY 2002, version 1a.

Table 2. Expenditures per student for elementary and secondary education, by type of expenditure for regular districts and for independent charter school districts: School year 2001–02

Type of expenditure	Expenditures per student			
	5th percentile	Median	95th percentile	Federal range ratio[1]
Regular districts				
Total	$6,001	$8,424	$16,184	1.70
Current	5,463	7,294	13,026	1.38
Instruction	3,311	4,500	8,087	1.44
Support services	1,641	2,481	4,762	1.90
Non-instruction services	20	321	635	30.44
Capital outlay	50	443	4,298	84.17
Other programs	0	9	263	†
Payments to state and local governments	0	0	139	†
Interest on long-term debt	0	115	662	†
Payments to other school districts[2]	0	52	1,356	†
Independent charter school districts				
Total	4,000	7,066	14,215	2.55
Current	3,952	6,545	12,133	2.07
Instruction	1,453	3,439	6,667	3.59
Support services	1,354	2,861	6,125	3.52
Non-instruction services	0	62	582	†
Capital outlay	0	0	2,266	†
Other programs	0	0	282	†
Payments to state and local governments	0	0	0	†
Interest on long-term debt	0	0	184	†
Payments to other school districts[2]	0	0	67	†

† Not applicable.
[1]The federal range ratio indicates the difference between the district at the 5th percentile and the 95th percentile (when districts are ranked by expenditures per student within the state) as a ratio of the value to expenditures per student for the district at the 5th percentile.
[2]Total expenditures do not include payments to other school districts.
NOTE: National figures do not include independent charter school districts, i.e., those not affiliated with a non-charter school district. Charter schools that are affiliated with regular school districts are included in the national and state figures. Only regular school districts matching the Common Core of Data (CCD) Agency Universe and with student membership > 0 were used in creating the national and state figures. Regular school districts with current expenditures per student between $2,500 and $35,000 were included in the national and state figures; 99.87 percent of the school districts met this criterion. Charter school districts with revenues > 0 or expenditures > 0 were included in the charter school analysis; 99.79 percent of charter school districts met this criterion. The District of Columbia and Hawaii consist of one school district each. Other programs include community services, adult education, and community colleges.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "School District Finance Survey (F-33)," FY 2002, version 1a.

Table 3. School district expenditures per student, by type of expenditure and state: School year 2001–02

State	Median per pupil expenditures						
	Total expenditures[1]	Current expenditures[2]	Instruction expenditures	Capital outlay expenditures	Other programs[3] and payments to other govt. agencies	Interest expenditures on long-term debt	Payments to other districts[1]
United States	$8,424	$7,294	$4,500	$443	$15	$115	$52
Alabama	6,755	6,042	3,725	380	132	72	1
Alaska	16,456	14,549	8,931	759	21	0	0
Arizona	7,585	6,197	3,287	679	0	12	0
Arkansas	6,438	5,813	3,671	283	0	118	0
California	8,109	7,003	4,448	617	20	29	32
Colorado	8,129	7,101	4,160	523	0	126	131
Connecticut	10,558	9,737	6,182	314	14	255	120
Delaware	10,726	8,742	5,489	1,597	17	81	300
District of Columbia[4]	16,738	13,330	6,617	3,198	210	0	0
Florida	7,262	6,015	3,437	907	107	91	0
Georgia	7,901	6,975	4,450	628	1	73	6
Hawaii[4]	7,785	7,306	4,417	228	250	0	0
Idaho	7,439	6,645	4,077	358	0	107	0
Illinois	8,157	7,043	4,257	585	1	117	286
Indiana	8,362	6,887	4,178	604	609	32	215
Iowa	7,551	6,796	4,173	434	0	83	694
Kansas	8,149	7,397	4,330	453	0	107	5
Kentucky	6,705	6,221	3,852	222	96	132	0
Louisiana	7,148	6,525	3,964	356	25	116	0
Maine	9,723	9,016	5,859	188	24	62	225
Maryland	9,272	8,077	4,853	793	25	87	89
Massachusetts	10,445	9,343	6,073	175	0	215	245
Michigan	8,467	7,268	4,532	450	76	346	10
Minnesota	8,478	7,014	4,502	581	291	299	264
Mississippi	5,954	5,420	3,254	282	4	112	0
Missouri	7,309	6,457	3,980	383	73	85	58
Montana	8,245	7,572	4,702	186	0	0	27
Nebraska	8,473	7,801	5,268	324	0	0	0
Nevada	8,530	7,807	4,623	496	40	242	1
New Hampshire	9,445	8,489	5,344	277	0	129	187
New Jersey	11,826	10,630	6,440	370	49	156	233
New Mexico	10,238	8,205	4,423	1,201	32	133	0
New York	13,629	11,219	7,449	995	51	318	29
North Carolina	7,425	6,633	4,131	380	28	107	0
North Dakota	7,859	7,303	4,225	391	0	0	403
Ohio	7,781	6,735	4,037	455	88	105	28
Oklahoma	6,897	6,601	3,780	200	4	15	0
Oregon	8,646	7,408	4,469	301	0	98	9
Pennsylvania	9,040	7,625	4,794	485	17	392	427
Rhode Island	9,845	9,530	6,209	150	54	153	210

See notes at end of table.

Table 3. School district expenditures per student, by type of expenditure and state: School year 2001–02—Continued

State	Median per pupil expenditures						
	Total expenditures[1]	Current expenditures[2]	Instruction expenditures	Capital outlay expenditures	Other programs[3] and payments to other govt. agencies	Interest expenditures on long-term debt	Payments to other districts[1]
South Carolina	8,478	6,936	4,144	832	80	178	12
South Dakota	7,865	6,772	4,007	640	0	43	39
Tennessee	6,378	5,523	3,611	369	67	146	0
Texas	8,417	7,066	4,372	531	5	168	40
Utah	6,727	5,656	3,492	722	151	171	0
Vermont	9,293	8,818	5,736	145	0	107	4,784
Virginia	7,797	6,989	4,325	449	13	104	60
Washington	8,156	7,049	4,279	415	1	182	12
West Virginia	8,361	7,671	4,695	496	52	0	8
Wisconsin	9,478	8,294	5,126	377	134	343	99
Wyoming	11,268	9,539	5,620	1,066	3	92	0
Independent charter school districts	7,066	6,545	3,439	0	0	0	0

[1]Total expenditures do not include payments to other school districts.
[2]Current expenditures includes instruction, support services, and non-instruction services.
[3]Other programs include community services, adult education, and community colleges.
[4]The District of Columbia and Hawaii consist of only one school district each.
NOTE: National figures do not include independent charter school districts, i.e., those not affiliated with a non-charter school district. Charter schools that are affiliated with regular school districts are included in the national and state figures. Only school districts matching the Common Core of Data (CCD) Agency Universe and with student membership > 0 were used in creating this table. Districts with current expenditures per student between $2,500 and $35,000 were included in the national and state figures; 99.87 percent of the school districts met this criterion. Charter schools with revenues > 0 and expenditures > 0 were included in the charter school analysis; 99.79 percent of the charter school districts met this criterion. This table reports the median school district expenditure for each category; therefore, totals do not equal the sum of the detail.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "School District Finance Survey (F-33)," FY 2002, version 1a.

Table 4. Current expenditures per student for public elementary and secondary school districts, by state: School year 2001–02

State	Expenditures per student			Federal range ratio[1]	Number of districts	Number of students
	5th percentile	Median	95th percentile			
United States	$5,463	$7,294	$13,026	1.38	14,002	46,941,294
Alabama	5,410	6,042	7,207	0.33	128	726,367
Alaska	7,740	14,549	24,377	2.15	53	133,010
Arizona	4,481	6,197	12,828	1.86	230	864,264
Arkansas	5,116	5,813	7,947	0.55	310	449,161
California	5,865	7,003	11,777	1.01	971	6,066,162
Colorado	5,568	7,101	13,175	1.37	178	741,319
Connecticut	8,424	9,737	12,869	0.53	166	543,829
Delaware	7,359	8,742	10,077	0.37	16	105,752
District of Columbia	†[2]	13,330	†[2]	†[2]	1	68,449
Florida	5,432	6,015	7,012	0.29	67	2,500,179
Georgia	6,114	6,975	8,942	0.46	179	1,466,836
Hawaii	†[2]	7,306	†[2]	†[2]	1	184,546
Idaho	5,087	6,645	11,326	1.23	114	246,415
Illinois	5,436	7,043	11,053	1.03	891	2,047,836
Indiana	6,057	6,887	9,027	0.49	292	994,348
Iowa	5,915	6,796	8,593	0.45	371	485,932
Kansas	5,903	7,397	9,932	0.68	303	470,204
Kentucky	5,554	6,221	7,353	0.32	176	654,363
Louisiana	5,725	6,525	8,050	0.41	66	725,027
Maine	7,221	9,016	15,707	1.18	224	204,949
Maryland	7,339	8,077	9,668	0.32	24	860,640
Massachusetts	7,575	9,343	14,038	0.85	302	935,424
Michigan	6,404	7,268	10,257	0.60	553	1,661,301
Minnesota	5,989	7,014	9,490	0.58	342	832,369
Mississippi	4,607	5,420	7,225	0.57	152	492,198
Missouri	5,287	6,457	9,378	0.77	522	909,918
Montana	4,946	7,572	17,000	2.44	442	151,745
Nebraska	5,063	7,801	14,147	1.79	524	283,789
Nevada	5,797	7,807	18,295	2.16	17	356,814
New Hampshire	6,542	8,489	12,341	0.89	162	203,072
New Jersey	8,620	10,630	15,157	0.76	551	1,306,347
New Mexico	5,924	8,205	12,883	1.17	89	320,068
New York	8,997	11,219	17,853	0.98	687	2,846,644
North Carolina	5,850	6,633	8,241	0.41	117	1,296,156
North Dakota	5,000	7,303	14,818	1.96	218	105,936
Ohio	5,848	6,735	9,410	0.61	611	1,796,601
Oklahoma	5,156	6,601	10,116	0.96	542	621,573
Oregon	6,393	7,408	15,451	1.42	197	549,604
Pennsylvania	6,346	7,625	10,307	0.62	500	1,766,513
Rhode Island	7,964	9,530	11,948	0.50	36	156,624

See notes at end of table.

Table 4. Current expenditures per student for public elementary and secondary school districts, by state: School year 2001–02—Continued

State	Expenditures per student: 5th percentile	Median	95th percentile	Federal range ratio[1]	Number of districts	Number of students
South Carolina	6,140	6,936	9,149	0.49	85	674,347
South Dakota	5,434	6,772	11,532	1.12	173	127,129
Tennessee	4,783	5,523	7,217	0.51	137	897,695
Texas	5,821	7,066	11,752	1.02	1,045	4,115,727
Utah	4,447	5,656	9,646	1.17	40	481,182
Vermont	6,577	8,818	13,512	1.05	240	96,427
Virginia	6,135	6,989	9,512	0.55	132	1,162,045
Washington	6,027	7,049	15,840	1.63	296	1,009,200
West Virginia	6,978	7,671	8,807	0.26	55	282,145
Wisconsin	7,053	8,294	10,133	0.44	426	875,216
Wyoming	7,492	9,539	16,327	1.18	48	87,897
Independent charter school districts	3,952	6,545	12,133	2.07	943	260,188

† Not applicable.
[1]The federal range ratio indicates the difference between the district at the 5th percentile and the 95th percentile (when districts are ranked by expenditures per student within the state) as a ratio of the value to expenditures per student for the district at the 5th percentile.
[2]The District of Columbia and Hawaii consist of one school district each.
NOTE: National figures do not include independent charter school districts, i.e., those not affiliated with a non-charter school district. Charter schools that are affiliated with regular school districts are included in the national and state figures. Only regular school districts matching the Common Core of Data (CCD) Agency Universe and with student membership > 0 were used in creating this table. Districts with current expenditures per student between $2,500 and $35,000 per student were included in the national and state figures; 98.87 percent of school districts met this criterion. Charter schools with revenues > 0 and expenditures > 0 were included in the charter school analysis; 99.79 percent of the charter school districts met this criterion.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Finance Survey (F-33)," FY 2002, version 1a.

Table 5. Current expenditures per student for unified school districts, by state: School year 2001–02

State	Expenditures per student			Federal range ratio[1]	Number of districts unified	Percent of districts unified	Number of students	Percent of students in unified districts
	5th percentile	Median	95th percentile					
United States	$5,505	$7,157	$11,931	1.17	10,629	75.9	43,405,395	92.5
Alabama	5,410	6,042	7,207	0.33	128	100.0	726,367	100.0
Alaska	7,740	14,549	24,377	2.15	53	100.0	133,010	100.0
Arizona	4,619	5,938	11,382	1.46	101	43.9	551,987	63.9
Arkansas	5,116	5,813	7,947	0.55	310	100.0	449,161	100.0
California	6,105	6,984	11,077	0.81	364	37.5	4,480,470	73.9
Colorado	5,568	7,101	13,175	1.37	178	100.0	741,319	100.0
Connecticut	8,525	9,588	13,157	0.54	113	68.1	511,008	94.0
Delaware	7,359	8,742	10,077	0.37	16	100.0	105,752	100.0
District of Columbia	†[2]	13,330	†[2]	†[2]	1	100.0	68,449	100.0
Florida	5,432	6,015	7,012	0.29	67	100.0	2,500,179	100.0
Georgia	6,114	6,966	8,834	0.44	174	97.2	1,464,902	99.9
Hawaii	†[2]	7,306	†[2]	†[2]	1	100.0	184,546	100.0
Idaho	5,087	6,481	9,938	0.95	108	94.7	246,281	99.9
Illinois	5,487	6,794	8,733	0.59	405	45.5	1,298,575	63.4
Indiana	6,057	6,890	9,027	0.49	291	99.7	994,112	100.0
Iowa	5,924	6,784	8,052	0.36	350	94.3	482,404	99.3
Kansas	5,903	7,397	9,932	0.68	303	100.0	470,204	100.0
Kentucky	5,556	6,220	7,343	0.32	171	97.2	652,514	99.7
Louisiana	5,725	6,525	8,050	0.41	66	100.0	725,027	100.0
Maine	7,111	8,347	10,783	0.52	111	49.6	177,396	86.6
Maryland	7,339	8,077	9,668	0.32	24	100.0	860,640	100.0
Massachusetts	7,666	9,165	12,906	0.68	210	69.5	869,432	92.9
Michigan	6,422	7,252	9,832	0.53	524	94.8	1,659,757	99.9
Minnesota	5,989	6,978	9,164	0.53	327	95.6	830,173	99.7
Mississippi	4,607	5,391	6,680	0.45	148	97.4	490,857	99.7
Missouri	5,277	6,399	8,824	0.67	449	86.0	898,337	98.7
Montana	5,686	8,957	19,932	2.51	55	12.4	18,404	12.1
Nebraska	6,276	7,699	10,423	0.66	245	46.8	271,346	95.6
Nevada	5,797	7,665	18,295	2.16	16	94.1	356,725	100.0
New Hampshire	6,646	8,152	10,691	0.61	67	41.4	157,793	77.7
New Jersey	9,059	10,721	14,582	0.61	218	39.6	980,363	75.0
New Mexico	5,924	8,205	12,883	1.17	89	100.0	320,068	100.0
New York	8,952	11,092	16,435	0.84	638	92.9	2,796,260	98.2
North Carolina	5,850	6,633	8,241	0.41	117	100.0	1,296,156	100.0
North Dakota	5,152	7,053	11,687	1.27	164	75.2	102,500	96.8
Ohio	5,851	6,742	9,410	0.61	610	99.8	1,796,546	100.0
Oklahoma	5,115	6,514	9,586	0.87	430	79.3	599,534	96.5
Oregon	6,385	7,293	13,779	1.16	178	90.4	549,130	99.9
Pennsylvania	6,346	7,625	10,350	0.63	498	99.6	1,765,610	99.9
Rhode Island	7,964	9,461	11,948	0.50	32	88.9	154,482	98.6

See notes at end of table.

Table 5. Current expenditures per student for unified school districts, by state: School year 2001–02—Continued

State	Expenditures per student			Federal range ratio[1]	Number of districts unified	Percent of districts unified	Number of students	Percent of students in unified districts
	5th percentile	Median	95th percentile					
South Carolina	6,140	6,936	9,149	0.49	85	100.0	674,347	100.0
South Dakota	5,434	6,689	10,170	0.87	168	97.1	126,031	99.1
Tennessee	4,804	5,523	7,207	0.50	123	89.8	875,998	97.6
Texas	5,821	7,026	11,208	0.93	979	93.7	4,105,037	99.7
Utah	4,447	5,656	9,646	1.17	40	100.0	481,182	100.0
Vermont	6,586	8,450	12,032	0.83	37	15.4	34,632	35.9
Virginia	6,135	6,989	9,512	0.55	132	100.0	1,162,045	100.0
Washington	6,104	6,962	13,784	1.26	246	83.1	999,210	99.0
West Virginia	6,978	7,671	8,807	0.26	55	100.0	282,145	100.0
Wisconsin	7,159	8,297	9,950	0.39	368	86.4	839,670	95.9
Wyoming	7,492	9,385	14,730	0.97	46	95.8	87,322	99.3
Independent charter school districts	4,009	6,154	13,933	2.48	257	27.3	85,179	32.7

† Not applicable.
[1]The federal range ratio indicates the difference between the district at the 5th percentile and the 95th percentile (when districts are ranked by expenditures per student within the state) as a ratio of the value to expenditures per student for the district at the 5th percentile.
[2]The District of Columbia and Hawaii consist of one school district each.
NOTE: National figures do not include independent charter school districts, i.e., those not affiliated with a non-charter school district. Charter schools that are affiliated with regular school districts are included in the national and state figures. Only regular school districts matching the Common Core of Data (CCD) Agency Universe and with student membership > 0 were used in creating this table. Districts with current expenditures per student between $2,500 and $35,000 per student were included in the national and state figures; 98.87 percent of school districts met this criterion. Charter schools with revenues > 0 and expenditures > 0 were included in the charter school analysis; 99.79 percent of the charter school districts met this criterion.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Finance Survey (F-33)," FY 2002, version 1a.

Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2002–03

Jason Hill and Frank Johnson

This article was excerpted from the Introduction and Selected Findings of the E.D. TAB of the same name. The universe data are from the "National Public Education Financial Survey" (NPEFS), part of the Common Core of Data (CCD). Technical notes and definitions from the original report have been omitted.

Approximately $440 billion in revenue was raised to fund public education for grades prekindergarten through 12 in school year 2002–03, also referred to as fiscal year 2003. Total expenditures for public education, including school construction, debt financing, community services, and adult education programs, came to $455 billion. Current expenditures (those excluding construction, equipment, and debt financing) were over $387 billion, a 5.2 percent increase from fiscal year 2002. About three out of every five current expenditure dollars were spent on teachers, textbooks, and other instructional services and supplies. An average of $8,044 was spent on each student—an increase of 4.0 percent from $7,734 in school year 2001–02 (in unadjusted dollars).[1]

These and other financial data on public elementary and secondary education are collected and reported each year by the National Center for Education Statistics (NCES), U.S. Department of Education. The data are part of the "National Public Education Financial Survey" (NPEFS), one of the components of the Common Core of Data (CCD) collection of surveys. The initial release data in this report were collected from March to September 2004. Editing and imputations were completed in November 2004.

Revenues for Public Elementary and Secondary Education

- Approximately $440 billion were collected for public elementary and secondary education for school year 2002–03 in the 50 states and the District of Columbia (table 1). Total revenues ranged from a high of around $57 billion in California, which serves about 1 out of every 8 students in the nation, to a low of about $825 million in North Dakota, which serves roughly 1 out of every 449 students in the nation (table 5).
- Nationally, revenues increased an average of 4.9 percent over the previous year's revenues of nearly $420 billion (in unadjusted dollars).
- The greatest part of education revenues came from state and local governments, which together provided nearly $403 billion, or 91.5 percent of all revenues (tables 1 and 2).
- The federal government contribution to education revenues made up approximately $38 billion. The relative contributions from these levels of government can be expressed as portions of the typical education dollar (figure 1). Local sources for school year 2002–03 made up 43 cents of every dollar in revenue, state revenues comprised 49 cents, and the remaining 9 cents came from federal sources. (The cents do not sum to $1 due to rounding.)
- Among states with more than one school district, revenues from local sources ranged from 12.9 percent in New Mexico to 62.8 percent in Nevada (table 2).[2] Revenues from state sources also showed a wide distribution in their share of total revenues. The state revenue share of total revenues was 30.2 percent in Nevada and 73.8 percent in Minnesota. Federal revenues ranged from 4.3 percent in New Jersey to 17.7 percent in Alaska. Federal sources contributed 10 percent or more of the revenues in Alabama, Alaska, Arizona, Arkansas, the District of Columbia, Florida, Kentucky, Louisiana, Mississippi, Montana, New Mexico, North Dakota, Oklahoma, South Dakota, Tennessee, and West Virginia.

Current Expenditures for Public Elementary and Secondary Education

- Current expenditures for public education in 2002–03 totaled approximately $388 billion (table 3). This represents a $19 billion (5.2 percent) increase over expenditures in the previous school year ($368 billion in unadjusted dollars). Nearly $238 billion in current expenditures were spent on instruction. Instructional expenditures include teacher salaries and benefits, supplies (e.g., textbooks), and purchased services. Another $134 billion were expended for a cluster of services that support instruction. Almost $16 billion were spent on noninstructional services.
- Expressed in terms of the typical education dollar, instructional expenditures accounted for approximately 61 cents of the education dollar for current

[1] Comparisons are based on the previous edition of this report, *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2001–02* (Cohen and Johnson 2004).

[2] Both the District of Columbia and Hawaii have only one school district each. Therefore, neither is comparable to other states. Hawaii funds public education primarily through state taxes. Local revenues in Hawaii consist almost entirely of student fees and charges for services, such as food services, summer school, and student activities.

expenditures (figure 2). About 35 cents of the education dollar went for support services, which include operation and maintenance of buildings, school administration, transportation, and other student and school support activities (e.g., student counseling, libraries, and health services). Just over 4 cents of every education dollar went to noninstructional activities, which include school meals and enterprise activities, such as bookstores.

- Most states were clustered around the national average (61.3 percent) in terms of the share of current expenditures spent on instruction (table 4). Among the states, New Mexico spent the smallest percentage (55.5 percent) of its current expenditures on instruction, while New York spent the largest percentage (68.7 percent) of its current expenditures on instruction. The District of Columbia spent 52.5 percent of its current expenditures on instruction.

Current Expenditures per Student

- In 2002–03, the 50 states and the District of Columbia spent an average of $8,044 in current expenditures for every pupil in membership (table 5). This represents a 4.0 percent increase in current expenditures per student from the previous school year ($7,734 in unadjusted dollars).
- The median of the state per pupil expenditures was $7,574, indicating that one-half of all states educated students at a cost of less than $7,574 per student (derived from table 5). Three states—New Jersey ($12,568), New York ($11,961), and Connecticut ($11,057)—expended more than $11,000 per pupil. The District of Columbia, which comprises a single urban district, spent $11,847 per pupil. Only one state, Utah, had expenditures of less than $5,000 for each pupil in membership ($4,838).
- On average, for every student in 2002–03, about $4,934 was spent for instructional services. Expenditures per pupil for instruction ranged from $3,103 in Utah to $ 8,213 in New York. Support services expenditures per pupil were highest in the District of Columbia ($5,331) and New Jersey ($4,757), and lowest in Mississippi ($1,966), Tennessee ($1,885), and Utah ($1,461). Expenditures per pupil for noninstructional services such as food services were $329 for the nation.

Expenditures for Instruction

- Expenditures for instruction totaled nearly $238 billion for school year 2002–03 (table 6). Nearly $169 billion went for salaries for teachers and instructional aides. Benefits for instructional staff made up almost $46 billion, bringing the total for salaries and benefits for teachers and teacher aides to nearly $215 billion.
- Instructional supplies, including textbooks, made up over $11 billion. (Expenditures for computers and desks are not considered current expenditures, but are otherwise part of replacement equipment in table 7.) Expenditures for purchased services were over $7 billion. These expenditures include the costs for contract teachers (who are not on the school district's payroll), educational television, computer-assisted instruction, and rental of equipment for instruction.
- Tuition expenditures for sending students to out-of-state schools and nonpublic schools within the state totaled over $3 billion.

Total Expenditures

- Total expenditures made by school districts came to approximately $455 billion in the 2002–03 school year (table 7). About $388 billion of total expenditures were current expenditures for public elementary and secondary education. Of the total expenditures made by school districts, a little less than $43 billion were spent on facilities acquisition and construction, about $6 billion were spent on replacement equipment, and a little over $11 billion were spent on interest payments on debt. The remaining amount ($7 billion) was spent on other programs, such as community services and adult education, which are not part of public elementary and secondary education.

Reference

Cohen, C., and Johnson, F. (2004). *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2001–02* (NCES 2004-341). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Data source: The NCES Common Core of Data (CCD), "National Public Education Financial Survey" (NPEFS), 2002–03.

For technical information, see the complete report:

Hill, J., and Johnson, F. (2005). *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2002–03* (NCES 2005-353).

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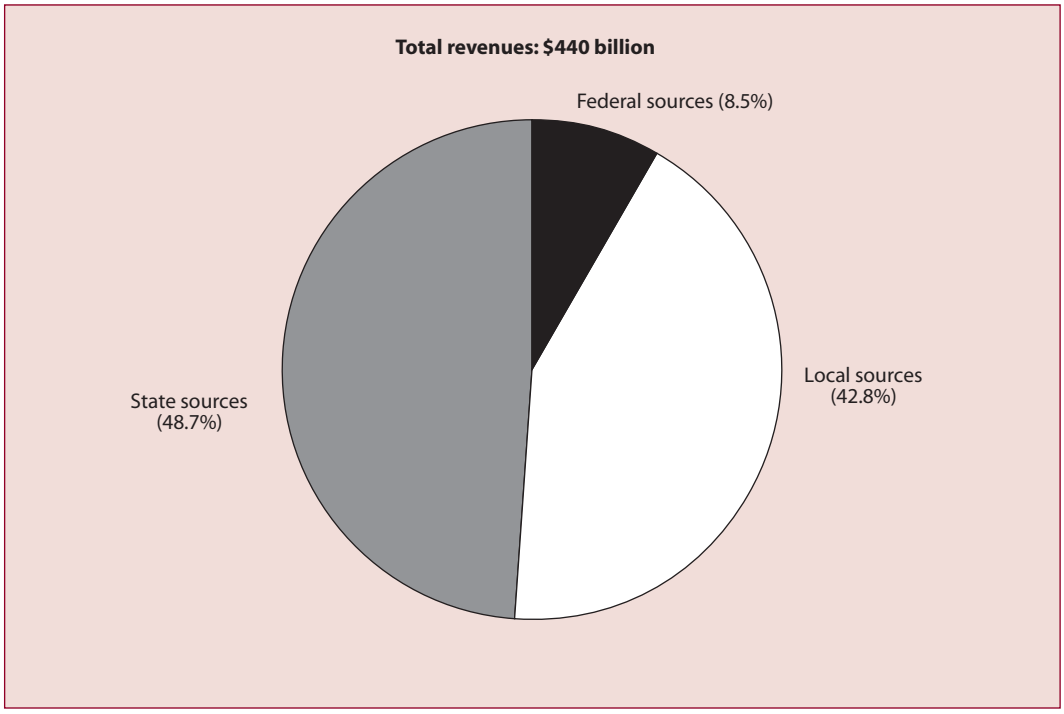
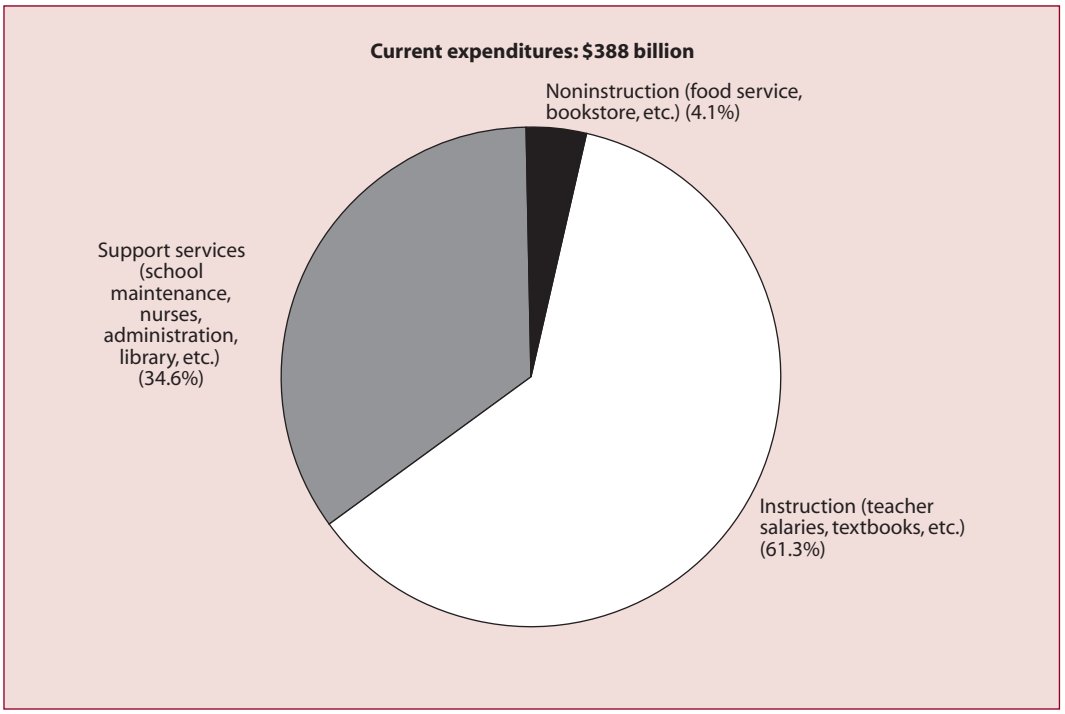
To obtain the complete report (NCES 2005-353), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Figure 1. Revenues by source: School year 2002–03



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Figure 2. Current expenditures by function: School year 2002–03



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 1. Revenues for public elementary and secondary schools, by source, state, and outlying areas: School year 2002–03

[In thousands of dollars]

State	Total	Local	State	Federal
United States	$440,157,299[1]	$188,363,983[1]	$214,277,407	$37,515,909
Alabama	5,153,795	1,591,360	2,966,979	595,456
Alaska	1,468,276	373,952	834,259	260,064
Arizona	7,351,310[1]	2,956,463[1]	3,555,570	839,278
Arkansas	3,266,318	1,079,085	1,804,362	382,871
California	57,021,363	17,830,356	33,561,358	5,629,649
Colorado	6,299,536	3,174,971	2,715,206	409,359
Connecticut	7,087,302	4,065,646	2,652,212	369,444
Delaware	1,197,512	335,292	759,290	102,929
District of Columbia	1,114,021	960,776	†	153,246
Florida	18,984,106	8,699,188	8,285,654	1,999,264
Georgia	13,448,966	5,876,044	6,489,049	1,083,873
Hawaii	2,078,876	35,183	1,873,316	170,377
Idaho	1,698,503	528,369	1,003,508	166,626
Illinois	19,154,705	11,208,836	6,327,132	1,618,737
Indiana	7,926,062	2,656,914	4,663,625	605,523
Iowa	4,241,508	1,951,347	1,974,707	315,454
Kansas	4,071,712	1,374,386	2,326,819	370,506
Kentucky	4,764,253	1,460,287	2,799,254	504,713
Louisiana	5,549,582	2,092,810	2,723,938	732,835
Maine	2,161,238	1,040,061	927,774	193,403
Maryland	8,668,097	4,768,098	3,317,559	582,440
Massachusetts	11,801,318	6,267,814	4,827,630	705,875
Michigan	17,954,395	5,188,315	11,358,303	1,407,777
Minnesota	8,349,227	1,688,920	6,165,549	494,757
Mississippi	3,263,897	1,006,635	1,754,445	502,816
Missouri	7,662,199	4,302,867	2,743,289	616,043
Montana	1,204,497	471,698	558,114	174,685
Nebraska	2,550,525	1,447,099	877,657	225,769
Nevada	2,784,681	1,747,987	840,435	196,258
New Hampshire	1,957,267	897,514	957,850	101,904
New Jersey	18,905,028	9,869,241	8,230,289	805,498
New Mexico	2,685,725	346,541	1,936,713	402,471
New York	37,894,517	17,981,391	17,267,655	2,645,471
North Carolina	9,379,577	2,504,549	5,975,983	899,045
North Dakota	825,135	395,181	303,925	126,029
Ohio	18,143,062	8,843,542	8,132,703	1,166,816
Oklahoma	4,161,621	1,355,733	2,277,241	528,646
Oregon	4,599,717	1,841,006	2,342,430	416,281
Pennsylvania	18,751,160	10,430,431	6,867,531	1,453,198
Rhode Island	1,744,838	898,017	733,211	113,611
South Carolina	5,732,697	2,410,997	2,757,948	563,752
South Dakota	963,997	487,671	325,091	151,235
Tennessee	6,114,870	2,820,286	2,680,969	613,615
Texas	34,605,869	17,041,583	14,146,697	3,417,588
Utah	2,912,991	999,579	1,643,684	269,728

See notes at end of table.

Table 1. Revenues for public elementary and secondary schools, by source, state, and outlying areas: School year 2002–03—Continued

State	[In thousands of dollars] Total	Local	State	Federal
Vermont	1,149,920	290,683	779,215	80,022
Virginia	10,283,182	5,531,962	4,072,761	678,459
Washington	8,696,472	2,543,056	5,373,852	779,564
West Virginia	2,552,446	712,551	1,568,125	271,770
Wisconsin	8,858,181	3,594,201	4,727,338	536,643
Wyoming	961,248	387,510	489,201	84,536
Outlying areas				
American Samoa	68,812	2,545	12,591	53,676
Guam	—	—	—	—
Northern Marianas	60,712	299	37,230	23,183
Puerto Rico	2,619,532	95	1,816,733	802,703
Virgin Islands	177,087	139,969	0	37,119

— Not available.
† Not applicable.
[1] Value affected by redistribution of reported values to correct for missing data items.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Local revenues include intermediate revenues. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states. Local revenues in Hawaii consist almost entirely of student fees and charges for services, such as food services, summer school, and student activities.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 2. Percentage distribution of revenue for public elementary and secondary schools, by source, state, and outlying areas: School year 2002–03

State	Within-state percentage distribution		
	Local	State	Federal
United States[1]	42.8	48.7	8.5
Alabama	30.9	57.6	11.6
Alaska	25.5	56.8	17.7
Arizona[1]	40.2	48.4	11.4
Arkansas	33.0	55.2	11.7
California	31.3	58.9	9.9
Colorado	50.4	43.1	6.5
Connecticut	57.4	37.4	5.2
Delaware	28.0	63.4	8.6
District of Columbia	86.2	†	13.8
Florida	45.8	43.6	10.5
Georgia	43.7	48.2	8.1
Hawaii	1.7	90.1	8.2
Idaho	31.1	59.1	9.8
Illinois	58.5	33.0	8.5
Indiana	33.5	58.8	7.6
Iowa	46.0	46.6	7.4
Kansas	33.8	57.1	9.1
Kentucky	30.7	58.8	10.6
Louisiana	37.7	49.1	13.2
Maine	48.1	42.9	8.9
Maryland	55.0	38.3	6.7
Massachusetts	53.1	40.9	6.0
Michigan	28.9	63.3	7.8
Minnesota	20.2	73.8	5.9
Mississippi	30.8	53.8	15.4
Missouri	56.2	35.8	8.0
Montana	39.2	46.3	14.5
Nebraska	56.7	34.4	8.9
Nevada	62.8	30.2	7.0
New Hampshire	45.9	48.9	5.2
New Jersey	52.2	43.5	4.3
New Mexico	12.9	72.1	15.0
New York	47.5	45.6	7.0
North Carolina	26.7	63.7	9.6
North Dakota	47.9	36.8	15.3
Ohio	48.7	44.8	6.4
Oklahoma	32.6	54.7	12.7
Oregon	40.0	50.9	9.1
Pennsylvania	55.6	36.6	7.7
Rhode Island	51.5	42.0	6.5
South Carolina	42.1	48.1	9.8
South Dakota	50.6	33.7	15.7
Tennessee	46.1	43.8	10.0
Texas	49.2	40.9	9.9
Utah	34.3	56.4	9.3

See notes at end of table.

Table 2. Percentage distribution of revenue for public elementary and secondary schools, by source, state, and outlying areas: School year 2002–03—Continued

State	Within-state percentage distribution		
	Local	State	Federal
Vermont	25.3	67.8	7.0
Virginia	53.8	39.6	6.6
Washington	29.2	61.8	9.0
West Virginia	27.9	61.4	10.6
Wisconsin	40.6	53.4	6.1
Wyoming	40.3	50.9	8.8
Outlying areas			
American Samoa	3.7	18.3	78.0
Guam	—	—	—
Northern Marianas	0.5	61.3	38.2
Puerto Rico	0.0	69.4	30.6
Virgin Islands	79.0	0.0	21.0

— Not available.
† Not applicable.
[1] Distribution affected by redistribution of reported values to correct for missing items.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Local revenues include intermediate revenues. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states. Local revenues in Hawaii consist almost entirely of student fees and charges for services, such as food services, summer school, and student activities.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 3. Current expenditures for public elementary and secondary schools, by function, state, and outlying areas: School year 2002–03

State	[In thousands of dollars] Total	Instruction	Support services	Noninstruction
United States	$387,592,494[1]	$237,731,734[1]	$134,021,897	$15,838,863
Alabama	4,657,643	2,818,526	1,521,337	317,780
Alaska	1,326,226	771,237	510,329	44,661
Arizona	5,891,105	3,530,858	2,082,411	277,836
Arkansas	2,923,401	1,786,323	990,294	146,784
California	47,983,402	29,170,269	17,017,791	1,795,342
Colorado	5,551,506	3,180,392	2,180,040	191,074
Connecticut	6,302,988	4,019,659	2,058,828	224,501
Delaware	1,127,745	693,970	381,184	52,592
District of Columbia	902,318	473,414	406,079	22,825
Florida	16,355,123	9,616,720	5,938,232	800,171
Georgia	11,630,576	7,367,694	3,678,590	584,293
Hawaii	1,489,092	888,473	521,929	78,689
Idaho	1,511,862	924,975	521,688	65,199
Illinois	17,271,301	10,320,227	6,393,248	557,826
Indiana	8,088,684	4,951,003	2,807,529	330,153
Iowa	3,652,022	2,174,018	1,210,993	267,011
Kansas	3,510,675	2,078,415	1,269,958	162,303
Kentucky	4,401,627	2,686,505	1,475,797	239,325
Louisiana	5,056,583	3,069,994	1,673,753	312,837
Maine	1,909,268	1,281,073	566,838	61,357
Maryland	7,933,055	4,934,017	2,636,403	362,635
Massachusetts	10,281,820	6,542,762	3,426,551	312,507
Michigan	15,674,698	8,929,871	6,264,837	479,990
Minnesota	6,867,403	4,404,702	2,147,923	314,779
Mississippi	2,853,531	1,707,391	968,645	177,495
Missouri	6,793,957[1]	4,142,285[1]	2,358,352	293,320
Montana	1,124,291	690,810	387,437	46,044
Nebraska	2,304,223	1,470,002	673,441	160,780
Nevada	2,251,044	1,408,570	768,641	73,834
New Hampshire	1,781,594	1,156,573	570,229	54,792
New Jersey	17,185,966	10,152,232	6,504,334	529,401
New Mexico	2,281,608	1,266,008	910,138	105,462
New York	34,546,965	23,721,563	9,989,057	836,345
North Carolina	8,766,968	5,574,861	2,703,000	489,107
North Dakota	716,007	427,511	232,465	56,031
Ohio	15,868,494	9,110,815	6,232,340	525,340
Oklahoma	3,804,570	2,203,126	1,349,256	252,188
Oregon	4,150,747	2,458,745	1,550,553	141,449
Pennsylvania	16,344,439	10,095,432	5,609,932	639,074
Rhode Island	1,647,587	1,064,304	540,735	42,548
South Carolina	4,888,250	2,915,986	1,711,287	260,977
South Dakota	851,429	498,922	307,100	45,407
Tennessee	5,674,773[1]	3,647,986[1]	1,748,705	278,082
Texas	30,399,603	18,347,986	10,516,120	1,535,497
Utah	2,366,897	1,518,242	714,894	133,760

See notes at end of table.

Table 3. Current expenditures for public elementary and secondary schools, by function, state, and outlying areas: School year 2002–03—Continued

State	[In thousands of dollars] Total	Instruction	Support services	Noninstruction
Vermont	1,045,213	671,163	345,762	28,289
Virginia	9,208,329	5,661,332	3,184,354	362,643
Washington	7,359,566[1]	4,381,186[1]	2,620,468	357,911
West Virginia	2,349,833	1,444,689	774,469	130,675
Wisconsin	7,934,755	4,904,809	2,775,318	254,628
Wyoming	791,732	474,108	292,306	25,317
Outlying areas				
American Samoa	47,566	24,662	14,268	8,637
Guam	—	—	—	—
Northern Marianas	50,843	43,548	4,922	2,372
Puerto Rico	2,541,385	1,876,195	361,322	303,868
Virgin Islands	125,405	81,742	39,754	3,910

— Not available.
[1] Value affected by redistribution of reported values to correct for missing data items.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 4. Percentage distribution of current expenditures for public elementary and secondary schools, by function, state, and outlying areas: School year 2002–03

State	Within-state percentage distribution		
	Instruction	Support services	Noninstruction
United States[1]	61.3	34.6	4.1
Alabama	60.5	32.7	6.8
Alaska	58.2	38.5	3.4
Arizona	59.9	35.3	4.7
Arkansas	61.1	33.9	5.0
California	60.8	35.5	3.7
Colorado	57.3	39.3	3.4
Connecticut	63.8	32.7	3.6
Delaware	61.5	33.8	4.7
District of Columbia	52.5	45.0	2.5
Florida	58.8	36.3	4.9
Georgia	63.3	31.6	5.0
Hawaii	59.7	35.1	5.3
Idaho	61.2	34.5	4.3
Illinois	59.8	37.0	3.2
Indiana	61.2	34.7	4.1
Iowa	59.5	33.2	7.3
Kansas	59.2	36.2	4.6
Kentucky	61.0	33.5	5.4
Louisiana	60.7	33.1	6.2
Maine	67.1	29.7	3.2
Maryland	62.2	33.2	4.6
Massachusetts	63.6	33.3	3.0
Michigan	57.0	40.0	3.1
Minnesota	64.1	31.3	4.6
Mississippi	59.8	33.9	6.2
Missouri[1]	61.0	34.7	4.3
Montana	61.4	34.5	4.1
Nebraska	63.8	29.2	7.0
Nevada	62.6	34.1	3.3
New Hampshire	64.9	32.0	3.1
New Jersey	59.1	37.8	3.1
New Mexico	55.5	39.9	4.6
New York	68.7	28.9	2.4
North Carolina	63.6	30.8	5.6
North Dakota	59.7	32.5	7.8
Ohio	57.4	39.3	3.3
Oklahoma	57.9	35.5	6.6
Oregon	59.2	37.4	3.4
Pennsylvania	61.8	34.3	3.9
Rhode Island	64.6	32.8	2.6
South Carolina	59.7	35.0	5.3
South Dakota	58.6	36.1	5.3
Tennessee[1]	64.3	30.8	4.9
Texas	60.4	34.6	5.1
Utah	64.1	30.2	5.7

See notes at end of table.

Table 4. Percentage distribution of current expenditures for public elementary and secondary schools, by function, state, and outlying areas: School year 2002–03—Continued

State	Within-state percentage distribution		
	Instruction	Support services	Noninstruction
Vermont	64.2	33.1	2.7
Virginia	61.5	34.6	3.9
Washington[1]	59.5	35.6	4.9
West Virginia	61.5	33.0	5.6
Wisconsin	61.8	35.0	3.2
Wyoming	59.9	36.9	3.2
Outlying areas			
American Samoa	51.8	30.0	18.2
Guam	—	—	—
Northern Marianas	85.7	9.7	4.7
Puerto Rico	73.8	14.2	12.0
Virgin Islands	65.2	31.7	3.1

— Not available
[1] Distribution affected by redistribution of reported values to correct for missing items.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 5. Student membership and current expenditures per pupil in membership for public elementary and secondary schools, by function, state, and outlying areas: School year 2002–03

State	Fall 2002 student membership	Current expenditures per pupil in membership			
		Total	Instruction	Support services	Noninstruction
United States	48,183,086[1]	$8,044[1,2]	$4,934[1,2]	$2,782[1]	$329[1]
Alabama	739,366[1]	6,300[1]	3,812[1]	2,058[1]	430[1]
Alaska	134,364	9,870	5,740	3,798	332
Arizona	937,755	6,282	3,765	2,221	296
Arkansas	450,985	6,482	3,961	2,196	325
California	6,353,667[1]	7,552[1]	4,591[1]	2,678[1]	283[1]
Colorado	751,862	7,384	4,230	2,900	254
Connecticut	570,023	11,057	7,052	3,612	394
Delaware	116,342	9,693	5,965	3,276	452
District of Columbia	76,166	11,847	6,216	5,331	300
Florida	2,539,929	6,439	3,786	2,338	315
Georgia	1,496,012	7,774	4,925	2,459	391
Hawaii	183,829	8,100	4,833	2,839	428
Idaho	248,604	6,081	3,721	2,098	262
Illinois	2,084,187	8,287	4,952	3,068	268
Indiana	1,003,875	8,057	4,932	2,797	329
Iowa	482,210	7,574	4,508	2,511	554
Kansas	470,957	7,454	4,413	2,697	345
Kentucky	660,782	6,661	4,066	2,233	362
Louisiana	730,464	6,922	4,203	2,291	428
Maine	204,337	9,344	6,269	2,774	300
Maryland	866,743	9,153	5,693	3,042	418
Massachusetts	982,989	10,460	6,656	3,486	318
Michigan	1,785,160	8,781	5,002	3,509	269
Minnesota	846,891	8,109	5,201	2,536	372
Mississippi	492,645	5,792	3,466	1,966	360
Missouri	906,499[1]	7,495[1,2]	4,570[1,2]	2,602[1]	324[1]
Montana	149,995	7,496	4,606	2,583	307
Nebraska	285,402	8,074	5,151	2,360	563
Nevada	369,498	6,092	3,812	2,080	200
New Hampshire	207,671	8,579	5,569	2,746	264
New Jersey	1,367,438	12,568	7,424	4,757	387
New Mexico	320,234	7,125	3,953	2,842	329
New York	2,888,233	11,961	8,213	3,459	290
North Carolina	1,335,954	6,562	4,173	2,023	366
North Dakota	104,225	6,870	4,102	2,230	538
Ohio	1,838,285	8,632	4,956	3,390	286
Oklahoma	624,548	6,092	3,528	2,160	404
Oregon	554,071	7,491	4,438	2,798	255
Pennsylvania	1,816,747	8,997	5,557	3,088	352
Rhode Island	159,205[1]	10,349	6,685	3,396	267
South Carolina	694,389	7,040	4,199	2,464	376
South Dakota	130,048	6,547	3,836	2,361	349
Tennessee	927,608[1]	6,118[1,2]	3,933[1,2]	1,885[1]	300[1]
Texas	4,259,823	7,136	4,307	2,469	360
Utah	489,262	4,838	3,103	1,461	273

See notes at end of table.

Table 5. Student membership and current expenditures per pupil in membership for public elementary and secondary schools, by function, state, and outlying areas: School year 2002–03—Continued

State	Fall 2002 student membership	Current expenditures per pupil in membership			
		Total	Instruction	Support services	Noninstruction
Vermont	99,978	10,454	6,713	3,458	283
Virginia	1,177,229	7,822	4,809	2,705	308
Washington	1,014,798	7,252[2]	4,317[2]	2,582	353
West Virginia	282,455	8,319	5,115	2,742	463
Wisconsin	881,231	9,004	5,566	3,149	289
Wyoming	88,116	8,985	5,381	3,317	287
Outlying areas					
American Samoa	15,984	2,976	1,543	893	540
Guam	—	—	—	—	—
Northern Marianas	11,251	4,519	3,871	437	211
Puerto Rico	596,502	4,260	3,145	606	509
Virgin Islands	18,333	6,840	4,459	2,168	213

— Not available.
[1] Prekindergarten students were imputed, affecting total student count and per pupil expenditure calculation. In Tennessee, prekindergarten students were imputed and tuition expenditures (included in Instruction) were redistributed.
[2] Value affected by redistribution of reported expenditure values to correct for missing data items.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 6. Current expenditures for instruction for public elementary and secondary schools, by type of expenditure, state, and outlying areas: School year 2002–03

[In thousands of dollars]

State	Total	Salaries	Employee benefits	Purchased services	Tuition to out-of-state and private schools	Instructional supplies	Other
United States	$237,731,734[1]	$168,828,934[1]	$45,947,180[1]	$7,289,623[1]	$3,298,588[1]	$11,294,271[1]	$1,073,139[1]
Alabama	2,818,526	1,979,767	530,508	74,940	1,628	219,288	12,396
Alaska	771,237	518,112	143,069	45,372	0	41,992	22,691
Arizona	3,530,858	2,506,569[1]	671,154[1]	101,526[1]	68,008[1]	163,709[1]	19,892[1]
Arkansas	1,786,323	1,282,075	280,711	50,660	3,671	157,189	12,017
California	29,170,269	20,548,956	5,596,635	850,615	615,502	1,555,769	2,792
Colorado	3,180,392	2,364,954	443,785	62,450	42,688	220,620	45,894
Connecticut	4,019,659	2,783,320	743,765	124,293	253,786	109,335	5,158
Delaware	693,970	473,465	160,279	13,161	6,557	31,708	8,799
District of Columbia	473,414	279,891	87,079	11,831	79,524	14,141	947
Florida	9,616,720	6,451,460	1,622,841	951,541	239	479,965	110,673
Georgia	7,367,694	5,343,778	1,535,410	108,902	3,716	368,600	7,287
Hawaii	888,473	628,259	174,755	28,228	2,690	44,225	10,317
Idaho	924,975	657,590	195,701	22,616	632	48,144	292
Illinois	10,320,227	7,507,171	1,925,826	239,329	235,211	396,136	16,554
Indiana	4,951,003	3,261,483	1,442,278	57,031	21	178,136	12,054
Iowa	2,174,018	1,582,285	444,273	56,911	17,087	71,025	2,436
Kansas	2,078,415	1,571,521	322,489	57,397	1,169	107,427	18,413
Kentucky	2,686,505	2,010,083	494,189	49,081	478	119,368	13,306
Louisiana	3,069,994	2,207,461	620,927	57,199	740	164,083	19,584
Maine	1,281,073	808,446	307,685	51,388	66,055	40,457	7,041
Maryland	4,934,017	3,409,666	1,055,203	107,728	207,197	142,771	11,452
Massachusetts	6,542,762	4,590,788	1,451,904	36,314	292,563	157,385	13,808
Michigan	8,929,871	5,978,301	2,251,300	338,487	127	325,071	36,585
Minnesota	4,404,702	3,180,600	852,050	156,024	34,870	158,353	22,805
Mississippi	1,707,391	1,229,621	317,134	41,021	4,789	107,961	6,866
Missouri	4,142,285[1]	3,020,805	655,388	108,336[1]	27,258[1]	308,578	21,920[1]
Montana	690,810	479,486	131,610	21,893	626	54,103	3,091
Nebraska	1,470,002	1,062,668	278,989	48,874	15,511	49,655	14,306
Nevada	1,408,570	959,395	292,228	23,572	265	66,601	66,508
New Hampshire	1,156,573	770,344	221,417	31,783	93,994	36,377	2,658
New Jersey	10,152,232	6,882,187	2,047,112	242,964	496,819	380,087	103,063
New Mexico	1,266,008	919,979	241,945	26,219	0	77,540	325
New York	23,721,563	16,980,488	4,973,883	893,203	204,731	665,614	3,644
North Carolina	5,574,861	4,307,889	805,555	117,705	0	338,096	5,617
North Dakota	427,511	301,152	87,473	13,572	1,094	22,345	1,875
Ohio	9,110,815	6,342,858	1,867,422	269,331	104,195	397,876	129,133
Oklahoma	2,203,126	1,602,392	404,457	32,428	0	157,301	6,549
Oregon	2,458,745	1,567,870	645,630	95,924	22,599	121,848	4,874
Pennsylvania	10,095,432	7,176,001	1,857,297	480,109	161,525	404,584	15,916
Rhode Island	1,064,304	739,961	234,364	8,146	56,512	23,401	1,921
South Carolina	2,915,986	2,093,030	575,609	70,932	234	149,800	26,380
South Dakota	498,922	349,991	90,500	21,841	5,947	28,890	1,753
Tennessee	3,647,986[1]	2,610,771	587,124	53,374	291[1]	382,532	13,893
Texas	18,347,986	14,088,723	2,137,116	535,880	37,469	1,398,826	149,972
Utah	1,518,242	1,041,674	368,343	27,676	295	74,741	5,512

See notes at end of table.

Table 6. Current expenditures for instruction for public elementary and secondary schools, by type of expenditure, state, and outlying areas: School year 2002–03—Continued

State	[In thousands of dollars] Total	Salaries	Employee benefits	Purchased services	Tuition to out-of-state and private schools	Instructional supplies	Other
Vermont	671,163	436,793	127,245	35,179	50,371	19,998	1,576
Virginia	5,661,332	4,218,653	1,065,839	110,321	2,222	260,582	3,715
Washington	4,381,186[1]	3,234,041	699,110	207,742	8,081[1]	199,704	32,509
West Virginia	1,444,689	949,554	416,838	22,805	401	54,824	267
Wisconsin	4,904,809	3,212,515	1,360,394	77,351	68,477	170,732	15,341
Wyoming	474,108	324,091	103,342	18,416	721	26,777	761
Outlying areas							
American Samoa	24,662	15,725	3,040	2,858	0	2,253	785
Guam	—	—	—	—	—	—	—
Northern Marianas	43,548	30,217	7,986	2,505	0	2,840	0
Puerto Rico	1,876,195	1,430,330	214,335	6,665	0	24,985	199,880
Virgin Islands	81,742	63,994	16,143	164	0	1,380	60

— Not available.
[1] Value affected by redistribution of reported values to correct for missing data items.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Table 7. Total expenditures for public elementary and secondary education and other related programs, by type of expenditure, state, and outlying areas: School year 2002–03

[In thousands of dollars]

State	Total	Current for public elementary/ secondary education	Facilities acquisition and construction	Replacement equipment	Other programs	Interest on debt
United States	$454,905,783[1,2]	$387,592,494[2]	$42,806,889	$6,133,485[1,2]	$6,873,755[1,2]	$11,499,160
Alabama	5,305,144	4,657,643	401,473	33,051	106,661	106,315
Alaska	1,609,420	1,326,226	230,754	16,825	11,051	24,565
Arizona	7,050,421[1]	5,891,105	655,258	196,387[1]	42,109[1]	265,562
Arkansas	3,304,710	2,923,401	207,693	79,934	23,798	69,884
California	56,542,273	47,983,402	6,772,856	215,923	1,010,545	559,547
Colorado	6,704,415	5,551,506	687,619	137,717	53,074	274,499
Connecticut	7,334,520[1]	6,302,988	681,063	87,070[1]	122,087[1]	141,313
Delaware	1,342,095	1,127,745	170,368	8,567[2]	17,846[2]	17,569
District of Columbia	1,114,681	902,318	167,944	27,997	16,422	0
Florida	20,161,939	16,355,123	2,719,748	198,464	418,707	469,897
Georgia	13,586,716	11,630,576	1,515,260	197,603	61,048	182,229
Hawaii	1,657,914	1,489,092	32,883	31,278	50,252	54,410
Idaho	1,739,541	1,511,862	157,149	29,740	4,894	35,895
Illinois	20,658,276	17,271,301	2,225,747	502,318	127,354	531,557
Indiana	9,688,103	8,088,684	719,134	121,668	63,903	694,712
Iowa	4,203,671	3,652,022	371,002	88,038	28,279	64,330
Kansas	3,910,054	3,510,675	100,242	149,885	16,061	133,191
Kentucky	4,687,217	4,401,627	31,588	102,115	53,807	98,079
Louisiana	5,630,084	5,056,583	323,450	87,624	50,551	111,876
Maine	2,124,554	1,909,268	118,037	30,810	22,294	44,145
Maryland	8,734,564	7,933,055	617,971	69,006	22,844	91,688
Massachusetts	11,084,082	10,281,820	116,238	156,414	227,367	302,243
Michigan	19,291,044	15,674,698	2,297,337	267,942	381,464	669,603
Minnesota	8,720,326	6,867,403	1,024,833	140,667	330,091	357,332
Mississippi	3,156,153	2,853,531	121,198	89,169	24,716	67,539
Missouri	7,953,797[2]	6,793,957[2]	547,938	219,609	158,259	234,034
Montana	1,220,956	1,124,291	60,411	18,324	6,067	11,863
Nebraska	2,678,767	2,304,223	245,441	70,297[2]	4,306[2]	54,501
Nevada	3,012,227	2,251,044	486,310	90,795	15,529	168,549
New Hampshire	2,041,865	1,781,594	188,733	26,127	6,285	39,124
New Jersey	19,168,738	17,185,966	1,417,798	92,845[2]	183,107[2]	289,021
New Mexico	2,734,668	2,281,608	371,981	21,857	22,518	36,704
New York	39,903,445	34,546,965	2,815,123	361,545	1,442,295	737,518
North Carolina	10,104,266	8,766,968	946,775	63,592	46,078	280,854
North Dakota	810,960	716,007	55,160	24,734	6,226	8,834
Ohio	19,000,331	15,868,494	1,894,969	447,912	440,362	348,594
Oklahoma	4,144,802	3,804,570	224,110	47,946	15,948	52,228
Oregon	4,976,856	4,150,747	570,653	34,932	34,179	186,345
Pennsylvania	19,350,934	16,344,439	1,652,840	234,329	375,346	743,981
Rhode Island	1,746,150	1,647,587	17,431	14,185	37,659	29,288
South Carolina	6,028,152	4,888,250	807,133	69,159	72,231	191,379
South Dakota	998,417	851,429	84,127	38,371	2,762	21,727
Tennessee	6,499,907[2]	5,674,773[2]	521,042	119,784	42,072	142,236
Texas	36,903,089	30,399,603	4,368,741	395,242	276,742	1,462,762
Utah	2,991,570	2,366,897	415,790	49,073	71,100	88,710

See notes at end of table.

Table 7. Total expenditures for public elementary and secondary education and other related programs, by type of expenditure, state, and outlying areas: School year 2002–03—Continued

[In thousands of dollars]

State	Total	Current for public elementary/ secondary education	Facilities acquisition and construction	Replacement equipment	Other programs	Interest on debt
Vermont	1,110,930	1,045,213	28,261	18,338	3,710	15,409
Virginia	10,487,025	9,208,329	846,658	222,728	63,288	146,022
Washington	8,927,605[2]	7,359,566[2]	1,075,313	125,979	42,793	323,954
West Virginia	2,557,190	2,349,833	97,800	65,941	33,080	10,537
Wisconsin	9,300,201	7,934,755	521,023	161,800	182,299	500,324
Wyoming	911,017	791,732	78,484	31,831	2,289	6,681
Outlying areas						
American Samoa	54,744	47,566	2,864	1,112	3,201	0[3]
Guam	—	—	—	—	—	—
Northern Marianas	51,249	50,843	374	31	1	0[3]
Puerto Rico	2,632,580	2,541,385	212	19,174	53,394	18,415
Virgin Islands	133,034	125,405	4,680	1,239	1,710	0[3]

— Not available.
[1] Value contains imputation for missing data. Imputed value is less than 2 percent of total expenditures in any one state.
[2] Value affected by redistribution of reported values to correct for missing data items.
[3] Interest on debt expenditures is not made by the departments of education in these outlying areas.
NOTE: Detail may not sum to totals because of rounding. National totals do not include outlying areas. Both the District of Columbia and Hawaii have only one school district each; therefore, neither is comparable to other states.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2002–03.

Postsecondary Education

Waiting to Attend College: Undergraduates Who Delay Their Postsecondary Enrollment

Laura Horn, Emily Forrest Cataldi, and Anna Sikora

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 National Postsecondary Student Aid Study (NPSAS), the National Education Longitudinal Study of 1988 (NELS:88), and the Beginning Postsecondary Students Longitudinal Study (BPS).

Among students who enrolled in postsecondary education for the first time in 1995–96, about one-third had waited a year or more after graduating from high school to attend.[1] Students who delay their postsecondary enrollment may do so for numerous reasons. Some may not be academically prepared to attend or have the financial resources necessary to enroll. Others may serve in the military first, find employment, or start a family before enrolling. Students who delay enrollment for a long period of time are likely to enroll to advance in or change their careers. For whatever reasons students wait to enroll in college, those who do delay are at considerable risk of not completing a postsecondary credential when compared with their peers who enroll immediately after high school graduation (Carroll 1989; Tuma and Geis 1995; Berkner, Cuccaro-Alamin, and McCormick 1996; Horn 1996; Berkner, He, and Forrest Cataldi 2002). However, it may not be entirely appropriate to compare the outcomes of delayed entrants with those who attend college right after high school. This study shows that the two groups differ in many respects, especially in their academic preparation for college and their educational objectives. Furthermore, delayed entrants are not a homogeneous group. Students who delay postsecondary enrollment may range in age from 18 to 80,[2] and those who delay a short amount of time may have very different reasons for enrolling than those who delay a decade or more.

The purpose of this report is to provide a profile of students who delay their postsecondary enrollment and then to distinguish among students who delay their postsecondary enrollment with respect to how long they wait to enroll. In particular, it addresses the ways in which those who delay a shorter amount of time differ from those who delay longer in terms of their demographic characteristics, why they enroll, where they enroll, the types of programs or degrees they pursue, and their likelihood of earning a credential.

The data used for this study come from three sources. The 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) is used to provide a snapshot of the demographic and postsecondary enrollment characteristics of all undergraduates who delay enrollment. The National Education Longitudinal Study of 1988 (NELS:88/2000) is used to examine the high school academic preparation of 1992 high school graduates who delayed postsecondary enrollment, and the 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01) is used to analyze the experiences of delayed entrants in their first postsecondary enrollment with respect to how long they waited to enroll and how likely they were to complete their postsecondary education.

The key variable in this study is an indicator of whether students delayed their postsecondary enrollment. The variable was computed by subtracting the calendar year of high school graduation from the calendar year of postsecondary enrollment.[3] Students who do not delay their enrollment are typically those who graduate from high school in June and enroll in postsecondary education the following September. However, because the delayed enrollment variable is derived only from the calendar years of the two points in time, a small percentage of cases (about 2 percent) are coded as having delayed 1 year when the length of delay is actually less than a year, typically a semester.

The analysis uses standard *t* tests to determine statistical significance of differences between estimates, one-way Analysis of Variance (ANOVA) to detect trends and to control for multiple paired comparisons, and a multivariate analysis to control for the common variation of related independent variables. All differences noted in the text are statistically significant at the $p < .05$ level. (See appendix B of the full report for more information about data and methods.) The analysis presented in this report is entirely descriptive in nature. While associations are noted and discussed, no causal inferences should be made.

[1]Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

[2]1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

[3]The actual dates of high school graduation and postsecondary enrollment, which include months and years, were missing in too many cases to provide reliable estimates; however, it was possible to impute the year if it was missing, based on the students' age and other timing information.

An Overview of Delayed Entrants

Delayed entrants are by definition older than students who enroll in postsecondary education immediately after graduating from high school. Therefore, delayed entrants would be expected to have gained life experiences related to age such as family formation. Yet in addition to these experiences, the findings from the NPSAS data illustrate sharp contrasts between delayed and immediate entrants in terms of other demographic characteristics. Compared with students who enrolled in postsecondary education immediately after high school graduation, delayed entrants were more likely to come from low-income families,[4] to be single parents, and to be Black; they were less likely to be White (figure A). Delayed entrants also were more likely than immediate entrants to be Hispanic, to be American Indian, to have parents who never attended postsecondary education, and to speak a language other than English as their primary language.

Students who delay their postsecondary enrollment are more likely than those who do not delay to follow a postsecondary enrollment path focused on vocational training and short-term programs. For example, in 1999–2000, compared with undergraduates who enrolled immediately after high school, delayed entrants were more likely to attend public 2-year colleges and private for-profit institutions (figure B).

[4]The income finding is based on family income for students who are considered dependents (typically those under age 24).

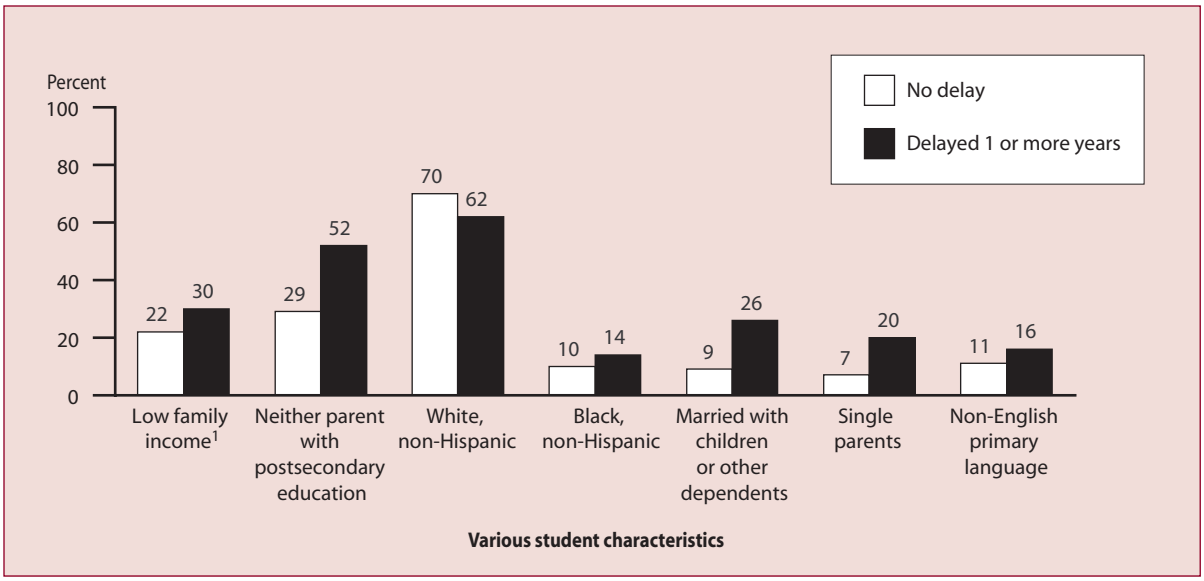
Similarly, delayed entrants were more likely than immediate entrants to be enrolled in programs leading to vocational certificates and associate's degrees and less likely to be in bachelor's degree programs (figure C). Postsecondary attendance and work patterns also differed between the two groups. Delayed entrants were less likely (or able) to attend classes on a full-time basis (figure D) and were more likely than immediate entrants to work more than 30 hours a week while enrolled in school (figure E).

Taken together, these findings from the NPSAS data, which provide a snapshot of all undergraduates in 1999–2000, indicate that delayed entrants begin their postsecondary education at a relative disadvantage compared with their peers who enroll in postsecondary education immediately after high school graduation. They are more likely to come from low-income families, their parents are less likely to have attended postsecondary education, and they are more likely to have family responsibilities of their own. Once they enroll in postsecondary education, delayed entrants spend less time attending classes and more time working while enrolled and are more likely to pursue vocational training and short-term credentials.

High school dropout risk factors and academic preparation

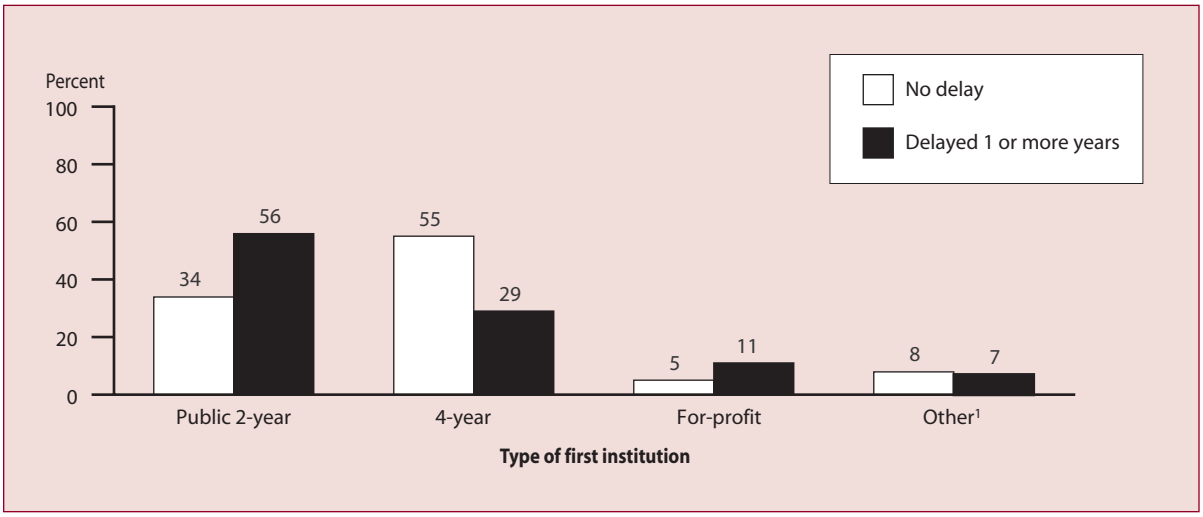
The NELS data provide evidence of notable differences between delayed and immediate entrants with respect to their

Figure A. Percentage of 1999–2000 undergraduates with various student characteristics, by timing of postsecondary enrollment



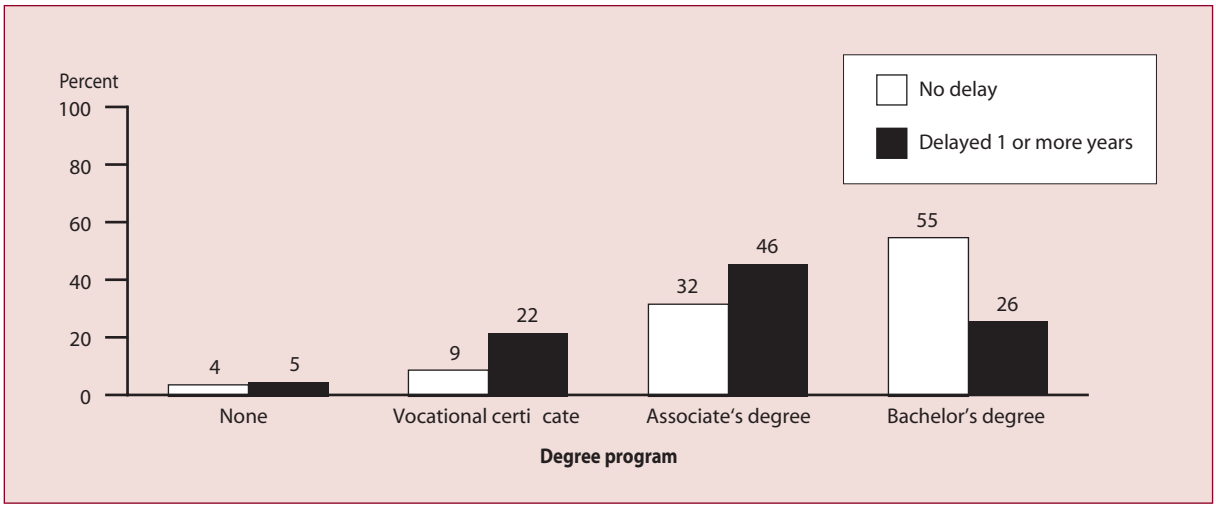
[1]Based only on dependent students' (typically age 24 or younger) family income.
NOTE: Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Figure B. Percentage distribution of 1999–2000 undergraduates' type of first institution, by timing of postsecondary enrollment



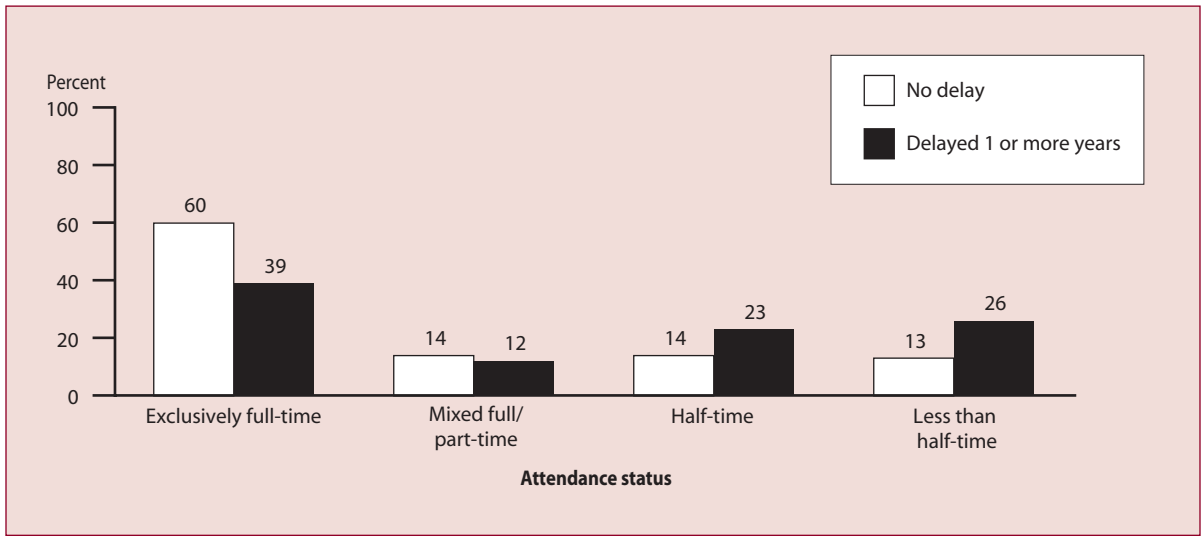
[1]All other types of institutions including public less-than-2-year and private not-for-profit less-than-4-year institutions.
NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Figure C. Percentage distribution of 1999–2000 undergraduates' degree program, by timing of postsecondary enrollment



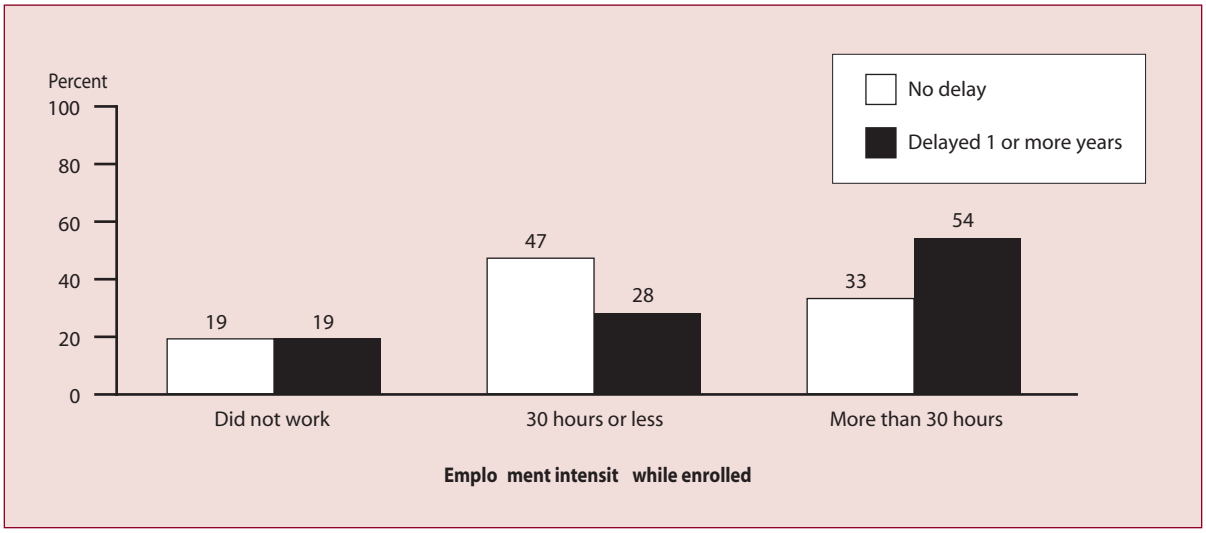
NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Figure D. Percentage distribution of 1999–2000 undergraduates' attendance status, by timing of postsecondary enrollment



NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Figure E. Percentage distribution of 1999–2000 undergraduates' employment intensity while enrolled, by timing of postsecondary enrollment



NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

high school academic experiences. The analysis examined 1992 high school graduates who enrolled in postsecondary education by 2000, the time of the last NELS follow-up, and focused on three measures of academic preparation—highest mathematics course completed,[5] the overall academic intensity of students' high school curriculum,[6] and their college readiness.[7] In all three measures delayed entrants trailed their counterparts who did not delay.

In mathematics coursetaking, one-quarter of delayed entrants completed courses no higher than those identified as nonacademic (such as remedial or business mathematics), compared with 7 percent of immediate entrants (figure F). Conversely, nearly half of immediate entrants (49 percent) completed an advanced mathematics course (i.e., beyond algebra 2), compared with 15 percent of delayed entrants.

Substantial differences between the two groups were also evident when examining the overall intensity or rigor of students' high school curriculum. One-quarter of delayed entrants scored in the bottom 20 percent of the academic intensity measure, compared with 8 percent of immediate entrants (figure G). Conversely, 29 percent of immediate entrants scored in the top 20 percent, compared with 7 percent of delayed entrants.

Consistent with their lower levels of academic preparation, nearly 6 in 10 delayed entrants (59 percent) were not academically prepared to undertake work at the 4-year college level (figure H). The same was found for one-quarter of immediate entrants. Moreover, for those students who were qualified, 1 in 10 delayed entrants were in the top 25 percent, compared with just over 4 in 10 (44 percent) of immediate entrants.

Duration of Delay

Figure I displays the timing of enrollment and median ages for students who first enrolled in postsecondary education in 1995–96. Delayed entrants were relatively evenly distributed across the four time periods: 9 percent delayed no more than 1 year, 8 percent delayed 2–4 years, 7 percent delayed 5–9 years, and 12 percent waited 10 or more years after high school graduation to enroll in postsecondary education.[8] How long delayed entrants waited to enroll in

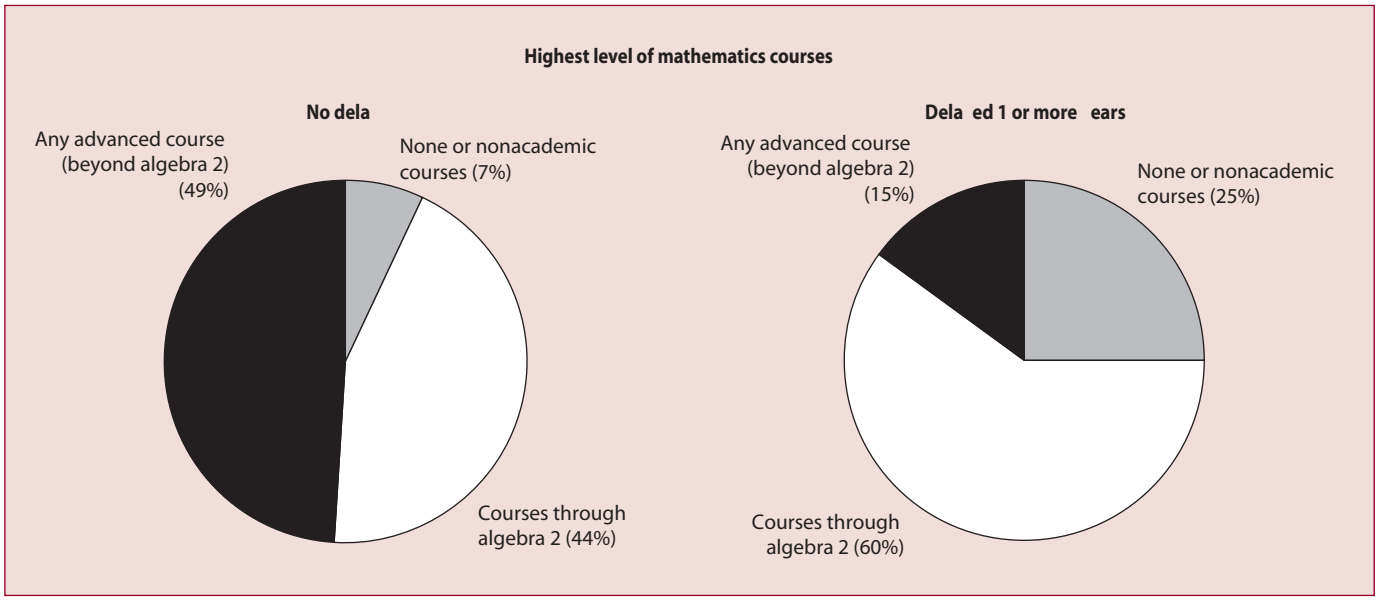
[5]Developed by Burkam and Lee (2003).

[6]Developed by Adelman (1999).

[7]Developed by Berkner and Chavez (1998).

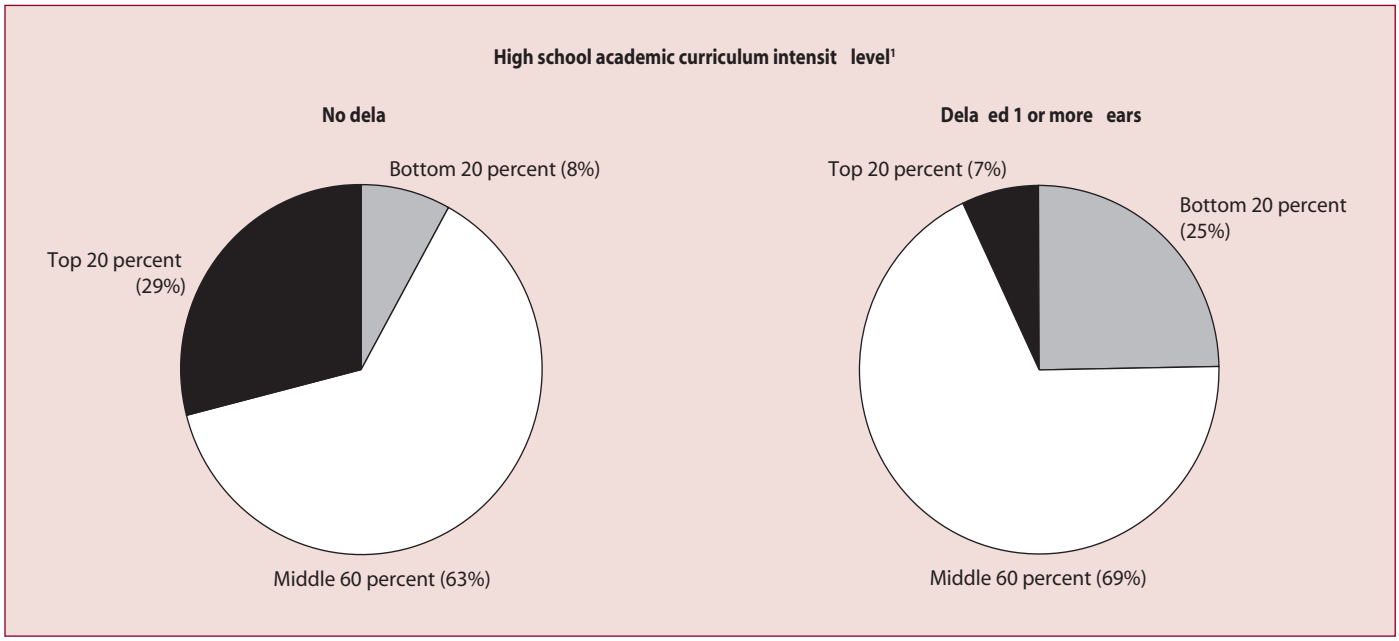
[8]For the remainder of the analysis, the results presented are based entirely on data from the BPS longitudinal study of students who first began their postsecondary studies in the 1995–96 academic year. Unlike the NPSAS sample, BPS does not include students who had enrolled in postsecondary education before their current enrollment (i.e., excludes returning students). And unlike NELS, the BPS cohort represents all beginning postsecondary students regardless of how long they waited to enroll. The postsecondary experiences captured by the BPS survey, therefore, represent the very first postsecondary enrollment after graduating from high school, regardless of how many years elapsed between high school graduation and postsecondary enrollment.

Figure F. Among 1992 high school graduates who enrolled in postsecondary education by 2000, the percentage distribution of highest level of mathematics courses completed, by timing of postsecondary enrollment



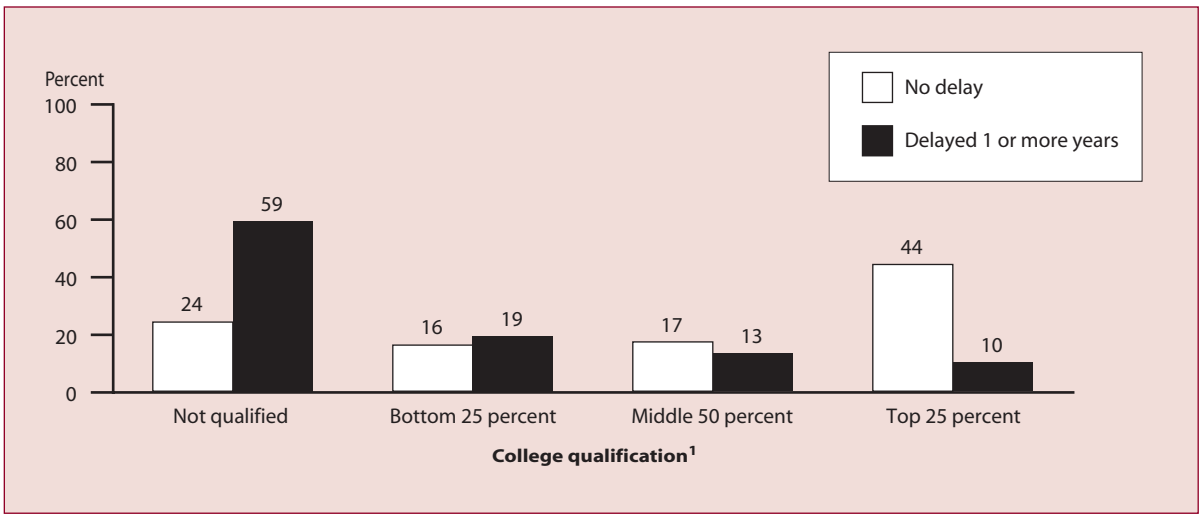
NOTE: Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88/2000).

Figure G. Among 1992 high school graduates who enrolled in postsecondary education by 2000, the percentage distribution of academic curriculum intensity level, by timing of postsecondary enrollment



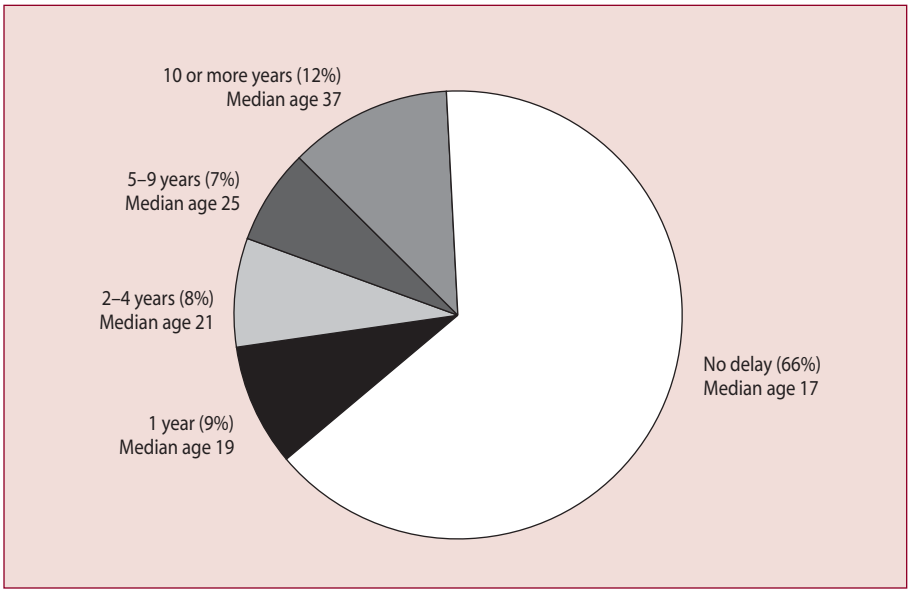
[1]High school academic curriculum intensity level is a composite measure of students' highest level of mathematics, total mathematics credits, total Advanced Placement courses, total English credits, total foreign language credits, total science credits, total core laboratory science credits, total social science credits, and total computer science credits. For more information, see Adelman, Daniel, and Berkovits (2003).
NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88/2000).

Figure H. Among 1992 high school graduates who enrolled in postsecondary education by 2000, the percentage distribution of a measure of 4-year-college qualification, by timing of postsecondary enrollment



[1]College qualification is a composite index of 4-year-college readiness or qualification based on five possible measures of academic performance: cumulative academic coursework GPAs, senior class rank, the NELS 1992 test scores, and the SAT and ACT college entrance examination scores.
NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988 (NELS:88/2000).

Figure I. Percentage distribution of 1995–96 beginning postsecondary students, by number of years between high school graduation and first postsecondary enrollment, and median age



NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

postsecondary education varied with demographic characteristics, enrollment status, reasons for enrolling, and the likelihood of finishing a credential.

Student characteristics

Because of their age differences, one expects delayed entrants as a whole to differ from immediate entrants in terms of family formation and the likelihood of having children. Yet even when comparing delayed entrants who are relatively young (i.e., those who delayed less than 5 years) to immediate entrants, marked differences were apparent. For example, about one-fifth of the youngest delayed entrants—those who delayed no more than 1 year (median age 19)—and nearly one-third of those who delayed 2–4 years (median age 21) had children or were responsible for other dependents, compared with 2 percent of immediate entrants. These findings indicate that even relatively young delayed entrants have considerable family responsibilities.

The length of time students delayed postsecondary enrollment also varied by income level.[9] Based on their age and length of time in the labor market, one would expect those who delayed 5 or more years to have higher incomes than those who delayed a shorter period of time. This was clearly observed: 42 percent and 38 percent, respectively, of those who delayed 1 year or 2–4 years were in the lowest income group, compared with 26 percent and 17 percent, respectively, of those who delayed 5–9 years or 10 or more years. Thus, even though delayed entrants as a whole were generally more likely than those who did not delay to be in the lowest income level, as the duration of delay increased, the likelihood of being in the lowest income level declined.

In addition to income group differences, the proportion of White students increased with the duration of delay, from 62 percent of those who delayed no more than 1 year to 78 percent of those who delayed 10 or more years. So as the time between high school graduation and postsecondary enrollment went up, the likelihood of being in the lowest income level declined while the likelihood of being White increased. These patterns suggest that younger delayed entrants (i.e., those who delayed less than 5 years) tend to be at a greater socioeconomic disadvantage than those who delayed longer.

[9] In this analysis, the income distribution is based on family income for dependent students (i.e., those students who are considered financially dependent on their parents for financial aid purposes) and student income for those who are independent. About three-quarters of those who delayed enrollment by 1 year were dependent, as were about one-half of those who delayed 2–4 years, while students who delayed 5 or more years were nearly all independent.

Enrollment characteristics

When examining programs of postsecondary study among delayed entrants in relation to the length of time they waited to enroll, clear patterns emerged. For example, the likelihood of being enrolled in a bachelor's degree program declined with each successive delay group, from 30 percent among those who delayed a year to 8 percent among those who delayed 10 or more years. Conversely, the longer students delayed enrollment, the more likely they were to be pursuing a program leading to a vocational certificate, from about one-quarter (23 percent) of those who delayed a year to nearly one-half (45 percent) of those who delayed 10 or more years. Delayed entrants reported relatively high educational expectations, but they also varied by length of delay. When asked to report the highest level of education they ever expected to complete, nearly 6 in 10 delayed entrants reported aspirations for a bachelor's degree (28 percent) or an advanced degree (29 percent). Aspirations for advanced degrees, however, declined with the length of time between high school graduation and postsecondary enrollment—from 42 percent of those who delayed 1 year to 13 percent of those who delayed a decade or more—while aspirations for credentials below a bachelor's degree increased proportionately—from 13 percent to 48 percent—as delay increased. The results indicate that as delayed entrants age, they tend to look to postsecondary education for vocational training, while those who delay shorter periods of time continue to report aspirations for bachelor's or even advanced degrees.

Why they enrolled

When asked why they decided to enroll in postsecondary education, students who delayed enrollment reported various reasons as important, most of which were related to job training and career advancement. Reasons varied with how long delayed entrants waited to enroll. For example, reporting the need for training to enter the workforce declined as the duration of time between high school graduation and postsecondary enrollment increased. Conversely, students who reported enrolling in postsecondary education to change careers or improve job skills were more likely to do so as the duration of time between high school graduation and postsecondary enrollment increased.

Overall Persistence and Attainment

As was found in earlier research, the results from this study confirmed that students who delay their postsecondary enrollment earn postsecondary credentials at lower rates than their peers who enroll immediately after high school. Among 1995–96 beginning postsecondary students, 40 percent of delayed entrants had earned some kind of postsecondary credential within 6 years, compared with 58 percent of immediate entrants. In contrast, 47 percent of delayed entrants were not enrolled in 2001 and had not earned a credential, compared with 27 percent of immediate entrants. However, this study was more concerned with the association between length of delay and educational outcomes among delayed entrants. For example, as the length of delay between high school graduation and college enrollment increased, the likelihood of attaining a bachelor's degree within 6 years declined. However, degree goals differed among groups who delayed shorter and longer periods of time. Therefore, it was necessary to conduct a multivariate analysis in order to control for differing degree goals and other factors related to the duration of delay.

When taking into account length of delay as well as the common variation of variables related to both delayed enrollment and degree completion (including gender, race/ethnicity, institution attended, attendance status, degree program, educational expectations, and remedial coursetaking), the likelihood of delayed entrants completing a postsecondary credential or still being enrolled was significantly lower than immediate entrants only for those who delayed no more than 1 year, while the results for students who delayed longer periods of time were not statistically significant.

Conclusions

The results of this study demonstrate that students who delay their postsecondary enrollment a year or more after high school graduation differ fundamentally from those who enroll immediately. Early on, delayed entrants are more likely to have family and educational experiences that place them at greater risk of not completing their postsecondary education. When delayed entrants enroll in postsecondary education, they do so primarily to gain or enhance their work skills and tend to enroll in shorter term vocational programs rather than in bachelor's degree programs.

Yet delayed entrants are not a homogenous group. Who they are and what kinds of postsecondary programs they pursue varied with how long they waited to enroll. In general, the findings from this study indicated that as the length of delay increased, students were more likely to be White, less likely to be in the lowest income group, and more likely to enroll in programs leading to vocational certificates.

While delayed entrants as a whole were much less likely than immediate entrants to complete a postsecondary degree or to remain enrolled for 6 years, results of the

multivariate analysis indicate that students who delayed the shortest amount of time—no more than 1 year after high school graduation—remained significantly less likely than immediate entrants to complete a degree, while the results for those who delayed longer were not significant. Students who delay no more than a year are typically 19 years old when they enroll in college and about one in five already have children. Nevertheless, despite their relative disadvantages, 43 percent of students who delayed their enrollment no more than 1 year had successfully completed a postsecondary credential, including one-fifth who earned a bachelor's degree in 6 years.

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Data sources: The NCES 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), National Education Longitudinal Study of 1988 (NELS:88/2000), and 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

For technical information, see the complete report:

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The Road Less Traveled? Students Who Enroll in Multiple Institutions

Katharin Peter and Emily Forrest Cataldi

This article was originally published as the Executive Summary of the Postsecondary Education Descriptive Analysis Report of the same name. The sample survey data are from the Beginning Postsecondary Students Longitudinal Study (BPS) and the Baccalaureate and Beyond Longitudinal Study (B&B).

Introduction

As of 2001, 40 percent of students who enrolled in postsecondary education for the first time in 1995–96 had attended more than one institution (table A). Over the course of the undergraduate education of 1999–2000 college graduates (first-time bachelor's degree recipients), a majority (59 percent) had attended more than one institution. Even among 1999–2000 bachelor's degree recipients who began in 4-year institutions, about 47 percent had attended another institution at some point with or without transferring. Much of the research on students who attend multiple institutions has focused on those who make a permanent transition from one institution to another (Bradburn and Hurst 2001; McCormick 1997). For the most part, previous literature has not reported on the other ways in which students enroll in multiple institutions, including co-enrollment (i.e., attending more than one institution simultaneously, also called "overlapping enrollment" or "dual enrollment") and attending another institution without transferring from the first institution. The purpose of this study is to provide an overview of the extent to which undergraduates attend multiple institutions as well as the relationship between multiple institution attendance and persistence, attainment, and time to degree. Students who attended multiple institutions are the population of interest here. Subsets of this population will also be examined—specifically, those who

- attended two or more institutions at one time (co-enrolled),
- transferred between institutions, or
- began at a 4-year institution and attended a 2-year institution at some point.

Table A. Percentage distribution (by columns) of 1995–96 beginning postsecondary students by the type of the first institution attended, according to multiple institution attendance patterns

		Type of first institution		
Attendance patterns	Total[1]	Public 2-year	Public 4-year	Private not-for-profit 4-year
Total	100.0	100.0	100.0	100.0
Number of institutions attended				
One	59.7	52.8	61.2	62.8
More than one	40.4	47.2	38.9	37.2
Two	30.1	35.4	28.7	27.0
Three	8.6	10.2	8.3	8.0
Four or more	1.7	1.7	1.9	2.2
Co-enrolled				
Never co-enrolled	89.2	88.6	87.6	86.9
Sometimes co-enrolled	10.9	11.4	12.4	13.1
Transfer status				
Never transferred	67.9	58.5	73.0	76.3
Transferred	32.1	41.5	27.0	23.7
Once	25.9	34.3	21.0	17.4
Twice	5.7	7.0	5.3	5.3
Three times	0.5	0.2	0.6	1.0

[1]Total includes students who began at types of institutions not shown here.
NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01); and Berkner, L., He, S., and Forrest Cataldi, E. (2002). *Descriptive Summary of 1995–96 Beginning Postsecondary Students: Six Years Later* (NCES 2003-151).

This report focuses on both 1995–96 beginning postsecondary students and 1999–2000 bachelor's degree recipients and is organized by survey and beginning institution type.

This analysis uses data from the 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01) and the 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:2000/01). BPS:96/01 is a longitudinal survey of students who first began their postsecondary education in 1995–96. The last follow-up survey was conducted in 2001, 6 years after students began their postsecondary education, by which time some students were no longer enrolled in postsecondary education, some had completed degrees or certificates, and some remained enrolled. B&B:2000/01 provides data on students who received a bachelor's degree in the 1999–2000 academic year, regardless of when they began their postsecondary education. Both studies used in this report are based on a representative sample of postsecondary education institutions in the United States and Puerto Rico and the students within those institutions. This analysis examines differences in student enrollment patterns using standard *t* tests to determine statistical significance, and a two-way Analysis of Variance (ANOVA) to detect differential changes by testing for interaction effects. Statistical significances for both tests are reported at $p < .05$. Standard error tables are available online at http://nces.ed.gov/das/library/reports.asp.

Beginning Postsecondary Students

As of 2001, 40 percent of 1995–96 beginning postsecondary students had attended more than one institution, including 32 percent who had transferred from one institution to another and 11 percent who had co-enrolled (table A).[1] Among beginning postsecondary students who had attended more than one institution, about one-quarter had attended more than two institutions.

Not surprisingly, students' attendance patterns differed according to the level and control of institution they first attended. Students who began in 2-year institutions were more likely than students who began in 4-year institutions to attend more than one institution or to transfer (table A). For example, 47 percent of students who began in public 2-year institutions had attended more than one institution as of 2001, compared with 39 and 37 percent of students who began in public 4-year and private not-for-profit 4-year institutions, respectively. No difference, however, could be detected between students who began in 2-year and in 4-year institutions in their likelihood of ever co-enrolling. Among students who began in 4-year institutions, those in public institutions were more likely than their private not-for-profit counterparts to transfer or ever attend public 2-year institutions. Twenty-seven percent of those who started in public 4-year institutions had transferred and one-fifth had enrolled in public 2-year institutions, compared with 24 and 14 percent, respectively, of students who began in private not-for-profit 4-year institutions. No difference was detected between students in public and in private not-for-profit 4-year institutions in the number of institutions they attended or their likelihood of co-enrolling.

In general, among 1995–96 beginning postsecondary students, more traditional students, such as younger students and those who attended full time, were more likely to attend multiple institutions than their older or part-time counterparts. Likewise, dependent students and those who did not delay their postsecondary enrollment were more likely to attend multiple institutions than their counterparts who were independent or who delayed their enrollment. For example, among students who began at 4-year institutions, 39 percent of dependent students had attended more than one institution as of 2001, compared with 27 percent of independent students. Conversely, students with more than one characteristic that placed them at risk of not completing postsecondary education were less likely than their counterparts with one or no such characteristics to attend multiple institutions.[2] However, these characteristics are also associated with students' likelihood of persisting in their postsecondary programs. The longer students persist, the more opportunity they have to attend more than one institution. Thus, to some extent, the association between these risk factors and multiple institution attendance may be due to the length of time students are enrolled.

The association between dependency status and multiple institution attendance was particularly apparent among students in public 2-year institutions, also known as community colleges. That is, in public 2-year institutions, dependent students were more likely than independent students to attend more than one institution (58 vs. 27 percent). This may be due, in part, to the fact that dependent students were more likely to transfer to 4-year institutions to earn a bachelor's degree than their independent peers.[3] Similarly,

[1] In this section, a student was considered to have transferred if that student left one institution and enrolled in another institution for at least 4 months and a student was considered to have co-enrolled if that student overlapped enrollment at more than one institution for at least 1 month.

[2] Persistence risk factors include delaying enrollment, having no high school diploma, enrolling part time, being financially independent, having dependents other than a spouse, being a single parent, and working full time while enrolled. For more information, see Horn and Premo (1995).

[3] BPS:96/01 Data Analysis System. Not shown in tables.

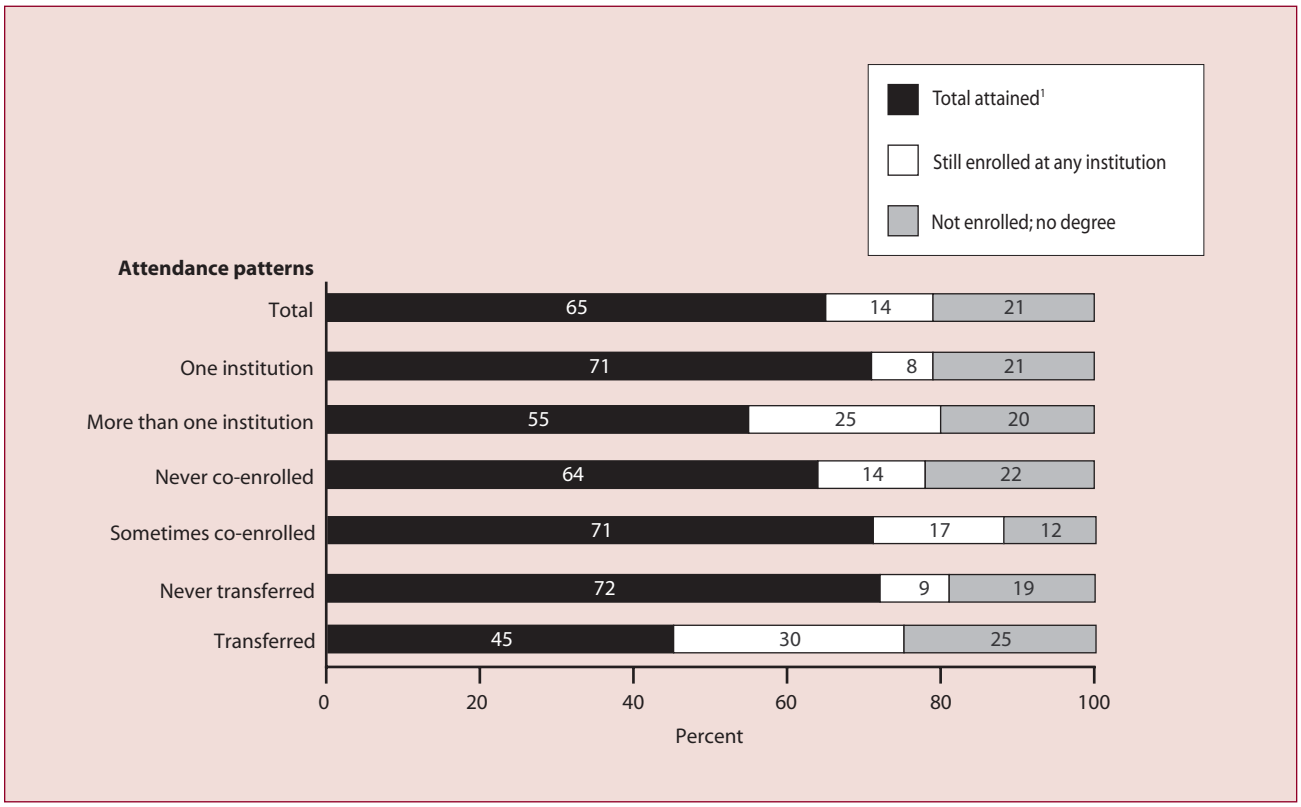
independent students participate in programs leading to vocational certificates more often than dependent students (Horn, Peter, and Rooney 2002). Because these programs tend to be of short duration (i.e., 1 year or less), students may have less opportunity or reason to transfer. In addition, independent students are more likely to attend part time, which is also associated with lower rates of multiple institution attendance. Independent students are also more likely to have families, careers, and other responsibilities that may influence their ability to move from school to school. In contrast, dependent students are more likely to enroll in community colleges with the intention of transferring to a 4-year institution and attaining a bachelor's degree.

For 1995–96 postsecondary students beginning in 4-year institutions, multiple institution attendance was negatively related to degree attainment within 6 years. It appears, however, that for some students, multiple institution attendance may have only delayed attainment. For example, among students who began in 4-year institutions, those who attended more than one institution were less likely than students who attended only one institution to have attained any degree (55 vs. 71 percent); however, students attending more than one institution were more likely than those who attended one institution to still be enrolled in 2001 (25 vs. 8 percent) (figure A). About one-fifth of both groups were not enrolled and had not earned a degree. These results suggest that students who attended more than one institution may have needed more time to finish and that, given enough time, they may ultimately attain a degree. On the other hand, multiple institution attendance involving co-enrollment appeared to be positively related to persistence and attainment.

Relationship of specific variables to persistence, attainment, and time to degree

In order to take into account the interrelationship of factors associated with multiple institution attendance, a multivariate analysis was conducted. The analysis examined the relationship between multiple institution attendance patterns

Figure A. Percentage distribution of 1995–96 beginning postsecondary students in 4-year institutions according to 6-year persistence and attainment status, by multiple institution attendance patterns



[1]Includes students who attained a bachelor's degree, associate's degree, or certificate.
NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

and 6-year persistence and attainment among beginning postsecondary students. The analysis included students who began their postsecondary studies in 1995–96 at 4-year institutions with a bachelor's degree goal and measured their likelihood of attaining a bachelor's degree or being enrolled in 4-year institutions 6 years later. It took into account beginning institution sector (i.e., public or private not-for-profit), types of multiple institution attendance, and several other variables associated with both multiple institution attendance and persistence, including income, GPA, and number of risk factors. After taking the covariation of these variables into account, the results still indicated that 6-year persistence was positively associated with co-enrolling and negatively associated with transferring and enrolling in public 2-year institutions.

Bachelor's Degree Recipients

While the previous section focused on first-time beginners in postsecondary education, this section looks at students who attained bachelor's degrees in 1999–2000 regardless of when they began postsecondary education. The BPS survey includes students who began postsecondary education in 1995–96 and, therefore, includes students who did not attain a degree as well as those who attained certificates, associate's degrees, and bachelor's degrees. B&B, however, looks retrospectively at those students who attained bachelor's degrees in 1999–2000, regardless of their path to a bachelor's degree or the time required to attain it. Therefore, these two cohorts are not directly comparable. This section focuses on bachelor's degree recipients.

An examination of the multiple institution attendance patterns of 1999–2000 bachelor's degree recipients revealed that a majority (59 percent) attended more than one institution during their undergraduate education, including 35 percent who transferred and 9 percent who co-enrolled at some point.[4] Among those who started at 4-year institutions, 37 percent had also attended 2-year institutions.

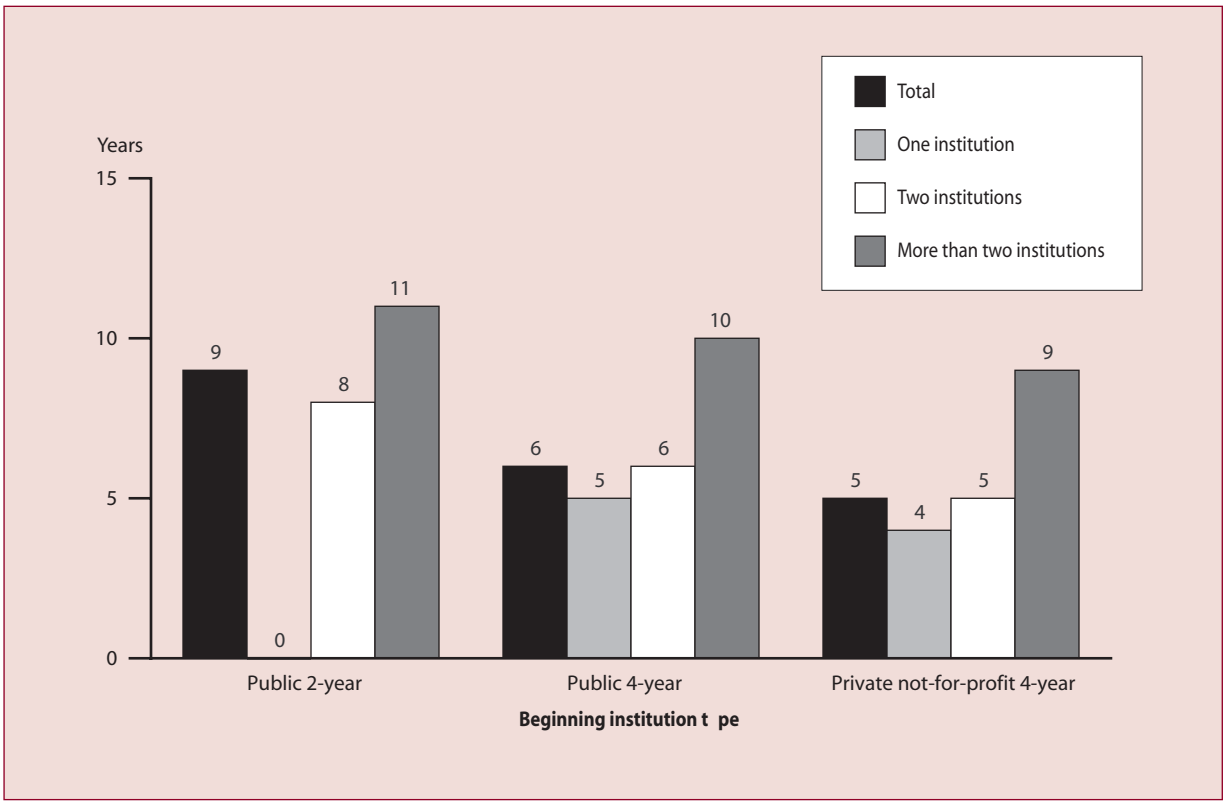
Among bachelor's degree recipients, independent students, older students, and students with more persistence risk factors were more mobile during their postsecondary studies than dependent students, younger students, and students with fewer persistence risk factors. Although these findings appear to contradict the BPS findings, the populations are not comparable: unlike beginning postsecondary students—whose risk factors are identified when they first enroll—in the B&B study, most of college graduates' risk factors are determined when they acquire their bachelor's degree. Thus, over the course of their enrollment, college graduates may become independent and develop additional persistence risk factors such as becoming a parent. Furthermore, students who take longer to attain a degree have more opportunities to attend multiple institutions and may not be captured in the BPS study, which only encompasses 6 years. Also, participants in the B&B study have all obtained a bachelor's degree—thus having overcome whatever persistence risk factors they may have at the time of the survey. When looking at specific persistence risk factors that measure characteristics of graduates when they began their postsecondary education, among college graduates who began at 4-year institutions, those who delayed entry into postsecondary education and those who worked full time during their first year enrolled were more likely than their counterparts who did not delay entry or work full time to attend multiple institutions.

Consistent with the results found for beginning postsecondary students in BPS:96/01, in which multiple institution attendance was associated with slowed progress toward degree or certificate attainment, data from B&B:2000/01 indicated that attending more than one institution was associated with slowed progress toward the bachelor's degree (figure B). This may be related to the difficulty of transferring credits, different requirements at various institutions, gaps in enrollment, or mitigating factors such as a move, job change, or change in family status. Other reasons or a combination of reasons may also influence progress toward the bachelor's degree for students who attend multiple institutions. Among 1999–2000 bachelor's degree recipients who began in 4-year institutions, as the number of institutions attended increased, so did the average time to completion. Co-enrolling and transferring among bachelor's degree recipients who began in 4-year institutions also resulted in their taking more time to complete a degree. However, differences by sector for these types of attendance patterns were observed.

In the B&B:2000/01 survey, college graduates were asked to report their main purpose for attending multiple institutions. As expected, those who began in public 2-year colleges were more likely than those who began in 4-year institutions to report transfer as their main purpose. That is, 63 percent of those who began in public 2-year colleges listed transfer as their main purpose for attending multiple institutions. However, about one-half of students who began in 4-year institutions (both public and private not-for-profit)

[4] In this section, a student was considered to have transferred if that student indicated that he or she had attended more than one postsecondary institution before completing a bachelor's degree and did so in order to transfer between schools, and a student was considered to have co-enrolled if that student enrolled at two or more institutions for more than 1 month within the academic year.

Figure B. Average time to degree for 1999–2000 first-time bachelor's degree recipients according to multiple institution attendance patterns, by beginning institution type



NOTE: Standard error tables are available at http://nces.ed.gov/das/library/reports.asp.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B: 2000/01).

also reported transfer as their main purpose. In addition, about one-third of bachelor's degree recipients who began in 4-year institutions said they enrolled in more than one institution to take additional classes.

Conclusions

Attending more than one postsecondary institution during the course of undergraduate enrollment is a common practice. Among students who enrolled in postsecondary education for the first time in 1995–96, 40 percent had attended more than one institution as of 2001, while among 2001 college graduates, nearly 60 percent had done so. As would be expected, students who began their postsecondary education in a community college were more likely to transfer than those who began in 4-year institutions, because community college students typically must transfer to earn a bachelor's degree. Nevertheless, about one-quarter of those students who started in 4-year institutions had transferred as of 2001, and for them, transfer was associated with lower persistence rates. Among 1999–2000 bachelor's degree recipients, attending more than one institution (or more than two institutions for those who began in community colleges), transferring, and co-enrolling were each associated with longer average time to completion of their bachelor's degrees.

When taking risk status and other related variables into account, multivariate analyses of beginning postsecondary students who began their postsecondary education in a 4-year institution with a bachelor's degree goal indicated a negative association between transfer and persistence. That is, among these students, those who had transferred were less likely than those who had not transferred to attain a degree or be enrolled in 4-year institutions 6 years after first enrolling in postsecondary education. As with transfer, beginning postsecondary students who began their postsecondary studies in a 4-year institution and who attended a community college at some time during their enrollment were less likely to persist for 6 years or to graduate than their counterparts who had not attended a community college. In contrast, beginning students who had ever co-enrolled were more likely to persist or attain a bachelor's degree than those who had not.

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Data sources: The NCES 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS: 96/01) and 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:2000/01).

For technical information, see the complete report:

Peter, K., and Forrest Cataldi, E. (2005). *The Road Less Traveled? Students Who Enroll in Multiple Institutions* (NCES 2005-157).

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2003–04 National Postsecondary Student Aid Study (NPSAS:04): Student Financial Aid Estimates for 2003–04

Lutz Berkner, Shirley He, Stephen Lew, Melissa Cominole, and Peter Siegel

This article was originally published as the Introduction and Selected Findings of the E.D. TAB of the same name. The sample survey data are from the National Postsecondary Student Aid Study (NPSAS).

This report presents selected findings about the financial aid received by postsecondary students during the 2003–04 academic year. It is based on survey data in the 2003–04 National Postsecondary Student Aid Study (NPSAS:04).

NPSAS:04 is based on data collected from a sample of about 80,000 undergraduates and 11,000 graduate and first-professional students who were enrolled at any time between July 1, 2003, and June 30, 2004, in about 1,400 postsecondary institutions. The sample was limited to institutions in the 50 states, the District of Columbia, and Puerto Rico that were eligible to participate in the federal financial aid programs in Title IV of the Higher Education Act. The NPSAS:04 study sample represents about 19 million undergraduates and 3 million graduate and first-professional students. Because NPSAS:04 includes students enrolled at any time over a 12-month period, it includes more students than were enrolled only in the 2003 fall term. Preliminary data from the Integrated Postsecondary Education Data System indicate that about 15 million undergraduates and 2.5 million graduate and first-professional students were enrolled in the fall of 2003.

NPSAS classifies financial aid by *type* (e.g., grants, loans, work-study, graduate assistantships, or some combination) and by the *source* of aid funds (e.g., federal, state, institutional, or employer). Financial aid includes any type of aid received from any source except parents, friends, or relatives. However, the aid estimates do not include federal tax credits for postsecondary education (Hope and Lifelong Learning) and do not include all types of borrowing for education (such as credit cards or home equity loans). The tables in this report show the percentage of students who received financial aid of a particular type or from a particular source, and the average amount that was received by those students who were awarded that category of aid. Students may receive more than one type of aid and aid from more than one source.

The estimates presented in the report were produced using the NCES Data Analysis System (DAS) Online, a web-based table-generating application that provides the public with direct, free access to the NPSAS:04 data as well as other postsecondary datasets collected by NCES. The NPSAS:04 estimates are subject to sampling and nonsampling errors. The DAS produces the design-adjusted standard errors necessary for testing the statistical significance of differences in the estimates. All comparisons made in the text were tested using Student's *t* statistic for comparing two numbers, and all differences cited are statistically significant at the .05 level. Additional information about public access to the data files with the DAS and the data sources used in the survey is presented in appendix B of the full report.

The following provides some general information about the financial aid data presented in the tables. More details about the particular variables used to produce the tables are available in appendix A of the full report. The brief descriptions of the federal Title IV programs are based on the U.S. Department of Education's comprehensive *2003–04 Federal Student Aid Handbook,* available at http://ifap.ed.gov/IFAPWebApp/currentSFAHandbooksPag.jsp.

Institution and Student Characteristics

Information about the type of institution attended only includes students who were enrolled at one institution. Students who attended more than one institution during the 2003–04 academic year are classified in a separate category because the institution at which they were sampled was not necessarily where they received their financial aid.

The attendance pattern is important in understanding the distribution of financial aid because students who are enrolled part time or for only part of an academic year are not eligible to receive as much aid as students enrolled full time for a full academic year. Full-time/full-year attendance is defined as being enrolled full time for 9 or more months during the academic year (July 1, 2003, through June 30, 2004).

Many financial aid programs are need based, which means that eligibility is usually related to income level. A critical question in determining students' need for financial aid is whether the students are dependent or independent of their parents for financial support. For financial aid purposes, most undergraduates under the age of 24 are considered to be dependent on their parents. The exceptions are those

under 24 who are married, have dependents of their own, are veterans, or are orphans or wards of the court. These exceptions, as well as graduate students and any students age 24 or older, are considered to be independent for financial aid purposes.

For dependent students, financial aid need analysis takes into consideration the income of the dependent student's parents; for independent students, only the income of the student (and a spouse, if married) is considered. The tables show total income in 2002 because financial aid need analysis is based on income in the calendar year prior to the academic year (2003–04).

Types of Financial Aid

The three basic types of undergraduate financial aid are grants, student loans, and work-study jobs. Grants include grants, scholarships, or tuition waivers from federal, state, institutional, or private sources, including employers. Grants may be awarded on the basis of need or merit, or both. Merit may be defined as academic success, athletic ability, artistic talents, or criteria established by institutions other than financial need. Student loans may be from any source, but federal Parent Loans for Undergraduate Students (PLUS) are excluded from the student loan totals. PLUS loans to parents are included in the "other type of aid" category, as are veterans' benefits and job training funds. Students may receive more than one type of aid and aid from more than one source.

Sources of Financial Aid

The federal financial aid totals include a small percentage of students who received aid from programs that are not included in the federal Title IV programs described below. The federal aid totals do not include veterans' benefits or Department of Defense programs. Federal grants are Pell Grants, Federal Supplemental Educational Opportunity Grants (FSEOGs), and a small percentage of grants from other non-Title IV federal programs. Federal student loans are Stafford and Perkins loans and a small percentage of loans from the federal Public Health Service. The student loan totals exclude PLUS loans to parents.

Although some states and postsecondary institutions fund their own student loan and work-study programs, only grants are shown separately for state and institutional aid funds.

Federal Title IV Aid

The programs in Title IV of the Higher Education Act are the primary source of federal financial aid to students.

The federal Title IV programs include Pell Grants, Stafford student loans, parent PLUS loans, and three campus-based programs (federal work-study, Perkins loans, and FSEOGs). Pell Grants are awarded on the basis of need and are intended to aid students in the lower income levels. The maximum Pell Grant amount in 2003–04 was $4,050.

There are two types of federal Stafford loans. Subsidized Stafford loans are need based, and the federal government pays the interest for students while they are enrolled. Unsubsidized Stafford loans are not need based, and students are charged interest on the loans while they are enrolled. Students who qualify may take out subsidized, unsubsidized, or a combination of both types of Stafford loans. Both types of Stafford loans have annual borrowing limits that vary by student class level and dependency status. For example, in 2003–04, the combined (subsidized plus unsubsidized) annual Stafford loan limits ranged from $2,625 for dependent first-year undergraduates to $5,500 for dependent undergraduates in the third year or above; for independent undergraduates, the annual loan limits ranged from $6,625 for first-year students to $10,500 for independent students in the third year or above; and for graduate and first-professional students, the annual loan limit was $18,500, but students at eligible medical schools could borrow up to $38,500 annually.

PLUS loans are available to the parents of dependent undergraduates and are not need based. There is no fixed annual PLUS loan limit. Parents may borrow any amount that does not exceed the student's total price of attendance at the institution minus any other financial aid received.

The federal Title IV campus-based program funds are allocated to institutions, and the financial aid officers at the institutions determine the allocation of awards to students within federal guidelines. Pell Grant recipients are given priority for FSEOG awards and Perkins loans.

Graduate and First-Professional Aid

Graduate students include any students who have earned a bachelor's degree and are enrolled in master's degree, doctoral degree, or postbaccalaureate certificate programs, or are taking advanced-level courses without being formally enrolled in a degree program. First-professional students are enrolled in advanced degree programs in the fields of law, medicine and related fields, and theological professions. The income levels shown are the income of the student and a spouse, if married.

The major types of financial aid received by graduate and first-professional students are student loans, grants (including fellowships), and assistantships (including teaching, research, or any other graduate assistantships). Grant and fellowship funds may come from any source. The source of funds for graduate fellowships and assistantships is not usually specified in the data sources. Research assistantships and fellowships administered by the institutions may include funds from federal and other outside sources.

Aid from employers is included in the grants category and is also shown separately. Employer aid consists of tuition reimbursements to students from employers, grants to students from their parents' employers, and tuition waivers from the institution for faculty or staff and their dependents. Although graduate students holding assistantships may be considered employees of the institution attended, tuition waivers for graduate assistants are not included in the employer aid category. Such tuition waivers are included in the total grants category, however.

Selected Findings*

Types of financial aid received by undergraduates in 2003–04 (tables A and B)

- Sixty-three percent of all undergraduates enrolled in the 2003–04 academic year received some type of financial aid (grants, loans, work-study, or other). Those who received aid were awarded an average amount of $7,300.
- About one-half (51 percent) of undergraduates received grants and about one-third (35 percent) took out student loans in 2003–04. Eight percent of all undergraduates received aid through work-study jobs and 7 percent received other types of aid (federal PLUS loans to parents, veterans' benefits, and job training funds).
- The average amount of grant aid received by undergraduates who were awarded grants was $4,000 in 2003–04. Among those who took out student loans, the average amount borrowed for the 2003–04 academic year was $5,800. The average work-study award was $2,000.
- Three-fourths (76 percent) of undergraduates who were enrolled full time for the full academic year in 2003–04 received some type of financial aid. The average amount of financial aid received by aided full-time, full-year undergraduates was $9,900.
- About one-half of full-time, full-year undergraduates took out student loans and 62 percent received grants in 2003–04. The average amount borrowed by full-time, full-year undergraduates for the 2003–04 academic year was $6,200. The amount of grant aid received by full-time, full-year undergraduates in 2003–04 was $5,600.

Sources of aid funds received by undergraduates in 2003–04

- Forty-six percent of all undergraduates received financial aid funded by the federal government in 2003–04. About one-third (34 percent) took out federal student loans, 28 percent received federal grants, and 6 percent held federal work-study jobs.
- Undergraduates who took out federal loans borrowed an average amount of $5,100 through federal loan programs in 2003–04. Undergraduates who were awarded federal grants received an average amount of $2,600 in federal grants. Undergraduates who held federal work-study jobs received an average amount of $1,800 for work-study.
- Among undergraduates enrolled in 2003–04, 15 percent received grants from state funds; the average state grant amount that they received was $2,000. Among undergraduates enrolled full time for the full academic year, 23 percent received state grants; the average state grant amount that they received was $2,400.
- Eighteen percent of all undergraduates received grants from the postsecondary institutions that they attended in 2003–04. The average amount of institutional grant aid that they received was $4,200. Among undergraduates enrolled full time for the full academic year, 30 percent received institutional grants.

Federal Title IV program aid received by undergraduates in 2003–04

- Forty-six percent of all undergraduates received financial aid from one or more federal Title IV programs in 2003–04.
- Federal Pell Grants were awarded to 27 percent of all undergraduates in 2003–04. The average Pell Grant amount received was $2,500. Undergraduates enrolled full time for the full academic year who were awarded Pell Grants received an average grant of $3,100.
- Twelve percent of all undergraduates enrolled in 2003–04 received aid through one or more of the federal campus-based Title IV aid programs, which include Perkins loans, federal work-study, and

*The numbers in the Selected Findings refer to totals that include Puerto Rico.

Table A. Percentage of undergraduates receiving selected types of financial aid, by type of institution, attendance pattern, dependency status, and income level: 2003–04

Institution and student characteristics	Any aid	Any grants	Student loans	Work-study	Any other aid
All undergraduates					
U.S. total (excluding Puerto Rico)	63.0	50.4	35.1	7.5	7.0
Total (50 states, DC, and Puerto Rico)	63.2	50.7	35.0	7.5	6.9
Type of institution					
Public					
Less-than-2-year	49.7	37.5	12.2	3.0	11.3
2-year	46.8	39.8	12.1	3.5	4.1
4-year non-doctorate-granting	67.6	50.6	42.3	8.7	6.8
4-year doctorate-granting	69.2	52.2	45.7	8.3	8.3
Private not-for-profit					
Less-than-4-year	84.1	71.1	48.5	6.6	10.3
4-year non-doctorate-granting	85.1	74.8	57.9	20.1	11.0
4-year doctorate-granting	80.4	71.3	53.6	22.8	10.1
Private for-profit					
Less-than-2-year	83.0	64.1	57.3	2.0	10.6
2-year or more	92.3	66.5	81.4	2.4	9.9
More than one institution	66.3	47.6	42.7	7.0	8.2
Attendance pattern					
Full-time/full-year	76.1	62.2	49.5	13.5	9.4
Full-time/part-year	66.2	49.4	39.8	4.6	7.7
Part-time/full-year	60.5	49.1	27.9	4.2	4.5
Part-time/part-year	40.5	31.9	12.7	1.9	4.3
Full-time/full-year undergraduates					
Dependency status					
Dependent	73.5	59.3	46.7	15.4	10.2
Independent	82.9	69.4	56.6	8.8	7.5
Dependency and income in 2002					
Dependent students					
Less than $20,000	87.8	85.7	46.2	19.9	5.6
$20,000–39,999	85.7	80.1	53.3	22.0	7.9
$40,000–59,999	73.9	59.9	49.4	17.5	10.1
$60,000–79,999	69.0	50.6	47.6	14.0	12.2
$80,000–99,999	70.3	49.0	48.3	12.8	13.4
$100,000 or more	60.9	40.4	38.1	8.3	11.3
Independent students					
Less than $10,000	84.4	79.9	56.6	13.7	5.4
$10,000–19,999	89.1	79.7	62.0	9.8	7.3
$20,000–29,999	85.7	68.5	60.0	6.1	8.5
$30,000–49,999	80.8	60.7	56.1	5.6	9.3
$50,000 or more	68.3	37.3	44.1	1.9	10.0

NOTE: "Any aid" includes all types of financial aid from any source except parents, friends, or relatives. "Any grants" include grants, scholarships, or tuition waivers from federal, state, institutional, or private sources, including employers. "Student loans" may be from any source, but exclude federal Parent Loans for Undergraduate Students (PLUS). "Other" types of aid include federal PLUS loans to parents, veterans' benefits, and job training funds. Students may receive more than one type of aid. Full-time/full-year students were enrolled full time for 9 or more months from July 1, 2003, to June 30, 2004. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are an orphan or ward of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Prior-year (2002) income is used in federal need analysis. Estimates include students at postsecondary institutions in Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 1 on p. 10 of the complete report from which this article is excerpted.)

Table B. Average amounts of selected types of financial aid received by undergraduates, by type of institution, attendance pattern, dependency status, and income level: 2003–04

Institution and student characteristics	Total aid	Total grants	Student loans	Work-study	Total other aid
All undergraduates					
U.S. total (excluding Puerto Rico)	$7,400	$4,000	$5,800	$2,000	$6,200
Total (50 states, DC, and Puerto Rico)	7,300	4,000	5,800	2,000	6,200
Type of institution					
Public					
Less-than-2-year	3,800	2,200	5,400	2,600	3,000
2-year	3,200	2,200	3,600	2,000	2,800
4-year non-doctorate-granting	6,700	3,500	5,300	2,000	5,400
4-year doctorate-granting	8,100	4,200	5,800	2,100	7,100
Private not-for-profit					
Less-than-4-year	7,600	4,300	5,300	1,500	5,900
4-year non-doctorate-granting	12,100	6,900	6,700	1,600	8,100
4-year doctorate-granting	15,000	9,000	7,300	2,100	12,200
Private for-profit					
Less-than-2-year	6,300	2,700	5,000	2,100	5,900
2-year or more	9,900	3,600	7,400	2,700	6,700
More than one institution	7,200	3,500	5,800	1,900	6,200
Attendance pattern					
Full-time/full-year	9,900	5,600	6,200	1,900	7,900
Full-time/part-year	5,900	2,900	5,100	1,800	4,800
Part-time/full-year	5,400	2,700	5,800	2,100	4,600
Part-time/part-year	3,000	1,600	4,500	2,000	2,700
Full-time/full-year undergraduates					
Dependency status					
Dependent	10,100	6,000	5,600	1,900	8,800
Independent	9,500	4,500	7,500	2,100	4,800
Dependency and income in 2002					
Dependent students					
Less than $20,000	10,300	6,900	5,200	1,900	6,400
$20,000–39,999	10,500	6,400	5,400	1,900	7,100
$40,000–59,999	9,700	5,500	5,700	1,900	7,400
$60,000–79,999	9,800	5,500	5,700	1,800	8,300
$80,000–99,999	10,100	5,700	5,800	1,700	9,400
$100,000 or more	9,900	5,900	5,800	2,100	11,200
Independent students					
Less than $10,000	10,400	5,400	7,000	2,000	4,700
$10,000–19,999	9,700	4,400	7,300	2,400	5,100
$20,000–29,999	9,500	4,300	7,700	2,000	4,900
$30,000–49,999	8,700	3,400	8,000	2,400	4,000
$50,000 or more	7,800	2,800	8,400	‡	5,400

‡ Reporting standards not met.
NOTE: Amounts are averages for those who received the specified type of aid. "Total aid" includes all types of financial aid from any source except parents, friends, or relatives. "Total grants" include grants, scholarships, or tuition waivers from federal, state, institutional, or private sources, including employers. "Student loans" may be from any source, but exclude federal Parent Loans for Undergraduate Students (PLUS). "Other" types of aid include federal PLUS loans to parents, veterans' benefits, and job training funds. Students may receive more than one type of aid. Full-time/full-year students were enrolled full time for 9 or more months from July 1, 2003, to June 30, 2004. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are an orphan or ward of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Prior-year (2002) income is used in federal need analysis. Estimates include students at postsecondary institutions in Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 2 on p. 11 of the complete report from which this article is excerpted.)

FSEOGs. The average amount of federal campus-based aid received by undergraduates from one or more of these programs was $1,800.

- One-third (33 percent) of all undergraduates took out federal Stafford loans in 2003–04, borrowing an average of $4,900. Subsidized Stafford loans, which are awarded on the basis of need, were taken out by 28 percent of undergraduates. Unsubsidized Stafford loans, which are available without a test of need, were taken out by 21 percent of undergraduates.
- In 2003–04, parents of 9 percent of dependent undergraduates who were enrolled full time for the full academic year borrowed an average of $9,400 through the PLUS program.

Income distribution of dependent undergraduate federal Title IV aid recipients

- Among all dependent undergraduates who received federal Pell Grants in 2003–04, 84 percent came from families with incomes under $40,000.
- Among all dependent undergraduates who received federal Title IV campus-based aid in 2003–04, 55 percent came from families with incomes under $40,000.
- Among all dependent undergraduates who took out subsidized Stafford loans in 2003–04, 44 percent came from families with incomes under $40,000.
- Among all dependent undergraduates who took out unsubsidized Stafford loans in 2003–04, 29 percent came from families with incomes of $100,000 or more.

Income distribution of independent undergraduate federal Title IV aid recipients

- Among all independent undergraduates who received Pell Grants in 2003–04, 40 percent had incomes under $10,000.
- Among all independent undergraduates who received federal Title IV campus-based aid in 2003–04, 45 percent had incomes under $10,000.
- Among all independent undergraduates who took out any Stafford loans in 2003–04, 26 percent had incomes under $10,000.

Aid received by graduate and first-professional students in 2003–04 (tables C and D)

- About three-fourths (73 percent) of all graduate and first-professional students enrolled in the 2003–04 academic year received some type of financial aid. The average amount of aid received was $15,100.
- Forty-two percent of graduate and first-professional students took out student loans in 2003–04, borrowing an average amount of $16,800. Among students in first-professional degree programs, 78 percent took out student loans, borrowing an average amount of $26,400.
- In the 2003–04 academic year, 40 percent of all graduate and first-professional students received grants from institutional, state, federal, or private sources, including employers. The average amount received was $5,700.
- Fifteen percent of graduate and first-professional students received aid from teaching, research, or other graduate assistantships in 2003–04. The average amount received from assistantships was $10,000. Forty-one percent of graduate students in doctoral degree programs held assistantships and received an average amount of $13,300.
- Excluding students holding assistantships, 21 percent of graduate and first-professional students received aid from employers in 2003–04, usually as tuition reimbursements. The average aid amount that they received from employers was $3,000. Among part-time students, 26 to 29 percent received aid from employers.

Data source: The NCES 2003–04 National Postsecondary Student Aid Study (NPSAS:04).

For technical information, see the complete report:

Berkner, L., He, S., Lew, S., Cominole, M., and Siegel, P. (2005). *2003–04 National Postsecondary Student Aid Study (NPSAS:04): Student Financial Aid Estimates for 2003–04* (NCES 2005-158).

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To obtain the complete report (NCES 2005-158), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Table C. Percentage of graduate and first-professional students receiving selected types of financial aid, by type of institution, graduate program, attendance pattern, and income level: 2003–04

Institution and student characteristics	Any aid	Grants		Total assistant-ships	Student loans	
		Any grants	Employer aid		Any loans	Stafford loans
U.S. total (excluding Puerto Rico)	72.6	39.9	20.4	14.8	42.0	39.5
Total (50 states, DC, and Puerto Rico)	72.6	40.1	20.5	14.8	42.0	39.5
Type of institution						
Public 4-year						
Non-doctorate-granting	59.5	29.7	19.6	9.9	32.2	31.1
Doctorate-granting	71.8	41.7	17.5	24.5	36.0	33.1
Private not-for-profit 4-year						
Non-doctorate-granting	69.2	37.5	29.5	2.7	37.8	36.7
Doctorate-granting	77.3	41.9	17.5	10.7	50.5	47.1
Private for-profit 4-year	90.6	43.6	43.6	0.1	74.6	74.2
More than one institution	72.3	40.6	22.5	10.8	48.7	47.6
Graduate program						
Master's degree	71.0	38.5	24.2	12.4	40.8	38.5
Doctoral degree	82.6	54.7	14.2	41.2	30.5	28.1
First-professional degree	88.8	40.8	6.2	6.9	78.4	74.0
Other and nondegree	53.6	31.4	23.2	5.6	24.9	23.8
Attendance pattern						
Full-time/full-year	87.0	44.7	9.2	21.6	63.6	59.6
Full-time/part-year	68.5	34.0	18.8	13.5	39.0	37.2
Part-time/full-year	70.7	40.5	25.6	14.0	37.3	35.5
Part-time/part-year	56.2	34.5	28.7	6.9	19.6	18.3
Income level						
Less than $10,000	80.9	38.8	8.9	19.0	59.8	55.7
$10,000–19,999	81.7	40.9	9.8	29.4	48.9	46.6
$20,000–29,999	78.9	36.9	13.0	18.7	53.0	50.9
$30,000–49,999	70.9	40.4	24.6	12.1	39.8	37.2
$50,000 or more	62.3	41.5	32.5	6.4	25.2	23.7

NOTE: "Any aid" includes all types of financial aid from any sources (federal, state, institutional, or private) except parents, friends, or relatives. Grants may come from any source and include fellowships, tuition waivers, and aid from employers. Employer aid excludes tuition waivers to students holding assistantships. Teaching assistantships are funded by institutions, but research assistantship funds may come from any source. Stafford loans include those administered through the Federal Family Education Loan Program (FFELP) and the William D. Ford Federal Direct Loan Program. Students may receive Stafford loans that are subsidized, unsubsidized, or both. Students may receive more than one type of aid. Income is the total income of the student and spouse (if married) for calendar year 2002. Estimates include students at postsecondary institutions in Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04).
(Originally published as table 9 on p. 18 of the complete report from which this article is excerpted.)

Table D. Average amounts of selected types of financial aid received by graduate and first-professional students, by type of institution, graduate program, attendance pattern, and income level: 2003–04

Institution and student characteristics	Total aid	Grants		Total assistant-ships	Student loans	
		Total grants	Employer aid		Total loans	Stafford loans
U.S. total (excluding Puerto Rico)	$15,200	$5,700	$3,000	$10,100	$16,900	$15,500
Total (50 states, DC, and Puerto Rico)	15,100	5,700	3,000	10,000	16,800	15,400
Type of institution						
Public 4-year						
Non-doctorate-granting	7,100	2,600	2,300	6,400	8,700	8,800
Doctorate-granting	14,700	5,800	2,500	10,000	15,500	15,000
Private not-for-profit 4-year						
Non-doctorate-granting	8,500	2,900	2,600	‡	12,300	12,200
Doctorate-granting	20,500	7,700	3,800	12,300	21,900	18,500
Private for-profit 4-year	15,200	4,600	4,600	‡	15,700	15,200
More than one institution	14,800	4,700	2,200	7,100	16,400	15,500
Graduate program						
Master's degree	11,800	4,400	3,200	8,300	13,600	13,000
Doctoral degree	20,200	10,200	3,500	13,300	17,800	16,700
First-professional degree	27,500	7,100	3,500	7,500	26,400	22,500
Other and nondegree	7,800	2,700	1,700	6,400	11,800	11,300
Attendance pattern						
Full-time/full-year	23,200	8,600	3,400	11,400	21,400	18,800
Full-time/part-year	12,600	6,500	4,300	9,300	12,900	11,600
Part-time/full-year	11,400	4,200	3,200	9,600	13,000	12,800
Part-time/part-year	6,000	2,700	2,300	6,000	10,100	10,200
Income level						
Less than $10,000	20,700	6,900	3,000	8,900	20,300	18,000
$10,000–19,999	18,300	7,800	3,200	11,000	17,000	15,200
$20,000–29,999	15,800	6,800	2,500	11,200	14,700	13,600
$30,000–49,999	13,400	5,000	3,100	10,400	15,300	14,200
$50,000 or more	9,800	4,100	3,000	8,700	14,700	14,400

‡ Reporting standards not met.

NOTE: Amounts are averages for those who received the specified type of aid. "Total aid" includes all types of financial aid from any sources (federal, state, institutional, or private) except parents, friends, or relatives. Grants may come from any source and include fellowships, tuition waivers, and aid from employers. Employer aid excludes tuition waivers to students holding assistantships. Teaching assistantships are funded by institutions, but research assistantship funds may come from any source. Stafford loans include those administered through the Federal Family Education Loan Program (FFELP) and the William D. Ford Federal Direct Loan Program. Stafford loans include both subsidized and unsubsidized loan amounts. Students may receive more than one type of aid. Income is the total income of the student and spouse (if married) for calendar year 2002. Estimates include students at postsecondary institutions in Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 10 on p. 19 of the complete report from which this article is excerpted.)

2003–04 National Postsecondary Student Aid Study (NPSAS:04): Undergraduate Financial Aid Estimates for 2003–04 by Type of Institution

Lutz Berkner, Christina Chang Wei, Shirley He, Stephen Lew, Melissa Cominole, and Peter Siegel

This article was originally published as the Introduction and Selected Findings of the E.D. TAB of the same name. The sample survey data are from the National Postsecondary Student Aid Study (NPSAS).

This E.D. TAB presents selected findings about the price of attendance and the types and amounts of financial aid received by postsecondary undergraduates during the 2003–04 academic year. It is based on the undergraduate data in the 2003–04 National Postsecondary Student Aid Study (NPSAS:04), a nationally representative survey of undergraduate, graduate, and first-professional students.

The information about undergraduate students in NPSAS:04 was collected from a sample of about 80,000 undergraduates who were enrolled at any time between July 1, 2003, and June 30, 2004, in about 1,300 postsecondary institutions that offered undergraduate programs of study. The sample was limited to institutions that were eligible to participate in the federal financial aid programs included in Title IV of the Higher Education Act and were located in the 50 states, the District of Columbia, and Puerto Rico. The NPSAS:04 sample of undergraduates represents about 19 million students. Because NPSAS:04 includes students enrolled at any time over a 12-month period, it includes more students than were enrolled only in the 2003 fall term. Preliminary data from the Integrated Postsecondary Education Data System indicate that about 15 million undergraduates were enrolled in the fall of 2003.

The tables in this E.D. TAB show the percentage of students who received financial aid of a particular type or combination, and the average amount that was received by those students who were awarded that type or combination of aid. Financial aid includes any type of aid received from any source except parents, friends, or relatives. However, the aid estimates do not include federal tax credits for postsecondary education (Hope and Lifetime Learning) and do not include all of the possible types of loans that students may take out to finance their educational expenses. In this report, all federal, state, and institutional student loans are included, in addition to alternative private student loans from sources such as Sallie Mae and The Education Resources Institute (TERI). Some examples of borrowing that are not included in the estimate of total loans or total aid are the use of credit cards, home equity loans, and loans from individuals.

All average amounts of financial aid described in this E.D. TAB and presented in the tables reflect the weighted means and are based only on the recipients of the specified types or combinations of aid. Nonrecipients of a particular type or combination of aid are excluded from the calculation of the average amount received so that none of the individuals in the sample for that aid type or combination have zero dollar amounts.

The estimates presented in this E.D. TAB were produced using the National Center for Education Statistics (NCES) Data Analysis System (DAS) Online, a web-based table-generating application that provides the public with direct, free access to the NPSAS:04 data as well as other postsecondary datasets collected by NCES. The NPSAS:04 estimates are subject to sampling and nonsampling errors. The DAS will suppress the printing of estimates when the number of sample cases in a table cell is too low to produce a reliable estimate. The DAS produces the design-adjusted standard errors necessary for testing the statistical significance of differences in the estimates. All comparisons made in the text were tested using Student's *t* statistic for comparing two numbers, and all differences cited were statistically significant at the .05 level.

Student Characteristics

The tables in this E.D. TAB show totals for all undergraduates (full time and part time), as well as separate totals for those who were enrolled full time for a full academic year. Full-time/full-year attendance is defined as being enrolled full time for 9 or more months during the 2003–04 academic year (July 1, 2003, to June 30, 2004).

The student characteristics shown in the tables include dependency status and income within dependency status. For federal financial aid purposes, most undergraduates under the age of 24 are considered to be dependent on their parents. The exceptions are those under 24 who are married, have dependents of their own, are veterans, or are orphans or wards of the court. These exceptions and any students age 24 or older are considered to be independent for financial aid purposes. For dependent students, financial aid need analysis takes into consideration the income of the

dependent student's parents, but for independent students only the income of the student (and a spouse, if married) is considered. The income levels shown in the tables are the total income for 2002, because financial aid need analysis is based on income in the calendar year prior to the academic year (2003–04). The median family income in 2002 for parents of dependent undergraduates enrolled in 2003–04 was about $60,000; about one-fourth of the dependent students came from families with annual incomes of less than $32,000 and about one-fourth came from families with incomes of more than $92,000. The median income of independent students (and a spouse, if married) was about $25,000.

Price of Attendance and Financial Aid

The tables include the average amount of tuition and fees charged by the institutions and the average total price of attendance to the students. The total price of attendance includes the tuition and fees as well as all other expenses related to enrollment: books and supplies, room and board (or housing and meal allowances for off-campus students), transportation, and other personal living expenses. These are the average estimated expenses for various categories of students (e.g., on-campus, off-campus, dependent, independent) reported by the institutions.

There are many different types of financial aid available to students, but the focus of this E.D. TAB is on grants and student loans, which are the two major types of aid to undergraduates. Grant aid includes grants, scholarships, or tuition waivers from federal, state, institutional, or other sources (such as private foundations, employers, and parents' employers). The major federal grant programs are Federal Pell Grants and Federal Supplemental Educational Opportunity Grants (FSEOGs).

The federal student loan programs (Stafford and Perkins loans) are the major source of student loans to undergraduates. Federal Parent Loans for Undergraduate Students (PLUS) were excluded from the student loan totals because the focus of this E.D. TAB is on the amount that students themselves borrow for their education. Parent PLUS loans, work-study aid, veterans' benefits, and job training aid are not shown separately in this E.D. TAB, but they are included in the total aid averages.

Financial aid is typically awarded in "packages" that may include more than one type of aid (e.g., loans and grants) and aid from more than one source (e.g., federal grants and state grants). Tables C and D show three categories of financial aid packages, based on whether the financial aid package included loans to students. The category "grants or any other aid except loans" includes the students who received any type or combination of grants, work-study, veterans' benefits, or job training funds, but did not take out a student loan in 2003–04. The category "grants or any other aid with loans" includes the students who received grants or any other type of aid and also took out student loans in 2003–04.

Following are the selected findings* for undergraduate financial aid estimates for all institutions, as well as public 4-year, private not-for-profit 4-year, public 2-year, and private for-profit postsecondary institutions during the 2003–04 academic year.

All Institutions

All undergraduates enrolled in postsecondary institutions in 2003–04

- Sixty-three percent of all undergraduates enrolled in 2003–04 received some type of financial aid (table A). Undergraduates were more likely to receive grants than student loans in 2003–04, but the average grant amount was less than the average student loan amount. About one-half (51 percent) of undergraduates received grants and about one-third (35 percent) took out student loans. The average amount of grants received was $4,000, and the average amount borrowed by undergraduates in 2003–04 was $5,800.
- Undergraduates enrolled in 2003–04 were more likely to receive federal grants than grants from any other source (table B). Twenty-eight percent of all undergraduates received federal grants (such as Federal Pell Grants or FSEOGs), 18 percent received institutional grants, 15 percent received state grants, and 15 percent received grants from other sources (e.g., employers, parents' employers, or private foundations or organizations).

Undergraduates enrolled full time for 9 or more months in 2003–04

- About three-fourths (76 percent) of all full-time/full-year undergraduates received some financial aid in 2003–04, and the average total aid received was $9,900 (table A). One-half (50 percent) of the full-time/full-year undergraduates enrolled in 2003–04 took out student loans to help finance their education, borrowing an average of $6,200 that year.

*The numbers in the selected findings refer to the totals that include Puerto Rico.

Table A. Average tuition and fees, average total price of attendance, and percentage of undergraduates receiving any aid, any grants, or any student loans, and average amounts received, by student characteristics: 2003–04

Student characteristics	Average tuition and fees	Average total price of attendance	Total aid		Total grants		Student loans	
			Percent	Average amount	Percent	Average amount	Percent	Average amount
All undergraduates								
U.S. total (excluding Puerto Rico)	$4,500	$11,300	63.0	$7,400	50.4	$4,000	35.1	$5,800
Total (50 states, DC, and Puerto Rico)	4,526	11,300	63.2	7,400	50.7	4,000	35.0	5,800
Attendance pattern								
Full-time/full-year	7,703	17,200	76.2	9,900	62.2	5,600	49.5	6,200
Part-time or part-year	2,358	7,200	54.3	4,900	42.7	2,400	24.9	5,300
Dependency status								
Dependent	6,200	13,700	63.8	8,600	50.4	5,200	38.1	5,300
Independent	2,900	8,800	62.7	6,100	51.0	2,900	32.0	6,400
Dependent student income								
Less than $32,000	5,200	12,300	78.5	8,500	74.6	5,500	39.2	5,000
$32,000 to $92,000	5,900	13,300	62.5	8,400	46.6	4,800	40.7	5,300
More than $92,000	8,000	16,000	51.9	9,100	34.0	5,400	31.6	5,600
Independent student income								
Less than $25,000	3,300	9,600	71.6	6,800	63.3	3,300	38.9	6,200
$25,000 or more	2,500	8,000	54.0	5,200	39.1	2,200	25.2	6,700
Full-time/full-year undergraduates								
Total	7,700	17,200	76.2	9,900	62.2	5,600	49.5	6,200
Dependency status								
Dependent	8,400	17,600	73.5	10,100	59.4	6,000	46.7	5,600
Independent	5,900	15,900	82.9	9,600	69.4	4,500	56.6	7,500
Dependent student income								
Less than $32,000	7,100	16,100	88.3	10,600	85.1	6,900	49.6	5,400
$32,000 to $92,000	7,900	17,100	72.6	9,800	56.7	5,600	49.4	5,600
More than $92,000	10,400	20,100	62.6	9,900	42.3	5,800	39.2	5,800
Independent student income								
Less than $25,000	5,900	15,700	86.8	10,000	78.9	4,900	58.9	7,200
$25,000 or more	6,100	16,300	75.9	8,700	52.3	3,400	52.3	8,100

NOTE: The total price of attendance includes tuition and fees, room and board, and other expenses as estimated by the institutions. "Total aid" includes all types of financial aid from any source except parents, friends, or relatives. Does not include federal tax credits for education (Hope and Lifetime Learning). "Total grants" include grants, scholarships, or tuition waivers from federal, state, institutional, or private sources, including employers. "Student loans" may be from any source, but exclude other forms of financing such as credit cards, home equity loans, loans from individuals, and federal Parent Loans for Undergraduate Students (PLUS). Federal PLUS loans and other types of aid such as veterans' benefits and job training funds are included in total aid. Students may receive more than one type of aid. Full-time/full-year students were enrolled full time for 9 or more months from July 1, 2003, to June 30, 2004. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are orphans or wards of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Income is total income in 2002. Prior-year (2002) income is used in federal need analysis. Estimates include students at postsecondary institutions in Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 1 on p.10 of the complete report from which this article is excerpted.)

Table B. Percentage of undergraduates receiving grants from federal, state, institutional, or other sources,and average grant amounts received, by student characteristics: 2003–04

Student characteristics	Federal grants		State grants		Institutional grants		Other grants	
	Percent	Average amount	Percent	Average amount	Percent	Average amount	Percent	Average amount
All undergraduates								
U.S. total (excluding Puerto Rico)	27.1	$2,600	14.6	$2,000	17.6	$4,200	14.6	$2,000
Total (50 states, DC, and Puerto Rico)	27.6	2,600	14.7	2,000	17.6	4,200	14.5	2,000
Attendance pattern								
Full-time/full-year	33.3	3,200	22.6	2,400	29.6	5,000	15.3	2,300
Part-time or part-year	23.6	2,000	9.2	1,200	9.1	2,400	13.9	1,800
Dependency status								
Dependent	22.8	2,700	17.9	2,200	25.5	5,100	13.4	2,100
Independent	32.3	2,500	11.5	1,500	9.7	2,000	15.6	1,900
Dependent student income								
Less than $32,000	62.4	3,200	28.7	2,500	28.0	4,200	11.0	2,100
$32,000 to $92,000	14.2	1,800	17.8	2,100	25.7	5,100	14.7	2,000
More than $92,000	0.9	1,500	7.4	2,200	22.5	6,000	13.0	2,300
Independent student income								
Less than $25,000	50.7	2,700	15.9	1,600	13.0	2,000	10.6	1,900
$25,000 or more	14.4	1,900	7.1	1,300	6.6	1,900	20.4	1,900
Full-time/full-year undergraduates								
Total	33.3	3,200	22.6	2,400	29.6	5,000	15.3	2,300
Dependency status								
Dependent	25.0	3,100	22.9	2,500	34.2	5,500	16.2	2,200
Independent	54.3	3,400	21.7	2,100	18.1	2,700	12.8	2,700
Dependent student income								
Less than $32,000	72.3	3,700	38.5	2,800	37.4	4,800	13.6	2,100
$32,000 to $92,000	16.1	2,000	23.1	2,300	35.1	5,600	17.8	2,100
More than $92,000	1.0	1,800	9.2	2,300	29.7	6,200	15.6	2,500
Independent student income								
Less than $25,000	69.4	3,600	25.6	2,100	20.6	2,800	9.8	2,500
$25,000 or more	27.1	2,600	14.7	1,800	13.4	2,400	18.2	2,800

NOTE: Federal grants are Federal Pell Grants, Federal Supplemental Educational Opportunity Grants (FSEOGs), and a small percentage of grants and scholarships from other federal programs. State and institutional grants include any grants, scholarships, or tuition waivers that are funded by a state or by the institution attended, respectively. Other grants include grants and scholarships from private sources outside of the institution, including tuition aid from employers. Students may receive grants from more than one source. Full-time/full-year students were enrolled full time for 9 or more months from July 1, 2003, to June 30, 2004. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are orphans or wards of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Income is total income in 2002. Prior-year (2002) income is used in federal need analysis. Estimates include students at postsecondary institutions in Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 2 on p.11 of the complete report from which this report is excerpted.)

- Forty percent of all full-time/full-year undergraduates received both grants (or other aid) and loans in 2003–04 (table C). The average amount of total aid received by full-time/full-year students with both grants (or other aid) and loans in their aid packages was $13,600 (table D).

Public 4-Year Institutions

All undergraduates enrolled in public 4-year institutions in 2003–04

- Sixty-nine percent of all undergraduates enrolled in public 4-year institutions in 2003–04 received some type of financial aid. About one-half (52 percent) of all undergraduates attending public 4-year institutions in 2003–04 received grants and 45 percent took out student loans. Those who were awarded grants received an average of $4,000 in grant funds, while those who took out student loans borrowed an average of $5,600.
- Twenty-seven percent of all undergraduates enrolled in public 4-year institutions in 2003–04 received federal grants, 21 percent received institutional grants, 19 percent received state grants, and 14 percent received grants from other sources such as employers or private organizations. The average federal grant amount was $2,800, the average institutional grant was $2,900, the average state grant was $2,200, and the average grant funded through other sources was $2,000.

Undergraduates enrolled full time for 9 or more months in public 4-year institutions in 2003–04

- Nine out of 10 (91 percent) full-time/full-year dependent undergraduates from families with incomes under $32,000 attending public 4-year institutions in 2003–04 received some type of financial aid. The average amount of total aid received by these low-income dependent undergraduates was $9,900. About three-fourths (73 percent) received a federal grant at an average of $3,700.
- About one-half (52 percent) of full-time/full-year dependent undergraduates with family incomes under $32,000 received both grants (or other aid) and student loans at public 4-year institutions in 2003–04. Thirty-seven percent received grants (or other aid) and did not take out any student loans. Those with both grants (or other aid) and loans in their financial aid package received an average total aid of $12,100.

Private Not-For-Profit 4-Year Institutions

All undergraduates enrolled in private not-for-profit 4-year institutions in 2003–04

- Eighty-three percent of all undergraduates attending private not-for-profit 4-year institutions received some type of financial aid in 2003–04. About three-fourths (73 percent) of the undergraduates enrolled in private not-for-profit 4-year institutions received grants and 56 percent took out student loans in 2003–04. The average grant amount was $7,700 and the average student loan was $6,900.
- One-half (50 percent) of all undergraduates enrolled in private not-for-profit 4-year institutions in 2003–04 received institutional grants, 28 percent received federal grants, 22 percent received state-funded grants, and 23 percent received grants from other sources such as private organizations or employers. The average institutional grant amount awarded to undergraduates at private not-for-profit 4-year institutions in 2003–04 was $7,100, the average federal grant was $3,000, the average state grant was $2,800, and the average grant from other sources was $2,900.

Undergraduates enrolled full time for 9 or more months in private not-for-profit 4-year institutions in 2003–04

- About four out of five (81 percent) full-time/full-year undergraduates received grants to attend private not-for-profit 4-year institutions in 2003–04, and about two-thirds (66 percent) took out student loans. The average grant amount was $9,400 and the average student loan amount in 2003–04 was $7,200.
- Among full-time/full-year undergraduates enrolled in private not-for-profit 4-year institutions in 2003–04, 62 percent received both grants (or other aid) and student loans in their financial aid packages. The average total amount in the financial aid package of full-time/full-year students with both grants (or other aid) and student loans was $19,300.

Public 2-Year Institutions

All undergraduates enrolled in public 2-year institutions in 2003–04

- Forty-seven percent of all undergraduates enrolled in public 2-year institutions in 2003–04 received some type of financial aid. Forty percent received grants and 12 percent took out student loans. Although a smaller percentage of undergraduates attending public 2-year institutions received loans than grants,

Table C. Percentage distribution of undergraduates receiving various types of financial aid packages, by student characteristics: 2003–04

Student characteristics	Percentage			
	No financial aid	Grants or any other aid except loans	Grants or any other aid with loans	Student loans only
All undergraduates				
U.S. total (excluding Puerto Rico)	37.0	27.9	26.6	8.5
Total (50 states, DC, and Puerto Rico)	36.8	28.2	26.6	8.5
Attendance pattern				
Full-time/full-year	23.9	26.6	40.3	9.2
Part-time or part-year	45.8	29.4	17.0	7.9
Dependency status				
Dependent	36.2	25.7	29.2	8.9
Independent	37.3	30.7	24.0	8.0
Dependent student income				
Less than $32,000	21.5	39.3	36.9	2.3
$32,000 to $92,000	37.5	21.8	29.8	10.9
More than $92,000	48.1	20.3	20.4	11.3
Independent student income				
Less than $25,000	28.4	32.7	33.4	5.5
$25,000 or more	46.0	28.8	14.7	10.5
Full-time/full-year undergraduates				
Total	23.9	26.6	40.3	9.2
Dependency status				
Dependent	26.5	26.8	37.7	9.0
Independent	17.1	26.3	46.8	9.8
Dependent student income				
Less than $32,000	11.7	38.7	47.7	1.9
$32,000 to $92,000	27.5	23.2	39.1	10.4
More than $92,000	37.4	23.4	26.7	12.6
Independent student income				
Less than $25,000	13.2	27.9	53.5	5.4
$25,000 or more	24.1	23.6	34.6	17.7

NOTE: "Grants or any other aid" includes any combination of grants, scholarships, or tuition waivers as well as work-study, veterans' benefits, and job training. "Student loans" may be from any source, but exclude other forms of financing such as credit cards, home equity loans, loans from individuals, and federal Parent Loans for Undergraduate Students (PLUS). Federal PLUS loans are included in total aid. Full-time/full-year students were enrolled full time for 9 or more months from July 1, 2003, to June 30, 2004. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are orphans or wards of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Income is total income in 2002. Prior-year (2002) income is used in federal need analysis. Estimates include students at postsecondary institutions in Puerto Rico. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 3 on p.12 of the complete report from which this report is excerpted.)

Table D. Average total amount of financial aid that undergraduates received in various types of financial aid packages, by student characteristics: 2003–04

Student characteristics	Average total amount of financial aid			
	Total aid	Grants or any other aid except loans	Grants or any other aid with loans	Student loans only
All undergraduates				
U.S. total (excluding Puerto Rico)	$7,400	$3,500	$11,900	$6,000
Total (50 states, DC, and Puerto Rico)	7,400	3,500	11,900	5,900
Attendance pattern				
Full-time/full-year	9,900	5,400	13,600	6,600
Part-time or part-year	4,900	2,300	8,900	5,400
Dependency status				
Dependent	8,600	4,600	13,200	5,100
Independent	6,100	2,600	10,300	6,900
Dependent student income				
Less than $32,000	8,500	4,700	12,800	4,700
$32,000 to $92,000	8,400	4,200	12,800	4,900
More than $92,000	9,100	5,200	14,900	5,600
Independent student income				
Less than $25,000	6,800	3,000	10,400	6,900
$25,000 or more	5,200	2,200	9,900	6,900
Full-time/full-year undergraduates				
Total	9,900	5,400	13,600	6,600
Dependency status				
Dependent	10,100	5,700	14,200	5,700
Independent	9,600	4,700	12,500	8,600
Dependent student income				
Less than $32,000	10,600	6,200	14,400	5,600
$32,000 to $92,000	9,800	5,200	13,700	5,600
More than $92,000	9,900	6,000	15,200	5,900
Independent student income				
Less than $25,000	10,000	5,100	12,700	8,800
$25,000 or more	8,700	3,900	12,000	8,500

NOTE: "Total aid" includes all types of financial aid from any source except parents, friends, or relatives. Does not include federal tax credits for education (Hope and Lifetime Learning). "Grants or any other aid" includes any combination of grants, scholarships, or tuition waivers as well as work-study, veterans' benefits, and job training. "Student loans" may be from any source, but exclude other forms of financing such as credit cards, home equity loans, loans from individuals, and federal Parent Loans for Undergraduate Students (PLUS). Federal PLUS loans are included in total aid. Full-time/full-year students were enrolled full time for 9 or more months from July 1, 2003, to June 30, 2004. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are orphans or wards of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Income is total income in 2002. Prior-year (2002) income is used in federal need analysis. Estimates include students at postsecondary institutions in Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04). (Originally published as table 4 on p.13 of the complete report from which this article is excerpted.)

the average student loan amount ($3,600) was larger than the average grant amount ($2,200).

- Among undergraduates attending public 2-year institutions in 2003–04, 23 percent received federal grants, 11 percent received state-funded grants, 8 percent received institutional grants, and 12 percent received grants from other sources such as employers or private organizations. The average federal grant was $2,300, the average state grant was $1,000, the average institutional grant was $1,200, and the average grant awarded from other sources was $1,100.

Undergraduates enrolled full time for 9 or more months in public 2-year institutions in 2003–04

- About one-half (53 percent) of the full-time/full-year undergraduates attending public 2-year institutions received grants and about one-fourth (23 percent) took out student loans in 2003–04. The average amount of grants received by full-time/full-year undergraduates was $3,400, and the average student loan amount was $4,100.
- Thirty-nine percent of full-time/full-year undergraduates enrolled in public 2-year institutions received grants (or other aid) and did not take out student loans in 2003–04. Seventeen percent received both grants (or other aid) and loans, and 6 percent received only loans and no other type of aid. Those with aid packages that consisted of only grants (or other aid) and no student loans received an average of $3,700 in total financial aid. Those with grants (or other aid) and loans received an average of $8,100 in total aid.

Private For-Profit Institutions

All undergraduates enrolled in private for-profit institutions in 2003–04

- Among students attending private for-profit institutions, about 9 out of 10 (89 percent) received some type of financial aid in 2003–04. About two-thirds (66 percent) of the undergraduates enrolled in private for-profit institutions received grants and about three-fourths (73 percent) took out student loans in 2003–04. The average grant amount was $3,300 and the average student loan amount was $6,800.
- About one-half (53 percent) of all undergraduates at private for-profit institutions received a federal grant in 2003–04. Eight percent received state grants, 7 percent received institutional grants, and 13 percent received grants funded through other sources.

Undergraduates enrolled full time for 9 or more months in private for-profit institutions in 2003–04

- Sixty-two percent of full-time/full-year undergraduates enrolled at private for-profit institutions in 2003–04 received financial aid packages including both grants (or other aid) and student loans. Thirteen percent received only grants (or other aid) and no student loans, and 18 percent received only student loans.
- Among full-time/full-year undergraduates enrolled at private for-profit institutions in 2003–04, those who had both grants (or other aid) and student loans in their financial aid packages received an average of $13,000 in total aid. Those with only grants (or other aid) but no loans received an average of $4,300 in total aid, and those who only took out student loans received an average loan of $9,500.

Data source: The NCES 2003–04 National Postsecondary Student Aid Study (NPSAS:04).

For technical information, see the complete report:

Berkner, L., Wei, C.C., He, S., Lew, S., Cominole, M., and Siegel, P. (2005). *2003–04 National Postsecondary Student Aid Study (NPSAS:04): Undergraduate Financial Aid Estimates for 2003–04 by Type of Institution* (NCES 2005-163).

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To obtain the complete report (NCES 2005-163), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Debt Burden: A Comparison of 1992–93 and 1999–2000 Bachelor's Degree Recipients a Year After Graduating

Susan P. Choy and Xiaojie Li

This article was originally published as the Executive Summary of the Postsecondary Education Descriptive Analysis Report of the same name. The sample survey data are from the Baccalaureate and Beyond Longitudinal Study (B&B).

Two important changes during the 1990s had major implications for borrowing for undergraduate education. First, the price of going to college increased faster than inflation (The College Board 2003a). Second, the 1992 Reauthorization of the Higher Education Act increased loan limits for the Stafford loan program, expanded eligibility for need-based aid, and introduced unsubsidized Stafford loans for undergraduates regardless of their financial need. The resulting increase in federal borrowing was immediate and dramatic. After adjusting for inflation, the federal loan volume for undergraduate and graduate borrowing increased by 35 percent the first year after the change (1992–93 to 1993–94) (The College Board 2003b). Between 1992–93 and 2002–03, it grew from $20.7 billion (in constant 2002 dollars) to $49.1 billion, an increase of 137 percent.

This report uses the 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B) to compare the borrowing patterns of 1992–93 and 1999–2000 bachelor's degree recipients. It also examines their repayment situations and resulting *debt burdens* (defined as monthly loan payments as a percentage of monthly salary income a year after they graduated). Members of the earlier cohort finished their undergraduate borrowing before the changes in the Stafford loan program were implemented, and most members of the later cohort would have done all of their borrowing under the new rules.

The major finding of the analysis was that, although both the percentage of graduates who had borrowed for their undergraduate education and the average total amount borrowed (adjusting for inflation) increased, the median debt burden (as defined in the previous paragraph) a year after graduating was about the same for both cohorts. Higher salaries (after adjusting for inflation) and lower payments relative to the amount borrowed for the later cohort (whose payments were kept down by declining interest rates) appear to be the major reason why there was no increase in the later cohort's debt burden. Various alternative payment options could have lowered the payments for some members of either cohort, but comparable data on how the two cohorts used these alternatives are not available.

The data presented in this report are nationally representative of bachelor's degree recipients in 1992–93 and 1999–2000. They cover the 50 states, the District of Columbia, and Puerto Rico, except for the first row in each table, which excludes Puerto Rico. The comparisons made in the text were tested using Student's *t* statistic. All differences cited are statistically significant at the .05 level. The amounts borrowed by 1992–93 graduates were adjusted to 1999 constant dollars using the Consumer Price Index for all urban dwellers (CPI-U) to make them comparable to the amounts borrowed by 1999–2000 graduates; the amounts owed, monthly payments, and earnings a year later (in 1994) were adjusted to 2001 constant dollars.

Undergraduate Borrowing

The percentage of bachelor's degree recipients who had borrowed from any source to finance their undergraduate education increased from 49 percent in 1992–93 to 65 percent in 1999–2000 (table A). Among borrowers, the average amount borrowed increased from $12,100 (in constant 1999 dollars) to $19,300.

The increase in the percentage who borrowed occurred for males and females and each racial/ethnic[1] and age group. It also occurred for all categories of enrollment characteristics such as where they first enrolled, where they earned their degree, how long they took to earn their degree, and undergraduate major. Finally, the increase occurred for graduates who had been either dependent or independent and at all family income levels for dependent students. Among graduates who were dependent students, the percentage who borrowed increased from 67 to 72 percent for those in the lowest family income group and roughly doubled (from 24 to 46 percent) for those in the highest income group (figure A).

The increase in the average cumulative amount borrowed occurred at all types of institutions, at each income level, and across all other student and institutional characteristics just mentioned.[2] The percentage of graduates who had

[1]The apparent increase for American Indians was not statistically significant. (See table 2 in the full report for average amounts borrowed by 1992–93 and 1999–2000 graduates, by race/ethnicity and other characteristics.)

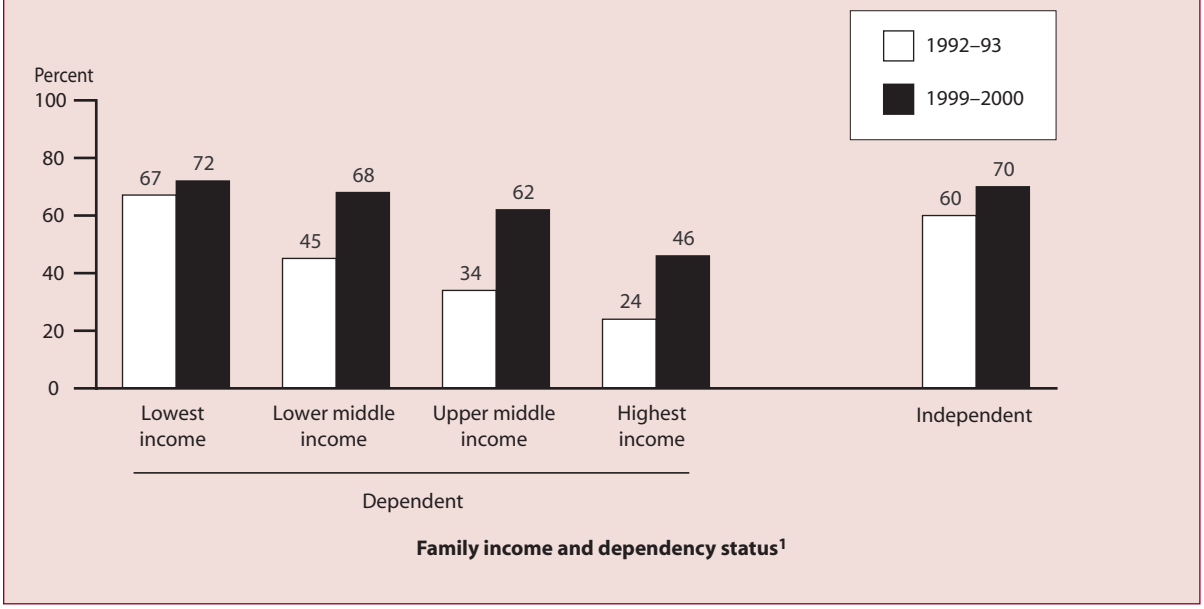
[2]Again, the apparent increase for American Indians was not statistically significant.

Table A. Among 1992–93 and 1999–2000 bachelor's degree recipients who borrowed for undergraduate education, average amount borrowed (in 1999 constant dollars) and among those repaying their loans a year later, average monthly salary and loan payment (in 2001 dollars) and median debt burden, by type of degree-granting institution: 1994 and 2001

Type of degree-granting institution	All graduates: Percent who had borrowed	Borrowers: Average amount borrowed	Borrowers in repayment: Average annual salary	Borrowers in repayment: Average monthly loan payment	Median debt burden
	1992–93			1994	
U.S. total (excluding Puerto Rico)	49.3	$12,100	$28,300	$170	6.7
Total (50 states, DC, and Puerto Rico)	49.3	12,100	28,300	160	6.7
Public 4-year nondoctoral	48.0	9,800	25,000	140	6.6
Public 4-year doctoral	45.5	10,600	29,400	150	5.9
Private not-for-profit 4-year nondoctoral	57.5	14,100	27,300	180	7.8
Private not-for-profit doctoral	49.5	16,800	28,900	220	8.5
	1999–2000			2001	
U.S. total (excluding Puerto Rico)	65.5	$19,400	$34,100	$210	6.9
Total (50 states, DC, and Puerto Rico)	65.4	19,300	34,100	210	6.9
Public 4-year nondoctoral	63.1	15,000	32,500	170	5.8
Public 4-year doctoral	63.6	17,500	34,300	200	6.7
Private not-for-profit 4-year nondoctoral	71.5	20,900	32,300	230	8.0
Private not-for-profit doctoral	65.4	28,000	37,500	260	7.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:93/94 and B&B:2000/01).

Figure A. Percentage of 1992–93 and 1999–2000 bachelor's degree recipients who borrowed for their undergraduate education, by family income and dependency status



[1]Refers to status during 1992–93 or 1999–2000. Dependency status and income may not have been the same throughout students' undergraduate education.
NOTE: Includes education loans and loans from family or friends. Estimates include data from 50 states, DC, and Puerto Rico.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:93/94 and B&B:2000/01).

borrowed $25,000 or more for their undergraduate education increased from 7 percent in 1992–93 to 26 percent in 1999–2000.

Debt did not seem to discourage graduates from enrolling in graduate or first-professional education in any major way. In fact, despite their higher debt, 1999–2000 graduates were more likely than their 1992–93 counterparts to have enrolled in a graduate or first-professional program a year later (21 vs. 16 percent). Among 1999–2000 graduates who had not enrolled by 2001 but were expecting to attend graduate school later, 5 percent cited undergraduate debt as the primary reason for postponing their enrollment. Debt also did not appear to discourage the later cohort from entering teaching: despite their greater average debt, they were slightly more likely than the earlier cohort to have taught within a year of graduating (12 vs. 10 percent). Nor did higher debt appear to force graduates to take jobs unrelated to their career goals: about 29 percent reported taking such jobs, with no detectable increase related to the amount borrowed.

Loan Repayment

Borrowers usually must begin repaying their education loans 6 months after they graduate, although they may be able to postpone repaying if they are enrolled in postsecondary education at least half time, are unemployed, are participating in a qualifying service program (e.g., volunteering in the Peace Corps), or have an approved medical or economic hardship.[3] The standard repayment period for Stafford loans is 10 years, but alternative repayment options—graduated, extended, income based—are available to some, depending on the specific loan program and amount borrowed. These alternatives reduce the monthly payment in the early years, but increase total interest charges. One option is for borrowers to consolidate their loans and obtain a fixed rate as well as extend the repayment period. When interest rates are low, as they are now, students who exercise this option can save substantial amounts over the life of the loan.

Just under two-thirds of the borrowers in each cohort were repaying their loans a year after graduating. Because 1999–2000 graduates had borrowed more, on average, than their 1992–93 counterparts, they also had larger average monthly loan payments a year later ($210 vs. $160 per month in constant 2001 dollars) (table A). A comparison of the payments relative to the amounts borrowed for the two cohorts suggests that the later cohort had more favorable repayment terms a year after they graduated: the average amount borrowed increased by 60 percent, but the average monthly payment increased by 30 percent.[4] For the later cohort, lower interest rates helped to keep monthly payments down. Interest rates on Stafford loans disbursed before 1992 were fixed and ranged from 8 to 10 percent (although borrowers were permitted to convert them to variable rates later). Interest rates are now variable; they are set annually on July 1 and cannot exceed 8.25 percent. In 2001, the interest rate on Stafford loans was between 6 and 7 percent, depending on the date of the loan.[5]

The later cohort also benefited from higher salaries, even after adjusting for inflation. The 1999–2000 graduates had an average salary of $34,100 in 2001, compared with an average of $28,300 (in constant 2001 dollars) for 1992–93 graduates in 1994 (table A).

Debt Burden

Debt burden is defined here as the monthly loan payment as a percentage of monthly income. While this is a commonly used indicator, there is no widely recognized standard of what constitutes an acceptable level of debt burden (Greiner 1996). Scherschel (1998) noted that mortgage lenders frequently recommend that student loan payments should not exceed 8 percent of pretax income.

A comparison of the debt burden of the two cohorts reflects differences not only in how much they borrowed but also in the salaries they were able to command, the prevailing interest rates, and the repayment options they selected. Although the later graduates had borrowed more, on average, than the earlier graduates, the combination of higher salaries and apparent better repayment terms resulted in a median debt burden that was similar for both cohorts (7 percent) (table A). Goldenberg (2004) estimated comparable levels of debt burden for all borrowers (not only bachelor's degree recipients) in their first year of repayment

[3]The U.S. Department of Education website provides detailed information on each federal loan program, including loan limits, repayment options, interest rates, and eligibility requirements. This information is available at http://www.studentaid.ed.gov.

[4]While not based on a nationally representative sample of students, a similar pattern of discrepancy was reported by Baum and O'Malley (2003) in the rate of growth in undergraduate debt level and monthly repayments based on data from the 2002 National Student Loan Survey conducted by the Nellie Mae Corporation.

[5]While both the amounts borrowed and the monthly loan payments are student reported in a telephone interview and therefore subject to recall error, the two appear to be consistent. The monthly payment on a 10-year loan for $12,100 (the average borrowed by 1992–93 graduates) at 8–10 percent interest would be $147–160; the payment on a 10-year loan for $19,300 (the average for 1999–2000 graduates) at 6–7 percent interest would be $214–224.

in all years from 1997 through 2001 (6 to 7 percent) using loan data from a random sample of borrowers in the National Student Loan Data Base and income data from the Internal Revenue Service.

Even though the median debt burden did not increase, graduates with large loans or low salaries faced relatively high debt burdens. For example, 1999–2000 graduates who had borrowed $25,000 or more had a median debt burden of 10 percent in 2001, compared with 3 percent for their peers who had borrowed less than $10,000. Also, low salaries understandably make repaying loans more burdensome. For both cohorts, the lower the income category, the greater the median debt burden was. Those with the lowest salaries had a median debt burden of 18 percent in 1994 and 15 percent in 2001, and those with middle and high incomes had median debt burdens in the 4 to 9 percent range.

While the relationship between loan payments and earnings is probably the most important indicator of debt burden, it is useful to look at other details of graduates' financial circumstances and life choices for any signs that undergraduate debt may be creating hardships. Considering graduates who were not enrolled for further education, no systematic differences were detected between those who borrowed various amounts and those who had not borrowed in terms of their living arrangements or propensity to marry.

However, as debt burden increased (i.e., as student loan payments used up an increasing proportion of their salaries), graduates' ability or willingness to take on other financial obligations was affected. For both cohorts, among graduates repaying their loans, those with a debt burden of less than 5 percent were more likely than those with a debt burden of 17 percent or more to have mortgage, rent, or auto loan payments, and when they did, the amounts they paid were generally larger.

It is important to understand that these data represent debt burden a year after graduation but that debt burden can change during the repayment period. Interest rates on federal loans are variable and therefore may go up or down, and income and employment status can change because of personal circumstances or changing economic conditions.

Thus, the extent to which any group of borrowers is likely to have difficulty repaying their loans depends not only on the size of their loans but also on conditions during the repayment period that are difficult to predict when students and their families make decisions about borrowing. Students whose academic success is uncertain or whose families lack the financial resources to help them repay their loans if they run into difficulty are especially vulnerable to these uncertainties.

Finally, it is important to note that although median debt burden a year after graduating has not increased, the amount that the average bachelor's degree recipient borrowed, and thus will have to repay, has increased. Although loans help students gain access to undergraduate education by reducing the necessary immediate outlay, they do not decrease the total price of going to college; they simply postpone paying the bill.

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For technical information, see the complete report:

Choy, S.P., and Li, X. (2005). *Debt Burden: A Comparison of 1992–93 and 1999–2000 Bachelor's Degree Recipients a Year After Graduating* (NCES 2005-170).

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Postsecondary Participation Rates by Sex and Race/Ethnicity: 1974–2003

Lisa Hudson, Sally Aquilino, and Gregory Kienzl

This article was originally published as an Issue Brief. The sample survey data are from the Census Bureau's Current Population Survey (CPS), October Supplement.

The educational progress of women and minority groups has long been an important policy concern. Research indicates that both women and minorities have made significant gains in postsecondary educational enrollment and attainment over the past 20 years (Freeman 2004; Llagas 2003; National Center for Education Statistics 2000; Koretz 1990). But there has been some debate about the size of the gender gap in postsecondary enrollment (which now favors females) relative to the size of racial/ethnic gaps (King 2000; Mortensen 1999). To address this debate, this Issue Brief uses nearly 30 years of data from the Current Population Survey (CPS) School Enrollment Supplement (October 1974 to October 2003) to examine participation in postsecondary education among women and men and among different racial/ethnic groups.[1]

Enrollment rates are often calculated as the percentage of young adults who are currently in postsecondary education. As Koretz (1990) notes, these enrollment rates typically underestimate a group's educational progress by counting college graduates who are no longer enrolled as if they had never entered college. To better reflect educational progress, this analysis counts individuals who are enrolled in postsecondary education or who have completed at least 2 years of postsecondary education.[2] In addition, the enrollment/completion rates presented here are based on the *total* age cohort rather than on high school graduates; the latter understates racial/ethnic differences in educational progress, because the lower high school completion rates of minorities (Snyder and Hoffman 2003) are factored out. Thus, the data presented here include differences in the rates at which young adults complete high school, enter postsecondary education, and persist in postsecondary education. To avoid confusion with traditional enrollment rates, these data are referred to as *participation* rates.

Specifically, this Issue Brief examines the rates at which young, traditionally college-age individuals (all adults ages 18 to 24) enroll in or complete postsecondary education. This age cohort accounts for 63 percent of undergraduate enrollment (Snyder and Hoffman 2003, table 175) and is the age group most likely to attain a postsecondary degree after enrolling (Berkner, He, and Forrest Cataldi 2002, p. 57).

Participation Rates by Sex and Race/Ethnicity

Figure 1 shows that in 1974, young men participated in postsecondary education at a higher rate than young women (38 vs. 33 percent). Since 1974, both young men and young women have increased their rate of participation. However, the participation rate of young women outpaced that of young men, so that by 2003 participation patterns had reversed: 51 percent of young women had entered and/or completed postsecondary education, compared to 41 percent of young men.

In 1974, young Whites participated in postsecondary education at a higher rate than both young Blacks and young Hispanics (38 vs. 26 and 22 percent, respectively). From 1974 to 2003, participation rates for all three groups increased; however, the increase in the participation of Whites outpaced that of Blacks and of Hispanics. Thus, in 2003 Whites continued to have higher participation rates than both Blacks and Hispanics. In addition, the White-Hispanic gap increased from 16 percentage points in 1974 to 26 percentage points in 2003. Although it appears that there was a 3 percentage point increase (from 12 to 15 percent) in the participation gap between Whites and Blacks, this increase was not statistically significant.

Participation Rates by Sex and Race/Ethnicity Combinations

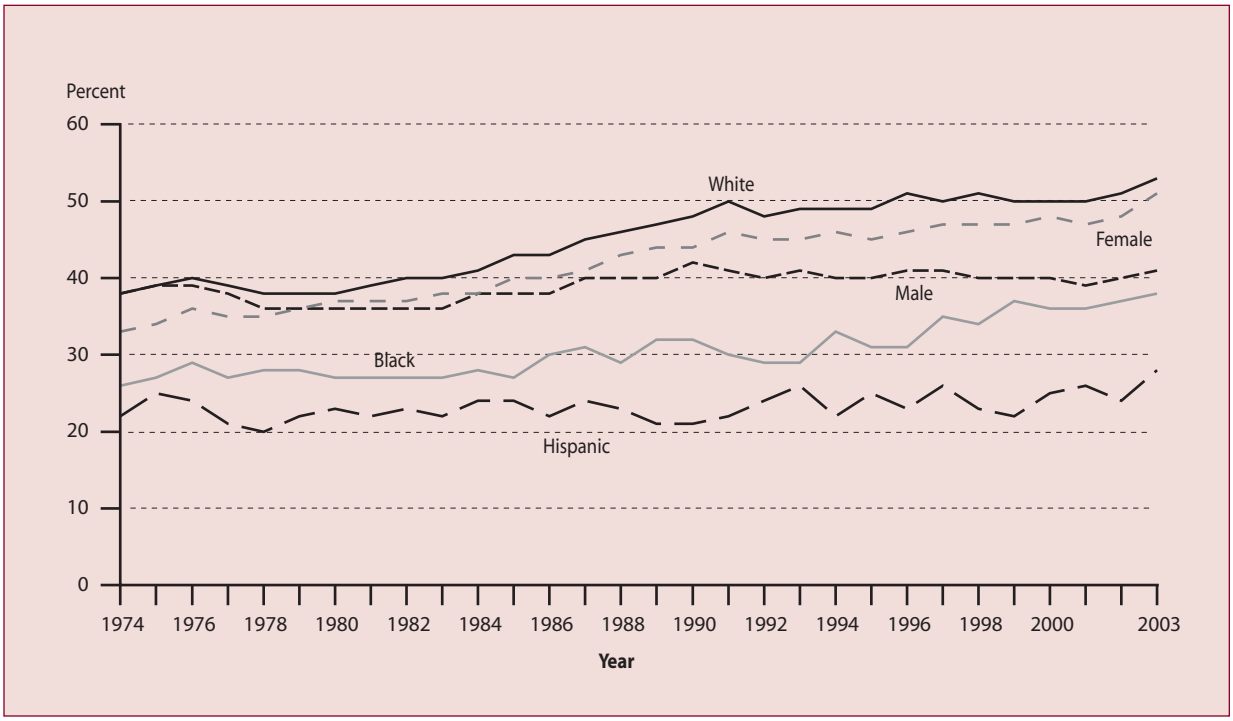
The data in figure 1 suggest that young men and young minorities are increasingly underrepresented in postsecondary education. But is this a problem common among all young men and all young minorities? In other words, do these overall trends mask differences by racial/ethnic group within the sexes, or by sex within racial/ethnic groups, that can help provide a more complete picture of postsecondary participation trends and patterns?

To address these issues, figure 2 shows the 18- to 24-year-old participation rate trends for each sex and racial/ethnic group combination (White females, White males, etc.).

[1]The racial/ethnic groups compared are non-Hispanic Whites, non-Hispanic Blacks, and Hispanics. For the remainder of this Issue Brief, the former two groups will be referred to as Whites and Blacks, respectively.

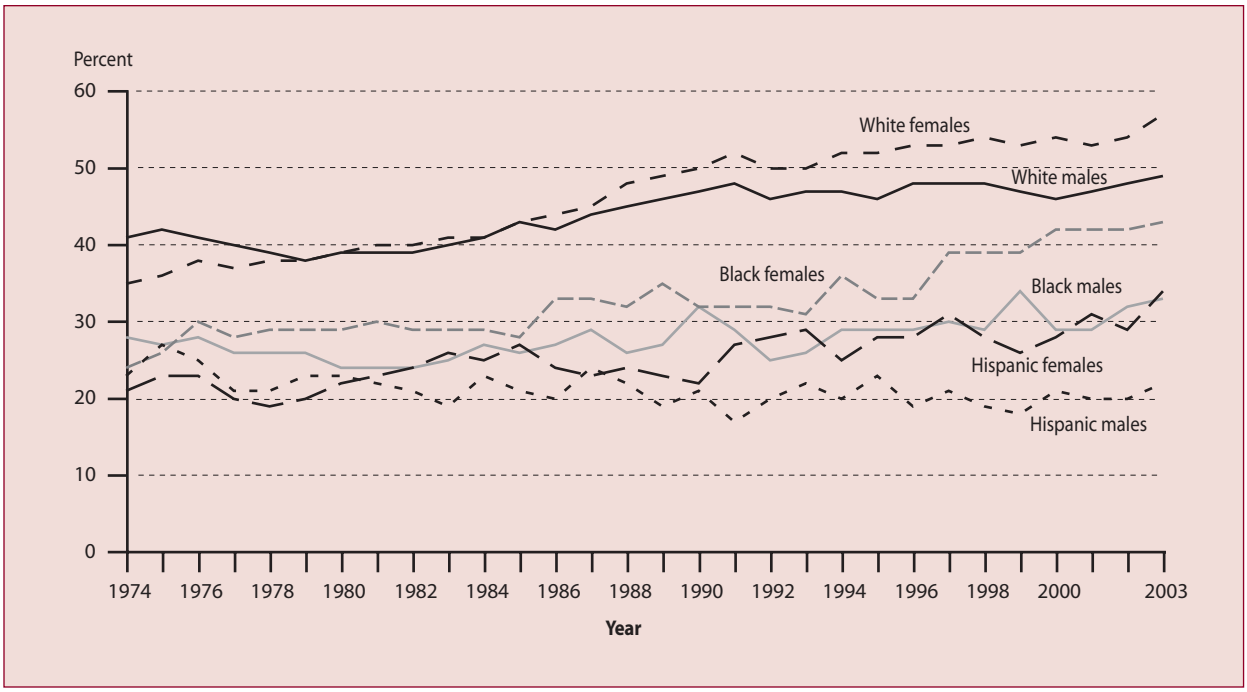
[2]Ideally, the analysis would have used those enrolled in postsecondary education or who have a postsecondary credential. This type of analysis is possible from 1992 to 2003, when CPS respondents were asked what degree they had earned; those with an associate's degree or higher were included in this analysis. Prior to 1992, however, respondents were asked how many years of education they had completed; for those years, responses of 2 or more years of college were included in this analysis.

Figure 1. Participation rate trends for adults ages 18–24, by sex and by race/ethnicity, 1974–2003



NOTE: Participation includes those enrolled in postsecondary education and those who have completed (1) at least 2 years of postsecondary education (1974–1991 data), or (2) an associate's or higher degree (1992–2003 data). White and Black groups exclude those of Hispanic origin.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October Supplement, 1974–2003.

Figure 2. Participation rate trends for adults ages 18–24, by combinations of sex and race/ethnicity, 1974–2003



NOTE: Participation includes those enrolled in postsecondary education and those who have completed (1) at least 2 years of postsecondary education (1974–1991 data), or (2) an associate's or higher degree (1992–2003 data). White and Black groups exclude those of Hispanic origin.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October Supplement, 1974–2003.

As the figure shows, with one exception all six groups increased their participation rates from 1974 to 2003. The exception is Hispanic men, whose participation rate declined over this period.

More to the point, these data show how the sexes compare within each racial/ethnic group, and how the racial/ethnic groups compare within each sex. Looking first at the sexes, figure 2 shows that for each racial/ethnic group, young women's increase in participation outpaced that of young men, so that as of 2003, there was a gender gap (of 8–12 percentage points) favoring females for each racial/ethnic group.[3] Comparing these gender gaps across racial/ethnic groups shows that the 2003 gender gap for Whites was not measurably different in size from the gender gap for Blacks or for Hispanics.

Looking at the racial/ethnic groups separately for young men and young women, the participation rates of both male and female Whites increased at a faster pace than those of their Black and Hispanic same-sex peers. In 2003 (as in 1974), racial/ethnic participation gaps favored Whites over Blacks and Whites over Hispanics for both sexes. The racial/ethnic gaps for males were not measurably different in size from the racial/ethnic gaps for females.

The findings above suggest that the overall 2003 male-female gap accurately describes the gaps for each racial/ethnic group, and vice versa. Thus, it is relevant (for both sexes and all racial/ethnic groups) that the 2003 racial/ethnic gap of 15 points between Whites and Blacks and the 26-point gap between Whites and Hispanics are both larger than the 2003 gender gap of 10 percentage points. From this statistical perspective, racial/ethnic gaps are larger than the gender gap.

Summary

How do participation trends compare across these sex and racial/ethnic groups? All but one of the groups examined here increased their rate of postsecondary participation from 1974 to 2003. The one exception was young Hispanic males, whose participation rate declined while the rates of others increased. Moreover, participation gaps favoring females over males and Whites over Hispanics increased during this period.

As of 2003, the postsecondary participation gap between young men and young women was 10 percentage points, a gap that cuts across all three major racial/ethnic groups. However, this gender gap is smaller than the gap between Whites and Blacks and between Whites and Hispanics. As noted above, these gaps reflect the effects of sex and racial/ethnic differences in high school completion, postsecondary attendance, and postsecondary persistence, which may in some cases have cumulative effects (cf. Hudson 2003).

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[3] In 1974, White males had a higher participation rate than White females; no differences were detected in the participation rates of males versus females in each of the minority groups.

Gender Differences

Gender Differences in Participation and Completion of Undergraduate Education and How They Have Changed Over Time

Katharin Peter and Laura Horn

This article was originally published as the Executive Summary of the Statistical Analysis Report of the same name. The universe and sample survey data are primarily from several NCES surveys, listed at the end of this article. Another source of sample survey data is the U.S. Census Bureau's Current Population Survey (CPS).

Between 1970 and 2001, women went from being the minority to the majority of the U.S. undergraduate population, increasing their representation from 42 percent to 56 percent of undergraduates (Freeman 2004). Projections to 2013 indicate that women's undergraduate enrollment will increase to 8.9 million or 57 percent of the undergraduate population (Gerald and Hussar 2003). Consistent with these enrollment changes, women surpassed their male peers in educational expectations and degree attainment over the last 30 years (Freeman 2004). While in the aggregate women have made great progress in gaining access to and completing postsecondary education, gender differences are not uniform across all groups (King 2000; Horn, Peter, and Rooney 2002). For example, among all undergraduates enrolled in 1999–2000, women made up 63 percent of Black undergraduates, 62 percent of students age 40 or older, and 70 percent of single parents (Horn, Peter, and Rooney 2002). The purpose of this study is to draw on several publications and postsecondary datasets to provide a detailed account of gender differences in undergraduate education. Specifically, the analysis examines gender differences in rates of participation and completion of undergraduate education, focusing on changes over time in college enrollment, associate's and bachelor's degree awards, and the demographic and enrollment characteristics of undergraduate men and women. The analysis also examines trends in high school academic preparation, postsecondary persistence and degree completion, and early labor market outcomes among bachelor's degree recipients.

The findings are based on data from the following studies:

- the Integrated Postsecondary Education Data System (IPEDS) and Current Population Survey (CPS);
- three administrations of the National Postsecondary Student Aid Study (NPSAS:90, NPSAS:96, and NPSAS:2000), a cross-sectional survey of all postsecondary students enrolled in a given academic year;
- two high school cohorts (the High School and Beyond Longitudinal Study and the National Education Longitudinal Study of 1988), representing high school graduates in 1982 (HS&B-So:80/92) and 1992 (NELS:88/2000);
- two administrations of the Beginning Postsecondary Students Longitudinal Study, representing students who first began their postsecondary education in 1989–90 (BPS:90/94) and 1995–96 (BPS:96/01); and
- two cohorts of college graduates (1992–93 and 1999–2000) from the Baccalaureate and Beyond Longitudinal Studies (B&B:93/97 and B&B:2000/01).

This analysis examines differences according to gender and changes over time using standard *t* tests to determine statistical significance. Statistical significance is reported at $p \leq .05$.

Trends in Postsecondary Enrollment and Degree Awards

Nearly 14 million undergraduates were enrolled in degree-granting institutions in 2001 (U.S. Department of Education 2004, table 189). Between 1980 and 2001, women increasingly represented the majority of undergraduates, from 52 percent in 1980 to 56 percent in 2001.[1] Women also made up a majority of students awarded associate's and bachelor's degrees over the same period. The number of associate's degrees awarded to women increased from approximately 228,000, or 55 percent of associate's degrees awarded, to 357,000, or 60 percent of associate's degrees awarded. Likewise, the number of bachelor's degrees awarded to women increased from 465,000, or 50 percent of degrees awarded, to 742,000, or 57 percent of bachelor's degrees awarded.

The aggregate gender differences in degree awards largely reflect differences in the majority or White student population. However, examining the associate's and bachelor's degrees awarded by race/ethnicity reveals similar patterns. That is, by 2001, women of all racial/ethnic groups (excluding nonresident aliens) earned a majority of the degrees awarded. In particular, Black women earned two-thirds of both associate's degrees and bachelor's degrees awarded to Black students. Hispanic and American Indian women were awarded 60 percent or more of associate's and bachelor's degrees conferred to Hispanic and American Indian undergraduates,

[1] Calculated from U.S. Department of Education 2004, table 189.

while Asian women earned 57 percent of associate's degrees and 55 percent of bachelor's degrees conferred to Asian students. Enrollment projections to 2013 indicate that women will continue to outpace men in completions in the foreseeable future (Gerald and Hussar 2003, tables 26 and 27).

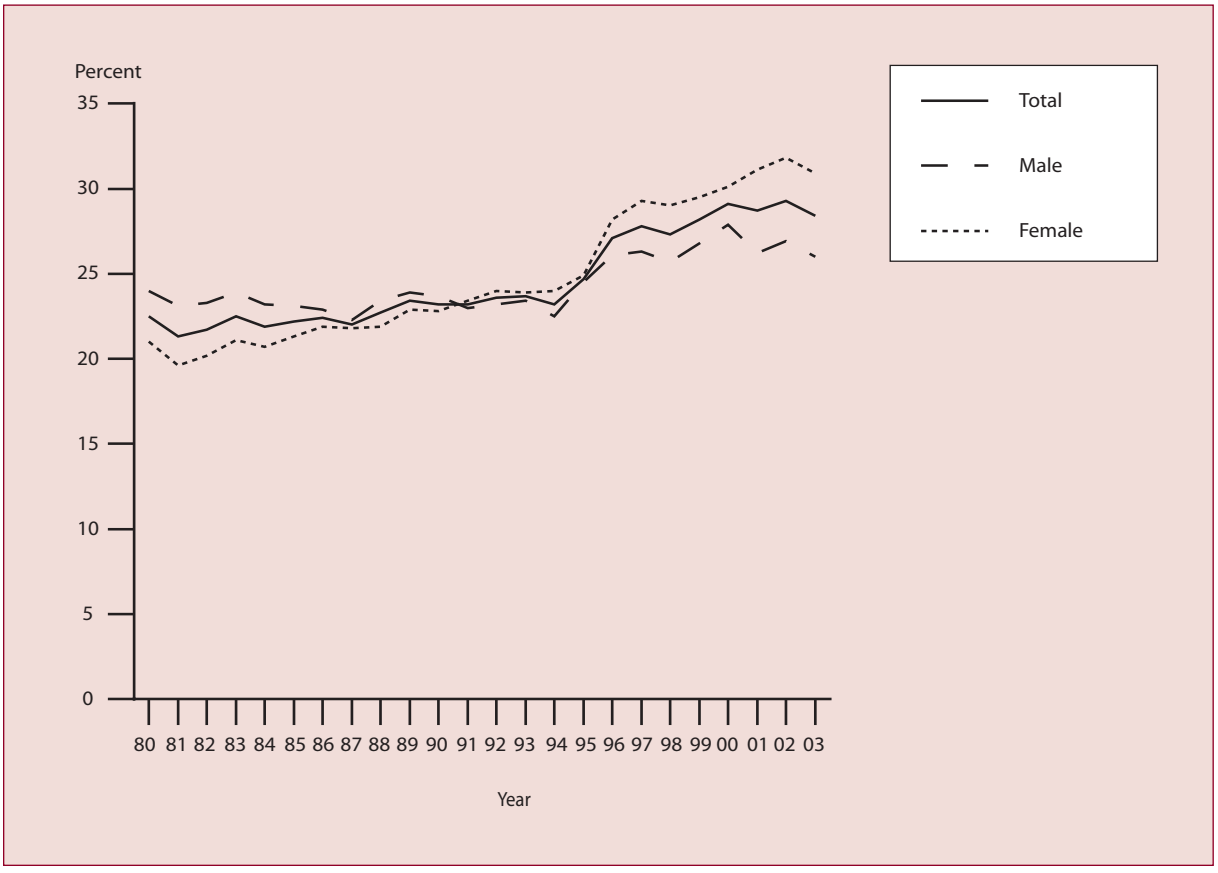
Changes in Undergraduate Student Profiles and Enrollment Characteristics

Over the past decade, women have generally been overrepresented among older students and adult students with families. In 1999–2000, for example, they accounted for roughly 60 percent of all students older than age 29 years. However, between 1989–90 and 1999–2000, women began to increase their representation among students typically considered traditional (i.e., students who enroll in college full time immediately after graduating from high school). This growth is reflected in the increase in the percentage of students who were women among students ages 18–23 (from 53 to 55 percent), dependent students, who are typically under age 24 (from 52 to 53 percent), and independent students who had never married and had no children (from 48 to 50 percent).

These changes are also reflected in patterns of degree attainment for the younger U.S. population (i.e., 25- to 29-year-olds) over the past two decades. While the percentage of men in this age group with a bachelor's degree or higher increased from 24 to 26 percent, the percentage of women with this level of attainment increased from 21 to 31 percent (figure A). So, while 25- to 29-year-old women began the 1980s with a smaller percentage with a bachelor's degree, by the mid-1990s, this trend had reversed.

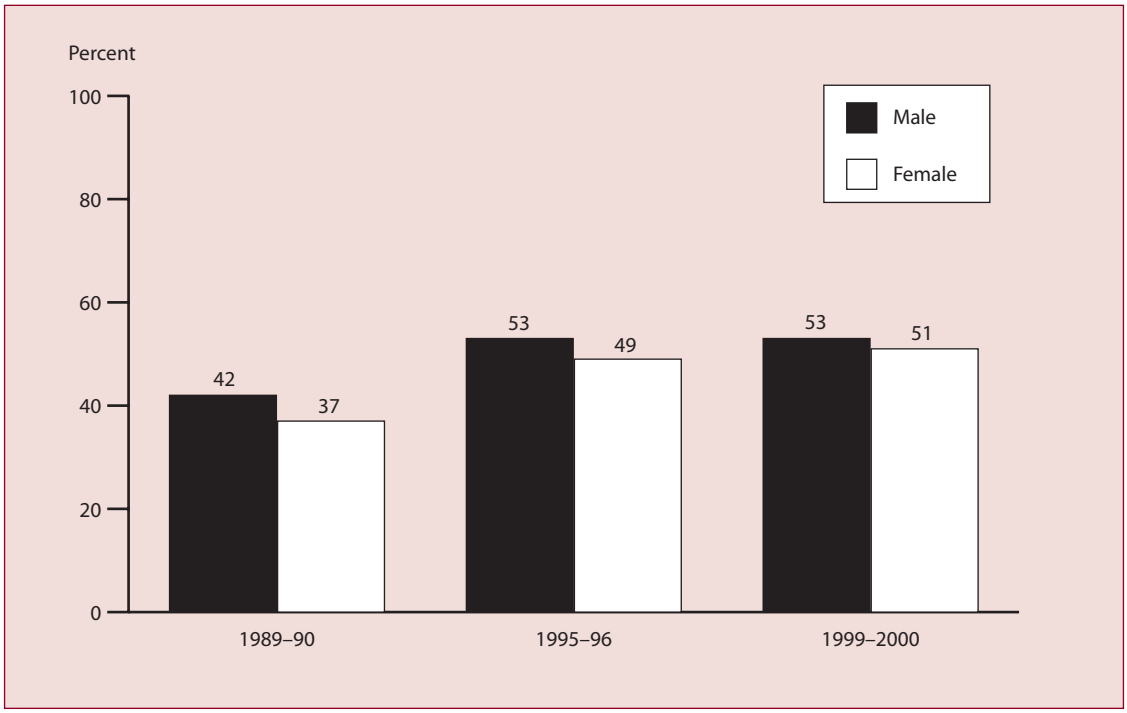
In addition, as shown in figure B, it appears that women closed the gender gap for another characteristic of traditional students: full-time attendance. In 1989–90, men were more likely than women to attend full time (42 vs. 37 percent), but by 1999–2000, a statistical difference could not be detected in the gender distribution of full-time students (53 vs. 51 percent). In other words, both men and women

Figure A. Percentage of 25- to 29-year-olds with a bachelor's degree or higher, by gender: March 1980–2003



NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey instrument for the CPS was changed and weights were adjusted. For more information, see http://www.bls.census.gov/cps.
SOURCE: U.S. Department of Education, National Center for Education Statistics. (2002). *The Condition of Education 2002* (NCES 2002-025), indicator 25; and U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1981–2003.

Figure B. Percentage of undergraduates attending full time, by gender and year enrolled: 1989–90, 1995–96, and 1999–2000



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1989–90, 1995–96, and 1999–2000 National Postsecondary Student Aid Study (NPSAS:90, NPSAS:96, and NPSAS:2000).

increased their likelihood of attending full time, but the increase for women was greater.

While women have increased their representation among younger, full-time students, who tend to be more successful in completing a college degree, women continue to represent 60 percent or more of students with characteristics that place them at a disadvantage in succeeding in postsecondary education. In particular, women make up 60 percent of students in the lowest 25 percent income level, 62 percent of students age 40 or older, 62 percent of students with children or dependents (among married or separated students), and 69 percent of single parents. All of these characteristics are associated with lower rates of persistence and completion in postsecondary education (e.g., Berkner, He, and Cataldi 2002).

Preparation, Persistence, and Progress Through Undergraduate Education

High school academic preparation and subsequent attainment

A comparison of 1982 and 1992 high school graduates who entered postsecondary education by the end of their second year out of high school revealed a shift in the high school academic preparation of men and women.[2] Between the two cohorts, women closed some existing gender gaps in academic preparation and, in some cases, even surpassed men. For example, the percentage of men who fell in the highest 20 percent on an indicator measuring the academic intensity of high school courses taken decreased from 33 percent to 26 percent, while the percentage of women at the same level increased from 25 percent to 29 percent, and effectively closed the gender gap (table A).[3] That is, among 1982 high school graduates who went on to college, men were more likely than women to score at the highest academic intensity level, but no gender difference was evident among their 1992 counterparts.

[2]The 1982 and 1992 high school graduate cohorts from the HS&B and NELS longitudinal studies were analyzed because they provide comprehensive and comparable measures of high school academic preparation among high school graduates who enrolled in college. More recent data from the 2000 High School Transcript Study reported in Freeman (2004) indicate young women were more likely than young men to take advanced placement (AP) courses and to take the AP exams. The same study also reported that among 2001 high school seniors, young women were more likely than their male peers to report definite plans to graduate from a 4-year college.

[3]High school academic intensity is a composite measure of students' highest level of mathematics, total mathematics credits, total Advanced Placement courses, total English credits, total foreign language credits, total science credits, total core laboratory science credits, total social science credits, and total computer science credits. For more information, see Adelman, Daniel, and Berkovits (2003).

Table A. High school academic intensity of 1982 and 1992 high school graduates who entered postsecondary education within 2 years, by gender

Gender	Bottom 20 percent	Lower middle 20 percent	Middle 20 percent	Upper middle 20 percent	Top 20 percent
			1982 high school graduates		
Male	9.6	12.7	17.9	26.8	33.0
Female	11.4	14.8	22.5	26.7	24.6
			1992 high school graduates		
Male	9.3	18.4	17.3	28.9	26.1
Female	9.1	16.4	22.3	23.2	29.0

NOTE: Includes 1982 high school graduates who entered postsecondary education by December 1984 and 1992 high school graduates who entered postsecondary education by December 1994. High school academic intensity is a composite measure of students' highest level of math, total mathematics credits, total Advanced Placement (AP) courses, total English credits, total foreign language credits, total science credits, total core laboratory science credits, total social science credits, and total computer science credits. For more information, see Adelman, C., Daniel, B., and Berkovits, I. (2003). *Postsecondary Attainment, Attendance, Curriculum, and Performance* (NCES 2003-394). Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Longitudinal Study (HS&B-So:80/92) and National Education Longitudinal Study of 1988 (NELS:88/2000).

Similar patterns were observed for other indicators of high school academic preparation. Among 1992 high school graduates, both young men and women who went on to postsecondary education were more likely to take an advanced mathematics course in high school (including calculus and precalculus) and have a 3.50 or higher grade point average (GPA) in high school than their 1982 counterparts. Nonetheless, women closed the existing gender gap in the highest mathematics course taken (14 percent of men and 13 percent of women had taken calculus), and in both cohorts, women were more likely to have a 3.5 or higher GPA than their male peers (e.g., in 1992, 21 percent of women vs. 15 percent of men had GPAs of 3.5 or higher).

Between 41 and 50 percent of male and female 1982 and 1992 high school graduates who went on to postsecondary education by the end of their second year out of high school had earned a bachelor's degree or higher, and 33–40 percent had not attained more than a high school diploma (figure C).[4] For both cohorts, 45 percent of men had attained a bachelor's degree or higher. For women, there was an increase between the 1982 and 1992 cohorts in the percentage earning a bachelor's degree or higher (41 vs. 50 percent). As a result, among those 1992 high school graduates who had entered postsecondary education by December 1994, women were more likely than men to have earned a bachelor's degree or higher (50 vs. 45 percent), and men were more likely to have earned no more than a high school diploma (40 vs. 33 percent).

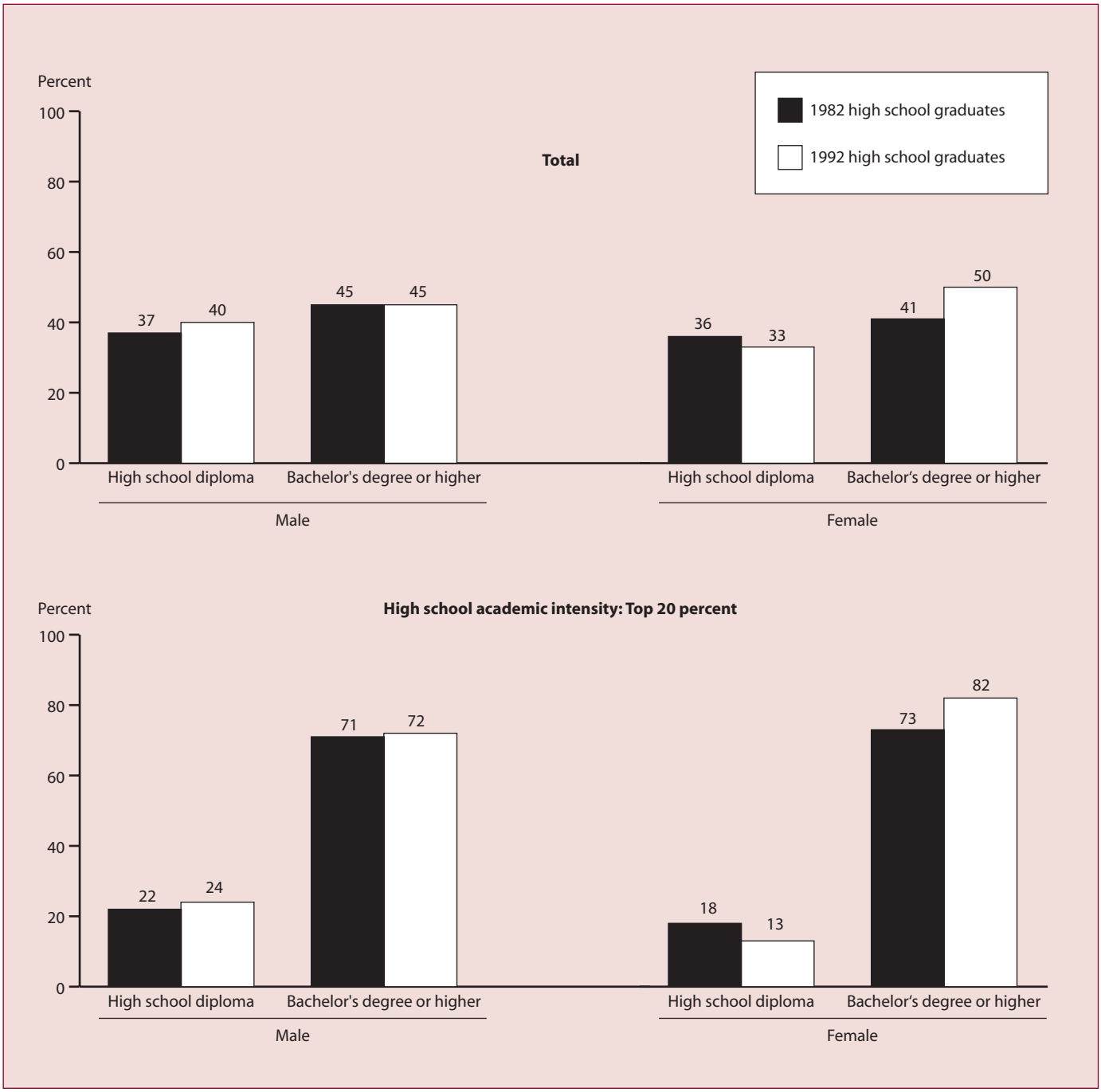
[4]For the 1982 cohort, degrees were determined in 1992, or 10 years after enrollment, while for the 1992 cohort, degrees were determined at the time of the last follow-up in 2000, or 8 years after enrollment.

These relationships held even among students who fell in the highest 20 percent on the academic intensity indicator (i.e., students who are expected to go on to college and to have been academically prepared to succeed once there). So, in addition to women improving their academic preparation with respect to men, even among students who were better prepared academically in high school and had entered college, women were more likely than men to attain a bachelor's degree.

Postsecondary persistence and degree completion

Comparing students who first began their postsecondary education in 1989–90 with those who first enrolled 6 years later in 1995–96, Horn and Berger (2004) found that roughly two-thirds of students in both cohorts had either completed a postsecondary credential or were still enrolled 5 years after beginning college. The overall degree completion rate was lower for the 1995–96 cohort than for their 1989–90 counterparts, but there was an increase in the percentage of students who had not yet completed a degree but were still enrolled in a 4-year institution 5 years after they had begun. Among 1989–90 beginning students, 65 percent of women had completed a degree or certificate or were still enrolled 5 years later, compared with 62 percent of men. Among 1995–96 beginning students, women were more likely than men to complete a degree or certificate within 5 years (49 vs. 44 percent). However, when students who were still enrolled after 5 years were included in the outcome, no difference could be detected between men and women (64 and 65 percent, respectively, had completed a degree or were still enrolled), suggesting that men in the second cohort may be taking longer than women in their effort to complete a degree.

Figure C. Among 1982 and 1992 high school graduates who entered postsecondary education within 2 years, percentage whose highest attainment was a high school diploma and percentage who attained a bachelor's degree or higher, by high school academic intensity and gender: 1992 and 2000



NOTE: Includes 1982 high school graduates who entered postsecondary education by December 1984 and 1992 high school graduates who entered postsecondary education by December 1994. High school academic intensity is a composite measure of students' highest level of mathematics, total mathematics credits, total Advanced Placement courses (AP), total English credits, total foreign language credits, total science credits, total core laboratory science credits, total social science credits, and total computer science credits. For more information, see Adelman, C., Daniel, B., and Berkovits, I. (2003). *Postsecondary Attainment, Attendance, Curriculum, and Performance* (NCES 2003-394).
SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Longitudinal Study (HS&B-So:80/92) and National Education Longitudinal Study of 1988 (NELS:88/2000).

Early Labor Market Outcomes Among Bachelor's Degree Recipients

The majority of 1992–93 and 1999–2000 bachelor's degree recipients were employed 1 year after graduation (over 85 percent). However, for both cohorts of college graduates, men were more likely than women to be working full time, while women were more likely than men to be working part time. For example, among 1999–2000 bachelor's degree recipients, 81 percent of men versus 74 percent of women were working full time, and 9 percent of men versus 13 percent of women were working part time. Over the period studied, the unemployment rate for men did not change statistically (4.8 to 5.9 percent), while it increased for women (from 4.4 to 6.3 percent).[5] Still, for the most recent cohort, no difference could be detected between men and women in the unemployment rate for bachelor's degree recipients.

[5]The unemployment rate is constructed to approximate the definition of the unemployment rate used by the Bureau of Labor Statistics. That is, the rate is calculated as the number of people who are unemployed divided by all those who are in the labor force (unemployed plus those who are working; respondents who are out of the labor force are excluded from the calculation). The rate includes unemployed (with or without benefits) for 1992–93 bachelor's degree recipients and includes unemployed and waiting to report to work or laid off for 1999–2000 bachelor's degree recipients.

Among bachelor's degree recipients who were employed full time 1 year after graduation in 1994 and 2001, women earned lower average annual salaries than men in both cohorts. On average, women earned $5,100 less than men or 84 percent of male salaries in 1994, and $6,800 less or 83 percent of male salaries in 2001 (in constant 2001 dollars) (table B). Moreover, in 2001, 31 percent of men earned $45,000 or more, compared with 12 percent of men in 1994. In contrast, 14 percent of women earned $45,000 or more in 2001, compared with 7 percent in 1994. Thus in both 1994 and 2001, proportionally more men earned salaries of $45,000 or higher than women.

Even when controlling for undergraduate field of study, men earned higher average annual salaries than women in at least one-half of the fields examined. For example, in both cohorts, men who majored in engineering, mathematics, and science fields earned higher average full-time annual salaries than women who majored in these fields ($33,300 vs. $27,900 in 1994 and $45,200 vs. $34,200 in 2001). In other words, in 1994 women with degrees in these fields earned, on average, $5,400 less than men, or about 84 percent of what men earned, and 7 years later in

Table B. Average annual salary of 1992–93 and 1999–2000 bachelor's degree recipients who were employed full time, by undergraduate field and gender: 1994 and 2001

Gender and undergraduate field of study	Average annual salary (in constant 2001 dollars) 1994	2001
Total		
Male	$32,500	$39,400
Female	27,400	32,600
Business/management		
Male	33,600	42,300
Female	29,900	39,000
Education		
Male	35,100	29,600
Female	21,900	28,100
Engineering, mathematics, and sciences[1]		
Male	33,300	45,200
Female	27,900	34,200
Humanities and social/behavioral science		
Male	27,300	34,600
Female	26,500	29,400
Health, vocational/technical, and other technical/professional fields		
Male	35,400	38,100
Female	30,300	34,300

[1]Sciences include life sciences, physical sciences, and computer/information science.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/97 and 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:93/97 and B&B:2000/01).

2001, women earned $11,000 less, or 76 percent of what men earned. Additionally, in 2001, men who majored in fields related to humanities and social/behavioral science or health, vocational/technical, and other technical/professional fields earned higher annual average salaries than their female counterparts, while such a difference was not detected in 1994.

Conclusions

Over the past two decades, the rates at which women have enrolled in undergraduate education and attained college degrees increased faster than those of men. Part of this increase may be related to an increase in the percentage of traditional students who were women. However, women are still overrepresented among nontraditional students such as adult students with families, students in the lowest income level, and students age 40 or older.

When looking at changes in high school academic preparation among 1982 and 1992 high school graduates who entered postsecondary education within 2 years of high school completion, women had closed some existing gender gaps and, in some cases, surpassed men over the 10-year period. Also, in the later cohort, among students who had higher levels of high school academic preparation, women were more likely than men to earn a bachelor's degree—a difference not found in the earlier cohort. In other words, women not only narrowed the gender gap in high school academic preparation, but even among those best prepared to enter college, women were more likely than men to attain a bachelor's degree.

Even though women have surpassed men in some aspects of academic preparation and college persistence and attainment, as of 2001, their full-time earnings were lower than those of men. Even when controlling for undergraduate field of study, men earned higher salaries than women in several fields—including the combined field of mathematics, science, and engineering, as well as the field comprising humanities, and social and behavioral sciences—indicating that some of the gains women made in postsecondary education may not be realized off campus.

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To obtain the complete report (NCES 2005-169), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Trends in Undergraduate Career Education

Lisa Hudson and Ellen Carey

This article was originally published as an Issue Brief. The universe data are from the Integrated Postsecondary Education Data System (IPEDS) and the predecessor to IPEDS, the Higher Education General Information Survey (HEGIS).

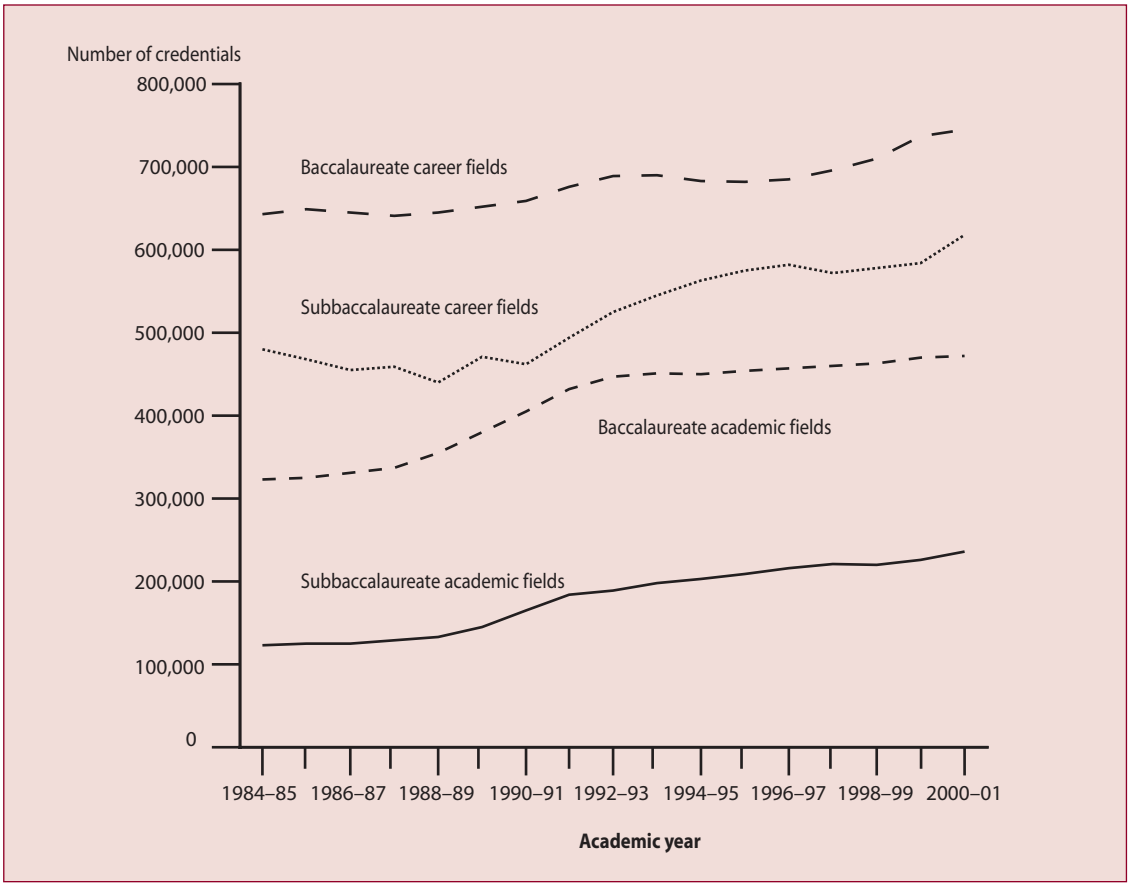
Participation in postsecondary education has increased in recent years (U.S. Department of Education 2004, indicator 6). However, since students' postsecondary curricular choices are based in part on labor market demand (Fiorito and Dauffenbach 1982) and this demand typically varies across occupations, not all areas of postsecondary education are likely to increase at the same rate. This Issue Brief examines trends in awarded credentials in career-related areas of study at the subbaccalaureate and baccalaureate levels over a 16-year time period, from 1984–85 to 2000–01.[1]

The data used in this Issue Brief are from the Completions Survey of the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) and its predecessor, the Higher Education General Information Survey (HEGIS). Both IPEDS and HEGIS are annual universe data collections of postsecondary institutions.[2] The credential counts in these completions files are categorized here by level, as subbaccalaureate (postsecondary certificates and associate's degrees) and baccalaureate (bachelor's degrees), and by curricular area, based on

[1]Completions data prior to 1984–85 were not used because those data are not comparable to more recent years. At the time of analysis, 2000–01 data were the most recent available.

[2]The statistics reported here were derived from published IPEDS and HEGIS data in 15 editions (1988 to 2002) of the NCES annual publication *Digest of Education Statistics*. Although IPEDS includes less-than-4-year institutions that are excluded from HEGIS, a separate analysis (not reported here) of certificate awards showed no appreciable effect of the change from HEGIS to IPEDS.

Figure 1. Number of undergraduate credentials awarded, by level and curricular focus: 1984–85 to 2000–01



SOURCE: U.S. Department of Education, National Center for Education Statistics: 2000 Integrated Postsecondary Education Data System (IPEDS), Spring 2001, in *Digest of Education Statistics 2002*; and Higher Education General Information Survey (HEGIS), 1984–85, in *Digest of Education Statistics 1988*.

whether the credential is in an academic field (the traditional liberal arts and sciences) or a career field (occupationally related areas such as engineering, education, and health care).[3]

Overall Trends

Consistent with trends in enrollments, the number of undergraduate credential awards increased from about 1,600,000 in 1984–85 to about 2,100,000 in 2000–01. Awards increased in number in both academic and career areas, at both the subbaccalaureate and baccalaureate levels (figure 1). These increases occurred in spite of a decline in the young adult population over the same time period.[4] Thus, both academic and career areas appear to be attracting more students in 2000–01 than they did in 1984–85.

Although career education grew in size over this time period, it grew at a slower pace than academic education, so that career education produced a smaller, but still a majority, proportion of undergraduate credentials in 2000–01 than in 1984–85; at the baccalaureate level, the decline was from 66 to 60 percent, and at the subbaccalaureate level, from 78 to 71 percent (table 1).[5] The fact that this decline occurred at both credential levels suggests that these shifts may in part reflect larger trends in labor market demand that affect both levels of education. Trends in specific areas of study, discussed below, further support this notion.

Trends in Specific Career Areas

In spite of career education's declining share of subbaccalaureate credentials from 1984–85 to 2000–01, 6 of the 11 career areas of study increased as a proportion of subbaccalaureate credentials over this period: computer science; protective services; health care; consumer and personal services; trade and industry; and public, social, and human services (table 1). Two additional areas—communications/design and education—held relatively steady at about 1 percent of subbaccalaureate awards in each year. Three areas of career education declined as a proportion of subbaccalaureate credentials—agriculture/natural resources, engineering/architectural sciences, and business/marketing—with most of the decline coming from the latter two career areas. As a result of these shifts, health care replaced business/marketing as the most common career credential at the subbaccalaurate level by 2000–01.

[3]These program areas are discussed in more detail in a previous Issue Brief (Hudson and Shafer 2004). Due to low counts in some career areas at the baccalaureate level, some recategorizations were made here. First, "law and legal studies" was merged into the "public, social, and human services" category. Second, "consumer and personal services" was included in the published baccalaureate data under "business." Similarly, "mechanics and repair" and "construction" was included in the published baccalaureate data under "engineering-related technologies," rather than under "trade and industry."

[4]The resident population ages 18–24 declined from 29 million in 1984 to 27 million in 2000 (U.S. Bureau of the Census 1985, 2003).

[5]From here on, the Issue Brief compares findings for 1984–85 and 2000–01. These findings are substantiated by annual data over the entire time period. However, due to nonlinearity in the trends over time, different findings could result from analyses of different time periods. For figures showing the annual trends from 1984–85 to 2000–01, see http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005012.

Table 1. Percentage of credentials awarded in each career area, by education level: 1984–85 and 2000–01

	Percentage of subbaccalaureate credentials awarded in:		Percentage of baccalaureate credentials awarded in:	
Career area	1984–85	2000–01	1984–85	2000–01
Total, all career areas	78.1	71.3	65.7	59.9
Agriculture/natural resources	1.7	1.3	1.8	1.9
Business/marketing	26.6	17.3	23.8	21.4
Computer science	2.6	5.1	4.0	3.4
Communications/design	0.7	0.8	4.3	4.7
Consumer and personal services	3.7	5.1	2.0	3.0
Education	1.4	1.4	9.0	8.5
Engineering/architectural sciences	11.3	5.5	10.7	6.5
Health care	17.4	18.9	6.6	5.9
Protective services	2.6	4.2	1.3	2.0
Public, social, and human services	1.2	1.7	2.0	2.3
Trade and industry	8.9	10.2	0.3	0.3

NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics: 2000 Integrated Postsecondary Education Data System (IPEDS), Spring 2001, in *Digest of Education Statistics 2002;* and Higher Education General Information Survey (HEGIS), 1984–85, in *Digest of Education Statistics 1988.*

Some career areas of study also became a larger part of the baccalaureate credential pool from 1984–85 to 2000–01 (table 1). These career areas were communications/design; consumer and personal services; protective services; and public, social, and human services. Declines at this level were also largest in business/marketing and engineering/architectural sciences. However, business/marketing remained the predominant baccalaureate career credential, accounting for over 20 percent of bachelor's degrees in both 1984–85 and 2000–01.

Trends in Career Areas Across Education Levels

This section compares the direction of change in specific career areas across education levels. Specifically, the section examines whether each career area decreased as a proportion of credentials, increased, or had negligible change, with the latter including change of less than ±1 percentage point. As seen in table 2, using this 1-percentage-point cutoff, the direction of change was similar at both the subbaccalaureate and baccalaureate levels in agriculture/natural resources; business/marketing; communications/design; consumer and personal services; education; engineering/architectural sciences; and public, social, and human services. These parallel changes suggest similar labor market trends at both levels in these career areas. But differing trends occurred in other career areas. For example, computer science, health care, protective services, and trade and industry increased more at the subbaccalaureate level than at the baccalaureate level. In these career areas, the trend in credentials suggests a more rapidly growing market for skills at the subbaccalaureate rather than baccalaureate level.

Summary

The number of students receiving undergraduate credentials increased from 1984–85 to 2000–01 in both career education and academic education. Although career education became a smaller share of undergraduate credentials over this period, most of this shift was due to relatively large declines in two of the more common areas of study (business/marketing and engineering/architectural sciences). Other career areas (e.g., protective services, consumer and personal services) became a larger proportion of undergraduate credentials. Finally, the direction of change at the subbaccalaureate and baccalaureate levels was sometimes similar (e.g., agriculture/natural resources, engineering/architectural science), suggesting parallel changes in skill demands in some areas of the labor market at the subbaccalaureate and baccalaureate levels, while in other areas trends differed (e.g., computer science, health care), suggesting different subbaccalaureate and baccalaureate labor markets.

Table 2. Percentage point change and direction of change in percentage of credentials awarded in each career area, by education level, from 1984–85 to 2000–01

Career area	Percentage point change		Direction of change[1]	
	Subbaccalaureate level	Baccalaureate level	Subbaccalaureate level	Baccalaureate level
Agriculture/natural resources	–0.4	#	0	0
Business/marketing	–9.3	–2.4	–	–
Computer science	2.5	–0.6	+	0
Communications/design	#	0.5	0	0
Consumer and personal services	1.4	1.0	+	+
Education	#	–0.5	0	0
Engineering/architectural sciences	–5.8	–4.2	–	–
Health care	1.4	–0.7	+	0
Protective services	1.5	0.7	+	0
Public, social, and human services	0.5	0.3	0	0
Trade and industry	1.3	0.1	+	0

Rounds to zero.
[1] "–" indicates a decrease of 1 percentage point or more, "+" indicates an increase of 1 percentage point or more, and "0" indicates change between –1 and +1 percentage points.
NOTE: The percentages in this table may differ from percentages calculated from table 1 because this table was constructed using unrounded percentages, rather than the rounded percentages in table 1.
SOURCE: U.S. Department of Education, National Center for Education Statistics: 2000 Integrated Postsecondary Education Data System (IPEDS), Spring 2001, in *Digest of Education Statistics 2002*; and Higher Education General Information Survey (HEGIS), 1984–85, in *Digest of Education Statistics 1988*.

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Enrollment in Postsecondary Institutions, Fall 2002 and Financial Statistics, Fiscal Year 2002

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

Introduction

This report is one of a series that presents findings from the Integrated Postsecondary Education Data System (IPEDS). Results of the spring 2003 data collection are included and display enrollment data for fall 2002, student financial aid data for the 2001–02 academic year (July 1, 2001, through June 30, 2002), financial statistics for fiscal year 2002, and graduation rate information for students beginning college in 1996 at 4-year institutions and in 1999 at less-than-4-year institutions. 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 other areas.[1] Prior to that, institutions of higher education provided data through the Higher Education General Information Survey (HEGIS), which began in 1966. IPEDS defines a postsecondary institution as an organization that is open to the public and has as its primary mission the provision of postsecondary 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.

Since 1992, participation in IPEDS has been required for all postsecondary institutions and central or system offices that participate in the major student aid programs authorized under Title IV of the Higher Education Act, such as Pell Grants or Stafford Loans.[2] During the 2002–03 academic year, 6,508 institutions and 80 central or system offices were required to participate in IPEDS. Two of these institutions closed after the 2002–03 collection cycle began; thus 6,506 institutions were expected to participate in the spring 2003 collection. Not all institutions are required to complete each survey; for example, Student Financial Aid (SFA) and Graduation Rates (GRS) are only required of institutions that have a cohort of full-time, first-time degree- or certificate-seeking undergraduate-level students. Overall response rates for the four component surveys conducted in spring 2003 were quite high, ranging from 97.2 percent for Finance (F) to 99.2 percent for Enrollment (EF).

Tabulations in this report present selected data items collected from the 6,506 Title IV institutions in spring 2003. Additional detailed information is available through the various IPEDS web tools, such as the Peer Analysis System.[3] All institutions were asked to provide Enrollment and Finance data. In addition, institutions admitting full-time, first-time undergraduate-level students were asked to submit Student Financial Aid and Graduation Rates data. Graduation Rates data are included for the first time in this publication.

Characteristics of Enrolled Students

In fall 2002, Title IV institutions enrolled 17.3 million students. Of these, 86.2 percent were enrolled in undergraduate programs, 11.9 percent were enrolled in graduate programs, and 1.9 percent were enrolled in first-professional programs (table A). The majority of students, 60.6 percent, were enrolled full time, while 39.4 percent were enrolled part time.

Women accounted for 56.9 percent of all students enrolled in Title IV institutions in fall 2002. White, non-Hispanic students constituted 61.3 percent, while 11.3 percent were Black, non-Hispanic, 10.8 percent were Hispanic, 5.8 percent were Asian or Pacific Islander, and only 1 percent were American Indian or Alaska Native. The remaining enrollment in Title IV institutions was made up of students whose race/ethnicity was unknown and of nonresident aliens (6.4 percent and 3.4 percent, respectively).

[1]The other areas surveyed in IPEDS are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

[2]Institutions participating in Title IV programs are accredited by an agency or organization recognized by the Secretary, 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.

[3]See http://nces.ed.gov/ipeds.

Table A. Enrollment in Title IV institutions, by student level, attendance status, gender, and race/ethnicity: United States and other areas, fall 2002

Student level, attendance status, gender, and race/ethnicity	United States and other areas		United States	
	Total students	Percent	Total students	Percent
Total students	17,288,483	100.0	17,035,027	100.0
Student level				
Undergraduate	14,909,530	86.2	14,679,617	86.2
Graduate	2,056,353	11.9	2,036,421	12.0
First-professional[1]	322,600	1.9	318,989	1.9
Attendance status				
Full time	10,469,915	60.6	10,272,756	60.3
Part time	6,818,568	39.4	6,762,271	39.7
Gender				
Men	7,446,239	43.1	7,344,936	43.1
Women	9,842,244	56.9	9,690,091	56.9
Race/ethnicity				
White, non-Hispanic	10,594,851	61.3	10,593,759	62.2
Black, non-Hispanic	1,952,500	11.3	1,950,905	11.5
Hispanic	1,862,632	10.8	1,624,726	9.5
Asian/Pacific Islander	1,009,507	5.8	999,739	5.9
American Indian/Alaska Native	160,413	0.9	160,406	0.9
Race/ethnicity unknown	1,114,092	6.4	1,111,747	6.5
Nonresident alien	594,488	3.4	593,745	3.5

[1]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 other areas include 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 2003.

Characteristics of Students at Degree-Granting and Non-Degree-Granting Institutions[4]

During fall 2002, 17 million students attended Title IV institutions located within the United States (table B). Almost all of these students (16.6 million) attended degree-granting institutions, while about 423,000 students attended non-degree-granting institutions.

In both degree-granting and non-degree-granting institutions, a majority of students attended school full time (59.9 percent and 77.1 percent, respectively); likewise, a majority of the students were women (56.6 percent and 66.3 percent, respectively). However, the proportion of students attending degree-granting or non-degree-granting institutions differed by race/ethnicity. Table B shows that 62.5 percent of the students attending degree-granting institutions were White, non-Hispanic, 27.3 percent were other than White, and the remainder were either students whose race/ethnicity was unknown (6.5 percent) or nonresident aliens (3.5 percent). At non-degree-granting institutions, 48.1 percent of students were White, non-Hispanic, while 44.1 percent were other than White, 6.8 percent were students whose race/ethnicity was unknown, and 1.0 percent were nonresident aliens.

Residence and Migration of First-Time Degree/Certificate-Seeking Undergraduate Students

The spring 2003 IPEDS collection included enrollment by state of residence[5] for all students (both full time and part time) who were considered first-time degree/certificate-seeking undergraduates (referred to here as "first-time

[4]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 at any level; these institutions are primarily occupational/vocational schools that award certificates in such programs as cosmetology, nursing, mechanics, aviation systems, computer and information sciences, dental assistant, and law enforcement.

[5]The state identified by the student as his/her permanent address at the time of application to the institution. This may be the legal residence of a parent or guardian or the state in which the student has a driver's license or is registered to vote. It is not necessarily the state in which the student's high school is located.

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 2002

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	17,035,027	100.0	16,611,711	100.0	423,316	100.0
Level of institution						
4-year	10,083,252	59.2	10,082,332	60.7	920	0.2
2-year	6,640,516	39.0	6,529,379	39.3	111,137	26.3
Less-than-2-year	311,259	1.8	0	†	311,259	73.5
Control of institution						
Public	12,883,071	75.6	12,751,993	76.8	131,078	31.0
Private not-for-profit	3,299,094	19.4	3,265,476	19.7	33,618	7.9
Private for-profit	852,862	5.0	594,242	3.6	258,620	61.1
Attendance status						
Full time	10,272,756	60.3	9,946,359	59.9	326,397	77.1
Part time	6,762,271	39.7	6,665,352	40.1	96,919	22.9
Gender						
Men	7,344,936	43.1	7,202,116	43.4	142,820	33.7
Women	9,690,091	56.9	9,409,595	56.6	280,496	66.3
Race/ethnicity						
White, non-Hispanic	10,593,759	62.2	10,390,157	62.5	203,602	48.1
Black, non-Hispanic	1,950,905	11.5	1,865,660	11.2	85,245	20.1
Hispanic	1,624,726	9.5	1,545,166	9.3	79,560	18.8
Asian/Pacific Islander	999,739	5.9	982,108	5.9	17,631	4.2
American Indian/Alaska Native	160,406	0.9	156,225	0.9	4,181	1.0
Race/ethnicity unknown	1,111,747	6.5	1,082,789	6.5	28,958	6.8
Nonresident alien	593,745	3.5	589,606	3.5	4,139	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 2003.

undergraduates") in fall 2002. Table C includes the percentage of a state's enrollment of first-time undergraduates in Title IV degree-granting institutions who were residents of other states. The District of Columbia had the highest percentage of first-time undergraduates coming from other states (89.2 percent). Three states also had more than half of their undergraduates coming from other states: New Hampshire (51.3 percent), Rhode Island (59.4 percent), and Vermont (62.9 percent). Four states—Alaska, California, New Jersey, and Texas—had less than 10 percent of their first-time undergraduate students coming from other states (8.3 percent, 8.6 percent, 8.4 percent, and 9.3 percent, respectively). In fall 2002, 16.5 percent of the 2.6 million first-time undergraduates attended a Title IV degree-granting institution outside of their home state of residence.[6]

Table C also includes the percentage of first-time undergraduate students who left their state of residence to attend a Title IV degree-granting institution in a different state. This percentage varied considerably by state, ranging from a low of 6.0 percent in Mississippi to a high of 67.7 percent in the District of Columbia. Other states with less than 10 percent of their first-time undergraduates leaving to attend schools in other states were Alabama (9.6 percent), Arizona (9.0 percent), California (7.2 percent), Florida (9.8 percent), Louisiana (9.0 percent), Michigan (9.4 percent), North Carolina (8.6 percent), Oklahoma (9.9 percent), Texas (8.8 percent), and Utah (7.1 percent). Besides the District of Columbia, only Vermont sent more than half of its first-time undergraduates (53.2 percent) elsewhere to attend college.

[6]Data are from compendium table 19 in the full report.

Table C. Migration patterns of first-time, degree/certificate-seeking undergraduate students enrolled in Title IV degree-granting institutions, by state: Fall 2002

State	Percent of out-of-state students enrolled[1]	Percent of resident students enrolled in an out-of-state institution[2]
Alabama	19.1	9.6
Alaska	8.3	44.7
Arizona	27.5	9.0
Arkansas	15.0	12.2
California	8.6	7.2
Colorado	21.7	15.7
Connecticut	32.9	42.1
Delaware	44.9	27.2
District of Columbia	89.2	67.7
Florida	19.4	9.8
Georgia	14.8	13.7
Hawaii	32.2	30.4
Idaho	26.0	20.9
Illinois	10.5	18.9
Indiana	21.8	11.3
Iowa	26.1	10.9
Kansas	17.3	13.3
Kentucky	16.8	11.3
Louisiana	12.6	9.0
Maine	26.1	34.6
Maryland	24.1	31.9
Massachusetts	38.4	28.5
Michigan	10.3	9.4
Minnesota	17.1	17.6
Mississippi	18.9	6.0
Missouri	19.4	15.4
Montana	21.9	26.6
Nebraska	16.0	15.6
Nevada	15.4	18.7
New Hampshire	51.3	45.7
New Jersey	8.4	35.8
New Mexico	18.0	19.0
New York	19.8	16.7
North Carolina	19.5	8.6
North Dakota	36.3	28.6
Ohio	13.8	14.1
Oklahoma	15.2	9.9
Oregon	22.0	18.2
Pennsylvania	23.0	14.8
Rhode Island	59.4	32.9
South Carolina	17.6	10.2
South Dakota	29.7	26.5
Tennessee	22.8	16.6
Texas	9.3	8.8
Utah	24.4	7.1
Vermont	62.9	53.2
Virginia	26.4	20.7
Washington	14.0	20.1
West Virginia	27.5	15.6
Wisconsin	15.1	15.1
Wyoming	47.5	30.0

[1]Of all first-time, degree/certificate-seeking undergraduate students enrolled in the state, the percentage that came from another state.
[2]Of all first-time, degree/certificate-seeking undergraduate student residents of the state, the percentage who enrolled out-of-state.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2003.

Full-Time, First-Time Degree/Certificate-Seeking Undergraduate Financial Aid Recipients

IPEDS collects information on a cohort of full-time, first-time degree/certificate-seeking undergraduates who receive financial aid.[7] In academic year 2001–02, there were 2 million full-time, first-time degree/certificate-seeking undergraduate students in the cohort in Title IV degree-granting institutions located in the United States (table D). About 72.3 percent of these students received financial aid during the 2001–02 academic year. The proportion of the cohort that received financial aid varied by institution level and control. About 58.6 percent of undergraduates at public 2-year institutions and 72.9 percent of undergraduates at public 4-year institutions received financial aid, while larger proportions received aid at private institutions. About 82.7 percent of undergraduates at private not-for-profit 4-year institutions and 87.9 percent at private not-for-profit 2-year institutions received aid. Private for-profit 4-year institutions reported that 78.1 percent of their full-time, first-time degree/certificate-seeking students received aid, while private for-profit 2-year institutions reported that 87.2 percent received aid in academic year 2001–02.

[7]Financial aid, as used here, includes federal grants, state and local grants, institutional grants, and student loans (that pass through the financial aid office); PLUS loans and other loans made directly to parents or students are not included.

Proportions of undergraduates receiving financial aid did not change dramatically between 2000–01 and 2001–02. Overall, the percentage of undergraduates receiving financial aid rose from 70.3 percent in 2000–01 to 72.3 percent in 2001–02.

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, 46.0 percent of financial aid recipients received one or more federal grants during the 2001–02 academic year (table E). This percentage varied somewhat by institutional control. Nearly 67.5 percent of undergraduate aid recipients attending private for-profit institutions received federal grants, compared to 46.6 percent attending public institutions and 34.8 percent of those attending private not-for-profit institutions.

The proportions of undergraduates receiving each type of aid varied by institutional control. A higher percentage of undergraduate aid recipients attending public institutions received state and local grants than those attending private not-for-profit or private for-profit institutions (51.9 percent compared to 39.3 percent and 20.0 percent, respectively). Aid recipients at 4-year private not-for-profit institutions were more likely to receive institutional grants (84.0 percent) than aid recipients at other types of institutions—

Table D. Full-time, first-time degree/certificate-seeking undergraduate students enrolled and those who received financial aid in Title IV degree-granting institutions, by control and level of institution: United States, academic years 2000–01 and 2001–02

Control and level of institution	Academic year 2000–01[1]			Academic year 2001–02[2]		
	Number enrolled	Number of financial aid recipients	Percent who received financial aid	Number enrolled	Number of financial aid recipients	Percent who received financial aid
Total students	1,976,600	1,390,527	70.3	2,050,016	1,481,592	72.3
Public	1,333,236	872,109	65.4	1,389,913	932,201	67.1
4-year	804,793	573,430	71.3	822,905	599,743	72.9
2-year	528,443	298,679	56.5	567,008	332,458	58.6
Private not-for-profit	439,369	363,044	82.6	453,883	376,169	82.9
4-year	419,499	347,638	82.9	437,349	361,637	82.7
2-year	19,870	15,406	77.5	16,534	14,532	87.9
Private for-profit	203,995	155,374	76.2	206,220	173,222	84.0
4-year	81,075	51,739	63.8	72,647	56,747	78.1
2-year	122,920	103,635	84.3	133,573	116,475	87.2

[1]The numbers shown reflect those institutions that reported having financial aid recipients in academic year 2000–01.
[2]The numbers shown reflect those institutions that reported having financial aid recipients in academic year 2001–02.
NOTE: Student financial aid data are not imputed. The item response rates for all cells on this table range from 91.8 percent to 99.6 percent.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002 and Spring 2003.

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 2001–02

Control and level of institution	Number of financial aid recipients	Number receiving	Percent receiving	Average amount[1]	Number receiving	Percent receiving	Average amount[1]
		Federal grants			State/local grants		
Total students	1,480,878	681,806	46.0	$2,739	665,972	44.9	$2,057
Public	931,828	434,011	46.6	2,665	483,523	51.9	1,740
4-year	599,370	223,548	37.3	2,826	314,447	52.4	2,117
2-year	332,458	210,463	63.3	2,494	169,076	50.9	1,040
Private not-for-profit	375,986	130,855	34.8	3,107	147,789	39.3	2,980
4-year	361,456	121,939	33.7	3,129	141,959	39.3	3,000
2-year	14,530	8,916	61.4	2,796	5,830	40.1	2,495
Private for-profit	173,064	116,940	67.5	2,603	34,660	20.0	2,539
4-year	56,674	34,967	61.6	2,638	13,345	23.5	2,732
2-year	116,390	81,973	70.4	2,588	21,315	18.3	2,418
		Institutional grants			Student loans[2]		
Total students	1,480,878	645,292	43.6	$4,918	833,785	56.3	$3,970
Public	931,828	323,224	34.7	2,324	429,725	46.1	3,105
4-year	599,370	253,958	42.3	2,677	338,669	56.5	3,274
2-year	332,458	69,266	20.8	1,032	91,056	27.4	2,474
Private not-for-profit	375,986	308,481	82.0	7,782	259,517	69.0	4,251
4-year	361,456	303,652	84.0	7,859	250,255	69.2	4,263
2-year	14,530	4,829	33.2	2,906	9,262	63.7	3,905
Private for-profit	173,064	13,587	7.8	1,594	144,543	83.4	6,040
4-year	56,674	7,586	13.4	1,678	50,167	88.4	6,060
2-year	116,390	6,001	5.2	1,488	94,376	81.0	6,029

[1]Each average grant (or loan) value was calculated by dividing the total grants (or loans) awarded by the total number of recipients.
[2]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 97.0 percent to 99.6 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 2003.

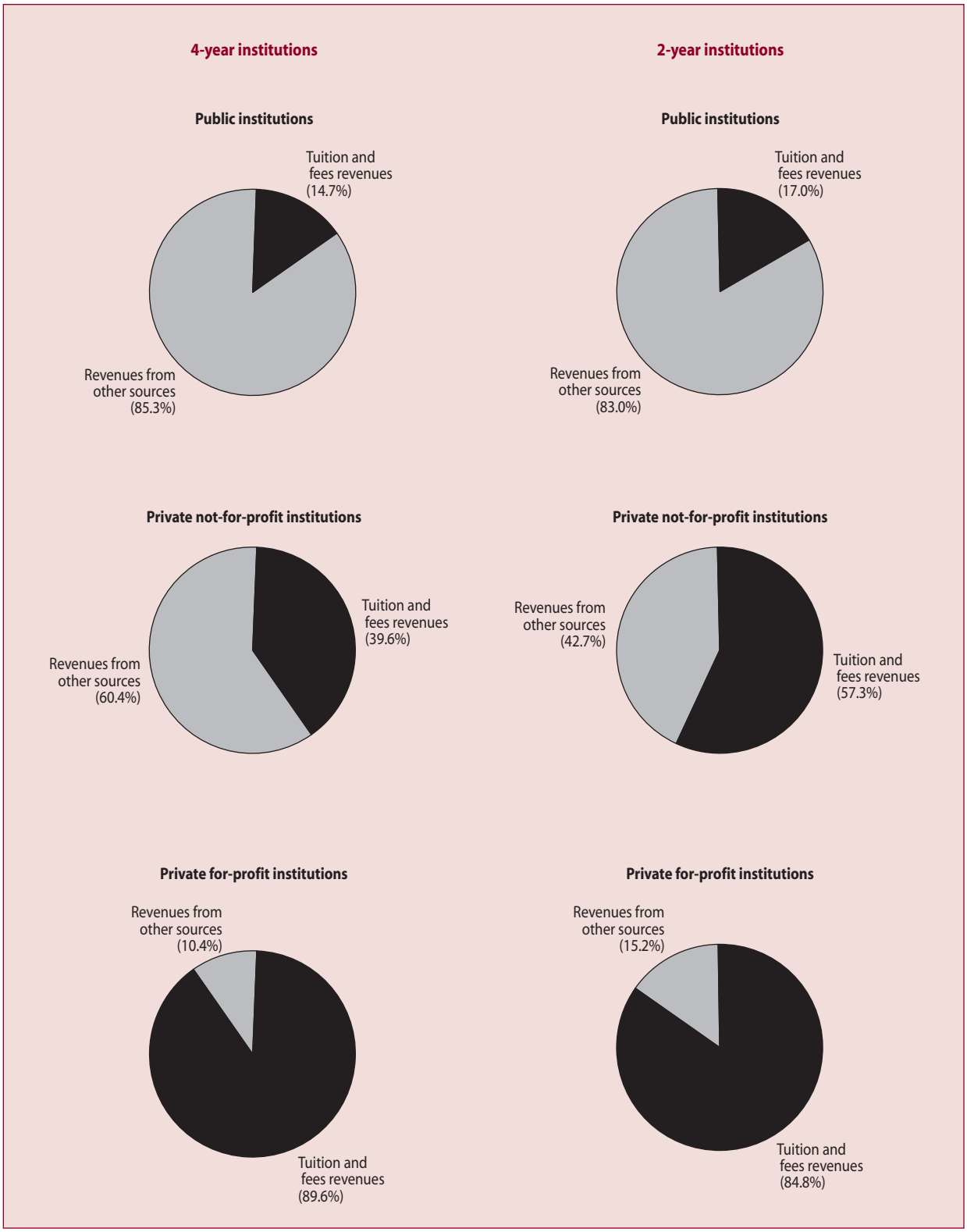
42.3 percent at 4-year public institutions and 13.4 percent at 4-year private for-profit institutions. Undergraduate aid recipients at private for-profit institutions were more likely than those attending public or private not-for-profit institutions to borrow money to attend college; 83.4 percent of aid recipients at private for-profit institutions had student loans, compared to 46.1 percent at public institutions and 69.0 percent at private not-for-profit institutions.

Revenues of Degree-Granting Institutions

The Finance component of the spring 2003 IPEDS collected information on the revenues and expenditures of Title IV institutions during fiscal year 2002. 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.

Figure A shows the proportion of revenue generated by tuition and fees for each level and control of institution. Private not-for-profit 4-year institutions received 39.6 percent of their revenues from tuition and fees, while private not-for-profit 2-year institutions received over half (57.3 percent) of their revenues from tuition and fees. Private for-profit institutions received virtually all of their revenues from tuition and fees, with private for-profit 4-year institutions receiving 89.6 percent and private for-profit 2-year institutions receiving 84.8 percent of their revenues from tuition and fees. Public institutions received a smaller proportion of their revenues from tuition and fees,

Figure A. Tuition and fees revenues as a proportion of total revenues of Title IV degree-granting institutions, by level and control of institution: United States, fiscal year 2002



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2003.

14.7 percent for 4-year institutions and 17.0 percent for 2-year institutions.

Graduation Rates

In the spring 2003 IPEDS collection, the Graduation Rates component was required for the first time from 4-year institutions. Please refer to the Methodology section (in the full report) for a description of how graduation rates are calculated for this report. Graduation rates data were collected for students who entered 4-year institutions between September 1, 1996, and August 31, 1997. For less-than-4-year institutions, graduation rates data were collected for students who entered between September 1, 1999, and August 31, 2000. Graduation rates at 4-year institutions were somewhat higher than at less-than-4-year institutions (54.4 percent and 39.9 percent, respectively) (table F). Considering institution control, private not-for-profit 4-year institutions had higher graduation rates (62.4 percent) than either public or private for-profit 4-year institutions (50.6 percent and 43.6 percent, respectively). However, with a graduation rate of 65.2 percent, private for-profit less-than-4-year institutions surpassed both public and private not-for-profit less-than-4-year institutions (26.9 percent and 51.1 percent, respectively). Considering racial/ethnic groups attending 4-year institutions, Asians/Pacific Islanders had the highest graduation rate, at 62.6 percent, and American Indians/Alaska Natives had the lowest graduation rate, at 36.7 percent.

Data source: The NCES Integrated Postsecondary Education Data System (IPEDS), Spring 2002 and 2003.

For technical information, see the complete report:

Knapp, L.G., Kelly-Reid, J.E., Whitmore, R.W., Wu, S., Huh, S., Levine, B., Berzofsky, M., and Broyles, S.G. (2005). *Enrollment in Postsecondary Institutions, Fall 2002 and Financial Statistics, Fiscal Year 2002* (NCES 2005-168).

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To obtain the complete report (NCES 2005-168), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Table F. Graduation rates at Title IV institutions, by level and control of institution, gender, and race/ethnicity: United States, cohort years 1996 and 1999

Control of institution, gender, and race/ethnicity	4-year institutions			Less-than-4-year institutions		
	Adjusted 1996 cohort	Total completers	Graduation rate	Adjusted 1999 cohort	Total completers	Graduation rate
Total students	1,118,522	608,281	54.4	856,945	341,624	39.9
Control of institution						
Public	703,614	355,996	50.6	555,756	149,725	26.9
Private not-for-profit	378,665	236,475	62.4	32,289	16,505	51.1
Private for-profit	36,243	15,810	43.6	268,900	175,394	65.2
Gender						
Men	512,513	261,635	51.0	372,555	136,075	36.5
Women	606,009	346,646	57.2	484,390	205,549	42.4
Race/ethnicity						
White, non-Hispanic	802,700	459,411	57.2	516,508	204,671	39.6
Black, non-Hispanic	124,493	47,519	38.2	135,816	49,264	36.3
Hispanic	66,622	29,868	44.8	107,094	46,649	43.6
Asian/Pacific Islander	62,894	39,383	62.6	35,663	16,007	44.9
American Indian/Alaska Native	8,778	3,218	36.7	10,500	3,630	34.6
Race/ethnicity unknown	31,700	16,514	52.1	40,029	17,338	43.3
Nonresident alien	21,335	12,368	58.0	11,335	4,065	35.9

NOTE: The adjusted cohort reflects changes made by the institution to the original cohort and exclusions to the cohort reported by the institution.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2003.

Staff in Postsecondary Institutions, Fall 2003, and Salaries of Full-Time Instructional Faculty, 2003–04

Laura G. Knapp, Janice E. Kelly-Reid, Roy W. Whitmore, Seungho Huh, Luhua Zhao, Burton Levine, Scott Ginder, Jean Wang, and Susan G. Broyles

This article was originally published as the E.D. TAB of the same name. The universe data are from the Integrated Postsecondary Education Data System (IPEDS). The Survey Methodology and Glossary from the original report have been omitted.

The Integrated Postsecondary Education Data System (IPEDS) is designed to collect data from postsecondary institutions in the United States (50 states and the District of Columbia) and other jurisdictions, such as Puerto Rico.[1] For IPEDS, a postsecondary institution is defined as an organization open to the public that 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.

Prior to the inception of IPEDS, the National Center for Education Statistics (NCES) collected data from approximately 3,600 institutions of higher education through its Higher Education General Information Survey (HEGIS) program. HEGIS was conducted from 1966 until 1985, when NCES expanded its collection to include all postsecondary institutions.

IPEDS 2003–04

Participation in IPEDS was a requirement for the 6,568 institutions that participated in Title IV federal student financial aid programs such as Pell Grants or Stafford Loans during the 2003–04 academic year. Title IV schools include traditional colleges and universities, 2-year institutions, and for-profit degree- and non-degree-granting institutions (such as schools of cosmetology), among others. In addition, the four U.S. service academies are included in the IPEDS universe as if they were Title IV institutions.

As the fall surveys were being conducted, information was received that 11 of these institutions closed or lost their Title IV eligibility after the 2003–04 collection cycle began; thus, 6,557 institutions and 83 administrative offices were expected to participate in the winter 2003–04 collection. In addition, the 83 administrative (central and system) offices were required to participate in only one of the component surveys, Fall Staff; the other two components—Employees by Assigned Position (EAP) and Salaries—were not applicable to them. The EAP component was required of all 6,557 Title IV institutions, and 6,550, or 99.9 percent, responded. The Salaries component was required of all 4-year Title IV institutions and 2-year degree-granting Title IV institutions. However, institutions were not required to respond to the Salaries component if all instructional faculty[2] were in the military, were part time, contributed their services, or taught clinical or preclinical medicine. As a result, for the winter 2003–04 collection, 4,152 institutions were required to complete the Salaries component. Of these, 4,149, or 99.9 percent, responded. The Fall Staff component was required of all Title IV institutions and administrative offices that employed 15 or more full-time employees.[3] Thus, for the winter 2003–04 collection, 4,932 institutions and administrative offices were required to complete the Fall Staff component. Of these, 4,925, or 99.9 percent, responded.

Focus of This Report

Tabulations in this report present selected data collected during the winter 2003–04 IPEDS collection about faculty and staff employed at Title IV degree-granting institutions[4] in the United States. Degree-granting institutions are those offering associate's, bachelor's, master's, doctor's, and first-professional degrees.

Selected Findings

Employees at Title IV degree-granting institutions[5]

- Title IV degree-granting institutions in the United States employed almost 3.2 million individuals in fall

[1]The other jurisdictions surveyed in the Integrated Postsecondary Education Data System are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

[2]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 among teaching, research, and public service because each of these functions is an integral component of their regular assignment. They are reported as "primarily instruction" or "instruction combined with research or public service" on the Employees by Assigned Position component.

[3]Fall Staff data are required biannually in odd-numbered years.

[4]The Title IV degree-granting institutions in the United States described in this report are a subset of all institutions surveyed in winter 2003–04. They include 4,235 of the 6,557 Title IV institutions required to complete the Employees by Assigned Position component, 4,060 of the 4,152 Title IV institutions required to complete the Salaries component, and 3,923 of the 4,857 Title IV institutions required to complete the Fall Staff component. (Appendix tables A1 and A1a in the full report include administrative offices that were also required to complete the Fall Staff component.)

[5]Includes only those institutions with 15 or more full-time employees.

2003 (table 1). Of those employed, 2.3 million were professional staff (including faculty) and 0.9 million were nonprofessional staff.

- About two-thirds of all staff (65 percent) were employed full time, and over half (53 percent) were women (table 1).
- Over two-thirds of all staff (68 percent) were employed by public institutions, 29 percent were employed by private not-for-profit institutions, and only 3 percent of staff were employed by private for-profit institutions (table 1).
- Faculty[6] constituted 37 percent of all staff, other professional staff[7] accounted for 34 percent, and the remaining 29 percent were nonprofessional staff (table 1).[8]

Faculty at Title IV degree-granting institutions[9]

- About 630,000 full-time faculty were employed at Title IV degree-granting institutions in fall 2003 (table 2).
- More men than women were employed full time as faculty in fall 2003 (61 percent and 39 percent, respectively) (table 3). This proportion varied somewhat by length of contract; men constituted 54 percent of full-time faculty with less-than-9-month contracts, 59 percent of full-time faculty with 9/10-month contracts, and 64 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 80 percent), while 15 percent were races other than White, non-Hispanic,[10] 3 percent were nonresident aliens,[11] and 1 percent were of unknown race/ethnicity (table 3).

[6]Faculty include those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity.

[7]Other professional staff include those in executive, administrative, and managerial positions; instruction/research assistants; and others in administrative and professional (support/services) positions.

[8]Nonprofessional staff include those in technical/paraprofessional, clerical/secretarial, skilled crafts, or service/maintenance positions.

[9]Includes only those institutions with 15 or more full-time employees.

[10]Races other than White, non-Hispanic include Black, non-Hispanic; Hispanic; Asian/Pacific Islander; and American Indian/Alaska Native.

[11]A nonresident alien is a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely. Nonresident aliens are reported separately rather than included in any of the following five race/ethnicity categories: White, non-Hispanic; Black, non-Hispanic; Hispanic; Asian/Pacific Islander; and American Indian/Alaska Native.

Table 1. Employees at Title IV degree-granting institutions, by control of institution, employment status, gender, and professional status: United States, fall 2003

Control of institution, employment status, gender, and professional status	Total	Percent
Total	3,174,653	100.0
Public	2,149,163	67.7
Private not-for-profit	936,068	29.5
Private for-profit	89,422	2.8
Full time	2,068,083	65.1
Part time	1,106,570	34.9
Men	1,491,350	47.0
Women	1,683,303	53.0
Faculty[1]	1,173,556	37.0
Other professional[2]	1,087,227	34.2
Nonprofessional[3]	913,870	28.8

[1]Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity.
[2]Other professional staff include those in executive, administrative, and managerial positions; instruction/research assistants; and others in administrative and professional (support/services) positions.
[3]Nonprofessional staff include those in technical/paraprofessional, clerical/secretarial, skilled crafts, or service/maintenance positions.
NOTE: Detail may not sum to totals because of rounding. Data are for institutions with 15 or more full-time employees.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Fall Staff component.

Table 2. Employees at Title IV degree-granting institutions, by employment status, gender, control of institution, and primary occupational activity: United States, fall 2003

Control of institution and primary occupational activity	Total			Full time			Part time		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Total	3,174,653	1,491,350	1,683,303	2,068,083	956,196	1,111,887	1,106,570	535,154	571,416
Professional staff	2,260,783	1,156,852	1,103,931	1,329,422	683,059	646,363	931,361	473,793	457,568
Faculty[1]	1,173,556	664,150	509,406	630,419	382,232	248,187	543,137	281,918	261,219
Executive/administrative/managerial	183,153	90,031	93,122	176,888	87,540	89,348	6,265	2,491	3,774
Instruction/research assistants	292,801	157,268	135,533	†	†	†	292,801	157,268	135,533
Other professional (support/service)	611,273	245,403	365,870	522,115	213,287	308,828	89,158	32,116	57,042
Nonprofessional staff	913,870	334,498	579,372	738,661	273,137	465,524	175,209	61,361	113,848
Technical and paraprofessionals	193,278	78,520	114,758	151,825	62,667	89,158	41,453	15,853	25,600
Clerical and secretarial	435,861	59,301	376,560	342,928	36,658	306,270	92,933	22,643	70,290
Skilled crafts	61,548	57,289	4,259	58,616	55,427	3,189	2,932	1,862	1,070
Service/maintenance	223,183	139,388	83,795	185,292	118,385	66,907	37,891	21,003	16,888
Public	2,149,163	1,007,614	1,141,549	1,353,057	629,026	724,031	796,106	378,588	417,518
Professional staff	1,529,396	777,172	752,224	858,288	442,546	415,742	671,108	334,626	336,482
Faculty[1]	791,384	436,920	354,464	425,320	253,797	171,523	366,064	183,123	182,941
Executive/administrative/managerial	93,203	48,435	44,768	89,848	46,959	42,889	3,355	1,476	1,879
Instruction/research assistants	241,040	128,761	112,279	†	†	†	241,040	128,761	112,279
Other professional (support/service)	403,769	163,056	240,713	343,120	141,790	201,330	60,649	21,266	39,383
Nonprofessional staff	619,767	230,442	389,325	494,769	186,480	308,289	124,998	43,962	81,036
Technical and paraprofessionals	139,544	56,646	82,898	106,970	44,102	62,868	32,574	12,544	20,030
Clerical and secretarial	285,940	38,531	247,409	219,065	21,516	197,549	66,875	17,015	49,860
Skilled crafts	46,069	42,919	3,150	43,920	41,550	2,370	2,149	1,369	780
Service/maintenance	148,214	92,346	55,868	124,814	79,312	45,502	23,400	13,034	10,366
Private not-for-profit	936,068	437,437	498,631	667,324	305,646	361,678	268,744	131,791	136,953
Professional staff	655,036	337,851	317,185	433,764	222,444	211,320	221,272	115,407	105,865
Faculty[1]	330,443	195,351	135,092	191,113	119,822	71,291	139,330	75,529	63,801
Executive/administrative/managerial	82,308	38,109	44,199	79,502	37,140	42,362	2,806	969	1,837
Instruction/research assistants	51,649	28,461	23,188	†	†	†	51,649	28,461	23,188
Other professional (support/service)	190,636	75,930	114,706	163,149	65,482	97,667	27,487	10,448	17,039
Nonprofessional staff	281,032	99,586	181,446	233,560	83,202	150,358	47,472	16,384	31,088
Technical and paraprofessionals	51,533	20,688	30,845	43,210	17,607	25,603	8,323	3,081	5,242
Clerical and secretarial	141,212	19,130	122,082	116,586	13,803	102,783	24,626	5,327	19,299
Skilled crafts	15,323	14,250	1,073	14,573	13,774	799	750	476	274
Service/maintenance	72,964	45,518	27,446	59,191	38,018	21,173	13,773	7,500	6,273
Private for-profit	89,422	46,299	43,123	47,702	21,524	26,178	41,720	24,775	16,945
Professional staff	76,351	41,829	34,522	37,370	18,069	19,301	38,981	23,760	15,221
Faculty[1]	51,729	31,879	19,850	13,986	8,613	5,373	37,743	23,266	14,477
Executive/administrative/managerial	7,642	3,487	4,155	7,538	3,441	4,097	104	46	58
Instruction/research assistants	112	46	66	†	†	†	112	46	66
Other professional (support/service)	16,868	6,417	10,451	15,846	6,015	9,831	1,022	402	620
Nonprofessional staff	13,071	4,470	8,601	10,332	3,455	6,877	2,739	1,015	1,724
Technical and paraprofessionals	2,201	1,186	1,015	1,645	958	687	556	228	328
Clerical and secretarial	8,709	1,640	7,069	7,277	1,339	5,938	1,432	301	1,131
Skilled crafts	156	120	36	123	103	20	33	17	16
Service/maintenance	2,005	1,524	481	1,287	1,055	232	718	469	249

† Not applicable. By definition, instruction/research assistants are part time only.
[1]Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity.
NOTE: Data are for institutions with 15 or more full-time employees.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Fall Staff component.

Table 3. Full-time faculty at Title IV degree-granting institutions, by contract length, gender, and race/ethnicity: United States, fall 2003

Gender and race/ethnicity[1]	Total		Less-than-9-month contracts		9/10-month contracts		11/12-month contracts	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	630,419	100.0	3,747	100.0	445,427	100.0	181,245	100.0
Men	382,232	60.6	2,030	54.2	264,903	59.5	115,299	63.6
Women	248,187	39.4	1,717	45.8	180,524	40.5	65,946	36.4
White, non-Hispanic	505,478	80.2	2,464	65.8	363,951	81.7	139,063	76.7
Black, non-Hispanic	33,097	5.3	233	6.2	23,652	5.3	9,212	5.1
Hispanic	20,068	3.2	273	7.3	14,459	3.2	5,336	2.9
Asian/Pacific Islander	41,086	6.5	219	5.8	25,651	5.8	15,216	8.4
American Indian/Alaska Native	2,973	0.5	55	1.5	2,308	0.5	610	0.3
Race/ethnicity unknown	6,602	1.0	186	5.0	4,306	1.0	2,110	1.2
Nonresident alien	21,115	3.3	317	8.5	11,100	2.5	9,698	5.4

[1]Race/ethnicity (including race/ethnicity unknown) applies to U.S. citizens, resident aliens, and other eligible noncitizens. Nonresident aliens are not designated by race or ethnicity.
NOTE: Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity. Detail may not sum to totals because of rounding. Data are for institutions with 15 or more full-time employees.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Fall Staff component.

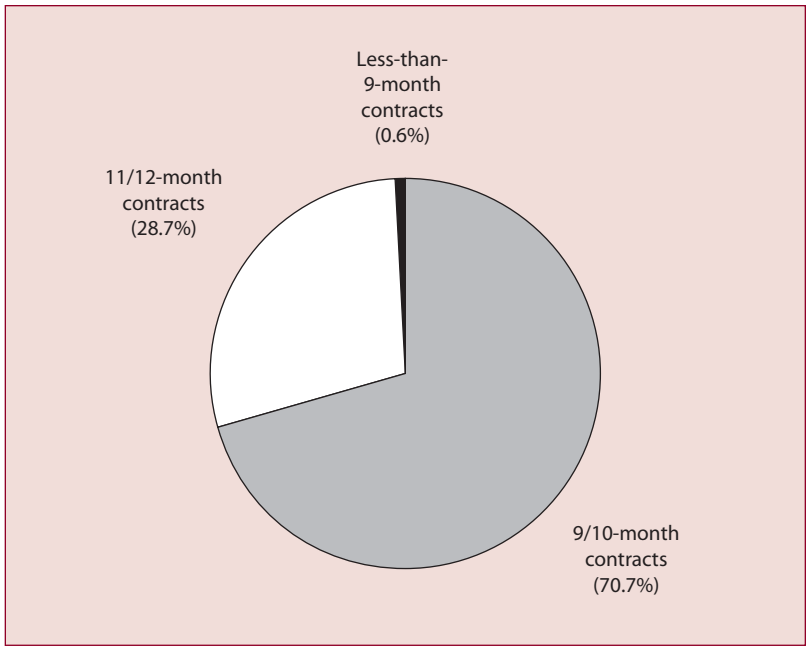
- More than 40,000 full-time faculty were employed by degree-granting institutions in each of the following three states—California, New York, and Texas—while degree-granting institutions in Alaska, Delaware, and Wyoming employed less than 2,000 full-time faculty (table 4).
- Of the full-time faculty employed at Title IV degree-granting institutions in fall 2003, 71 percent were employed under 9/10-month contracts, 29 percent were employed under 11/12-month contracts, and less than 1 percent were employed under less-than-9-month contracts (figure 1).
- About 45 percent of all full-time faculty at Title IV degree-granting institutions were tenured in fall 2003 (table 5). An additional 20 percent were nontenured but in tenure-track positions. Thirty-five percent of all full-time faculty at Title IV degree-granting institutions were not on tenure track or were employed at institutions that do not have a tenure system.
- About 48 percent of full-time faculty at public institutions had tenure, as opposed to 40 percent at private not-for-profit institutions and 3 percent at private for-profit institutions (tables 5 and 6).
- Overall, a greater proportion of full-time faculty at 4-year institutions than at 2-year institutions had tenure (tables 5 and 6). At public 4-year institutions, 50 percent of full-time faculty had tenure, while at public 2-year institutions 43 percent of full-time faculty had tenure (table 5). Likewise, at private not-for-profit 4-year institutions, 41 percent of full-time faculty had tenure, while at private not-for-profit 2-year institutions 10 percent of full-time faculty had tenure. At private for-profit institutions, the percentage of full-time faculty who had tenure was slightly greater at 2-year institutions than at 4-year institutions (3 percent and 2 percent, respectively).
- In fall 2003, a greater proportion of men than women had tenure (table 6). Approximately one-half, 50 percent, of men in full-time faculty positions had tenure, while 36 percent of women in full-time faculty positions had tenure.
- Over 47 percent of full-time White, non-Hispanic faculty members had tenure, while 42 percent of Asian/Pacific Islander full-time faculty members, 41 percent of Hispanic full-time faculty members, and 38 percent of Black, non-Hispanic full-time faculty members had tenure (table 6).

Table 4. Full-time faculty at Title IV degree-granting institutions, by race/ethnicity and state: Fall 2003

State	Total	White, non-Hispanic	Black, non-Hispanic	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Race/ ethnicity unknown	Nonresident alien
United States	630,419	505,478	33,097	20,068	41,086	2,973	6,602	21,115
Alabama	10,240	7,917	1,339	109	593	39	27	216
Alaska	1,263	1,047	12	20	62	44	3	75
Arizona	8,344	6,764	201	536	370	138	109	226
Arkansas	6,137	5,298	386	71	267	36	18	61
California	58,263	42,895	2,570	4,236	6,213	362	984	1,003
Colorado	11,247	8,817	190	474	508	79	738	441
Connecticut	8,817	6,587	312	210	518	19	85	1,086
Delaware	1,779	1,425	165	28	110	5	9	37
District of Columbia	5,127	3,091	1,070	116	426	14	295	115
Florida	23,172	17,592	1,767	1,621	1,406	66	115	605
Georgia	17,856	13,611	2,194	307	1,080	47	105	512
Hawaii	2,945	1,743	20	50	980	18	1	133
Idaho	2,872	2,678	7	32	68	14	22	51
Illinois	27,484	22,112	1,383	699	2,197	54	248	791
Indiana	13,818	11,686	410	305	839	30	102	446
Iowa	8,544	7,409	143	138	359	24	26	445
Kansas	6,779	5,965	138	122	285	70	19	180
Kentucky	9,721	8,530	413	89	406	17	48	218
Louisiana	11,418	8,588	1,515	234	624	28	17	412
Maine	2,607	2,323	31	25	63	7	115	43
Maryland	13,773	10,180	1,334	237	1,022	30	98	872
Massachusetts	21,565	17,402	708	506	1,617	27	383	922
Michigan	19,706	15,844	988	372	1,446	92	158	806
Minnesota	11,456	9,942	204	169	457	104	159	421
Mississippi	6,769	5,372	885	54	298	10	5	145
Missouri	15,055	12,629	489	205	955	57	29	691
Montana	2,125	1,950	2	17	27	77	28	24
Nebraska	5,543	4,748	115	108	280	31	12	249
Nevada	2,314	1,926	72	98	153	17	12	36
New Hampshire	2,908	2,548	33	42	76	10	97	102
New Jersey	12,628	9,627	711	384	1,172	20	90	624
New Mexico	4,166	3,167	58	453	169	98	56	165
New York	49,660	39,653	2,478	1,666	3,625	118	369	1,751
North Carolina	22,810	18,527	2,032	329	941	101	191	689
North Dakota	2,447	2,128	20	13	72	52	10	152
Ohio	23,208	19,393	1,046	383	1,434	46	358	548
Oklahoma	7,440	6,154	263	123	353	243	20	284
Oregon	8,291	6,983	84	185	328	54	321	336
Pennsylvania	34,164	28,411	1,291	582	2,090	59	170	1,561
Rhode Island	3,560	2,945	87	60	162	16	50	240
South Carolina	8,698	7,167	778	108	368	18	34	225
South Dakota	2,065	1,803	11	23	62	63	57	46
Tennessee	12,771	10,590	1,001	172	710	26	55	217
Texas	40,072	30,661	2,041	3,229	2,783	185	134	1,039
Utah	6,834	5,799	51	134	285	27	147	391
Vermont	2,284	2,044	30	48	84	7	6	65
Virginia	15,793	12,944	1,242	227	769	26	60	525
Washington	12,903	10,455	272	332	828	144	245	627
West Virginia	4,069	3,606	113	47	207	7	0	89
Wisconsin	15,394	13,459	382	329	924	90	149	61
Wyoming	1,515	1,343	10	11	15	7	13	116

NOTE: Race/ethnicity (including race/ethnicity unknown) applies to U.S. citizens, resident aliens, and other eligible noncitizens. Nonresident aliens are not designated by race or ethnicity. Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity. Data are for institutions with 15 or more full-time employees.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Fall Staff component.

Figure 1. Full-time faculty at Title IV degree-granting institutions, by contract length: United States, fall 2003



NOTE: Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity. Data are for institutions with 15 or more full-time employees. 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 2003–04, Fall Staff component.

New hires at Title IV degree-granting institutions[12]

- Approximately 127,000 new staff were hired by degree-granting institutions for full-time permanent employment between July 1 and October 31, 2003 (table 7). Of these, 36 percent were for faculty positions, 28 percent were for other professional positions including support and service, and 14 percent were for clerical and secretarial positions.
- Public institutions hired more than 73,000 employees between July 1 and October 31, 2003; of these, nearly 29,000, or 39 percent, were in faculty positions. The majority of new hires in private not-for-profit institutions were also for faculty positions (32 percent); however, private for-profit institutions hired a larger percentage of employees for other professional (support/service) positions (45 percent).
- The majority of new hires (55 percent) were women (table 7). Considering race/ethnicity, 68 percent of new hires were White, non-Hispanic, while 11 percent were Black, non-Hispanic. Hispanics and Asian/Pacific Islanders each represented 6 percent of new hires, and less than 1 percent were American Indian/Alaska Native. The remaining were either nonresident aliens (5 percent) or their race/ethnicity was unknown (3 percent).

Employees by place of employment

- Title IV degree-granting institutions had 3.2 million employees in fall 2003, of which 300,000 were employed by medical schools (table 8).
- About 82 percent of the 300,000 medical school employees were employed full time and 18 percent were part time. These proportions were very different among other employees in Title IV institutions (those not employed in medical schools), where about 63 percent were full time and 37 percent were part time.[13]

Salaries of full-time instructional faculty at Title IV degree-granting institutions

- During the 2003–04 academic year, full-time instructional faculty on less-than-9-month contracts earned an average salary of about $30,000 (table 9). In general, salaries varied by rank, with faculty holding higher ranks earning higher average salaries. Among full-time instructional faculty on less-than-9-month contracts, professors earned an average salary of just

[12]Includes only those institutions with 15 or more full-time employees.

[13]Percentages were calculated based on the numbers provided in table 8.

over $50,000 and associate professors earned an average salary of just under $50,000, while assistant professors averaged about $39,000, instructors averaged $27,000, and lecturers earned an average salary of $18,000.

- During the 2003–04 academic year, full-time instructional faculty on 9/10-month contracts earned an average salary of about $63,000 (table 10). Salaries varied by rank, 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 $85,000 and associate professors earned an average salary of $62,000, while assistant professors averaged $52,000, instructors averaged $49,000, and lecturers earned an average salary of $44,000.
- In general, men earned higher average salaries than women (table 10). Male faculty with 9/10-month contracts earned an average salary of $68,000, and female faculty with contracts of the same length earned an average salary of $55,000. Similarly, male professors with 9/10-month contracts earned an average salary of $88,000, and female professors with 9/10-month contracts earned an average salary of $77,000.
- Full-time instructional faculty on 11/12-month contracts earned an average salary of about $71,000 (table 11). Faculty on 11/12-month contracts earned the following average salaries: professors earned an average salary of $101,000, associate professors earned an average salary of $77,000, assistant professors earned an average salary of $68,000, instructors earned an average salary of $46,000, and lecturers earned an average salary of $53,000.
- Male faculty with 11/12-month contracts earned an average salary of $76,000, while female faculty with 11/12-month contracts earned an average salary of $62,000 (table 11). Likewise, male professors with 11/12-month contracts earned an average salary of $105,000, while female professors with 11/12-month contracts earned an average salary of $89,000.
- The most common fringe benefits offered to full-time instructional faculty are retirement plans and medical/dental plans (table 12).

Data source: The NCES Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04.

For technical information, see the complete report:

Staff in Postsecondary Institutions, Fall 2003, and Salaries of Full-Time Instructional Faculty, 2003–04 (NCES 2005-155).

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To obtain the complete report (NCES 2005-155), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Table 5. Full-time faculty at Title IV degree-granting institutions, by tenure status and control and level of institution: United States, fall 2003

Control and level of institution	Total	With tenure		On tenure track		Not on tenure track[1]	
		Number	Percent	Number	Percent	Number	Percent
Total	630,419	282,429	44.8	128,602	20.4	219,388	34.8
4-year	511,209	234,714	45.9	112,043	21.9	164,452	32.2
2-year	119,210	47,715	40.0	16,559	13.9	54,936	46.1
Public	425,320	204,973	48.2	85,078	20.0	135,269	31.8
4-year	315,310	157,698	50.0	68,649	21.8	88,963	28.2
2-year	110,010	47,275	43.0	16,429	14.9	46,306	42.1
Private not-for-profit	191,113	77,059	40.3	43,395	22.7	70,659	37.0
4-year	189,278	76,872	40.6	43,318	22.9	69,088	36.5
2-year	1,835	187	10.2	77	4.2	1,571	85.6
Private for-profit	13,986	397	2.8	129	0.9	13,460	96.2
4-year	6,621	144	2.2	76	1.1	6,401	96.7
2-year	7,365	253	3.4	53	0.7	7,059	95.8

[1]Includes faculty at institutions that do not have a tenure system.
NOTE: Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity. Data are for institutions with 15 or more full-time employees. 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 2003–04, Fall Staff component.

Table 6. Full-time faculty and full-time faculty with tenure at Title IV degree-granting institutions, by control and level of institution, gender, and race/ethnicity: United States, fall 2003

Control and level of institution, gender, and race/ethnicity[1]	Total	With tenure	Percent with tenure
Total	630,419	282,429	44.8
Public	425,320	204,973	48.2
Private not-for-profit	191,113	77,059	40.3
Private for-profit	13,986	397	2.8
4-year	511,209	234,714	45.9
2-year	119,210	47,715	40.0
Men	382,232	193,023	50.5
Women	248,187	89,406	36.0
White, non-Hispanic	505,478	239,784	47.4
Black, non-Hispanic	33,097	12,704	38.4
Hispanic	20,068	8,149	40.6
Asian/Pacific Islander	41,086	17,308	42.1
American Indian/Alaska Native	2,973	1,149	38.6
Race/ethnicity unknown	6,602	1,277	19.3
Nonresident alien	21,115	2,058	9.7

[1]Race/ethnicity (including race/ethnicity unknown) applies to U.S. citizens, resident aliens, and other eligible noncitizens. Nonresident aliens are not designated by race or ethnicity.
NOTE: Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity. Data are for institutions with 15 or more full-time employees.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Fall Staff component.

Table 7. New full-time hires at Title IV degree-granting institutions, by control of institution, primary occupational activity, gender, and race/ethnicity: United States, fall 2003

Primary occupational activity, gender, and race/ethnicity[1]	Total		Public		Private not-for-profit		Private for-profit	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	126,521	100.0	73,350	100.0	46,921	100.0	6,250	100.0
Faculty[2]	45,003	35.6	28,706	39.1	14,963	31.9	1,334	21.3
With tenure	1,806	1.4	1,230	1.7	549	1.2	27	0.4
On tenure track	16,830	13.3	11,466	15.6	5,293	11.3	71	1.1
Not on tenure track[3]	26,367	20.8	16,010	21.8	9,121	19.4	1,236	19.8
Executive/administrative/managerial	6,930	5.5	2,991	4.1	3,395	7.2	544	8.7
Other professional (support/service)	35,083	27.7	19,247	26.2	12,995	27.7	2,841	45.5
Technical and paraprofessionals	9,599	7.6	5,307	7.2	4,131	8.8	161	2.6
Clerical and secretarial	17,890	14.1	9,239	12.6	7,412	15.8	1,239	19.8
Skilled crafts	1,436	1.1	1,003	1.4	424	0.9	9	0.1
Service/maintenance	10,580	8.4	6,857	9.3	3,601	7.7	122	2.0
Men	56,886	45.0	33,459	45.6	20,763	44.3	2,664	42.6
Women	69,635	55.0	39,891	54.4	26,158	55.7	3,586	57.4
White, non-Hispanic	86,300	68.2	49,924	68.1	32,080	68.4	4,296	68.7
Black, non-Hispanic	14,010	11.1	8,003	10.9	5,040	10.7	967	15.5
Hispanic	7,690	6.1	4,602	6.3	2,545	5.4	543	8.7
Asian/Pacific Islander	7,540	6.0	4,429	6.0	2,861	6.1	250	4.0
American Indian/Alaska Native	894	0.7	637	0.9	223	0.5	34	0.5
Race/ethnicity unknown	3,970	3.1	2,083	2.8	1,734	3.7	153	2.4
Nonresident alien	6,117	4.8	3,672	5.0	2,438	5.2	7	0.1

[1]Race/ethnicity (including race/ethnicity unknown) applies to U.S. citizens, resident aliens, and other eligible noncitizens. Nonresident aliens are not designated by race or ethnicity.
[2]Faculty include only those staff whose principal activity is instruction, research, or public service; full-time staff who teach one or two courses are not included as faculty, unless this is their primary activity.
[3]Includes faculty at institutions that do not have a tenure system.
NOTE: New hires include persons who were hired for full-time permanent employment for the first time or after a break in service between July 1 and October 31 of the survey year. New hires do not include persons who have returned from sabbatical leave or full-time faculty working less-than-9-month contracts/teaching periods. Detail may not sum to totals because of rounding. Data are for institutions with 15 or more full-time employees.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Fall Staff component.

Table 8. Employees at Title IV degree-granting institutions, by employment status, place of employment, control of institution, and primary function/occupational activity: United States, fall 2003

Control of institution and primary function/occupational activity	Total			Full time			Part time		
	Total	Employees (except those in medical schools)	Medical school employees	Total	Employees (except those in medical schools)	Medical school employees	Total	Employees (except those in medical schools)	Medical school employees
Total	3,194,610	2,883,791	310,819	2,068,290	1,812,144	256,146	1,126,320	1,071,647	54,673
Primarily instruction	888,656	862,523	26,133	402,142	381,609	20,533	486,514	480,914	5,600
Instruction/research/public service	249,429	197,656	51,773	190,283	146,424	43,859	59,146	51,232	7,914
Primarily research	46,993	32,271	14,722	38,155	25,623	12,532	8,838	6,648	2,190
Primarily public service	19,045	11,291	7,754	13,486	7,142	6,344	5,559	4,149	1,410
Executive/administrative/managerial	183,416	169,833	13,583	177,132	164,131	13,001	6,284	5,702	582
Graduate assistants	293,874	278,457	15,417	†	†	†	293,874	278,457	15,417
Other professional (support/service)	605,285	512,445	92,840	515,333	434,638	80,695	89,952	77,807	12,145
Technical and paraprofessionals	190,099	156,849	33,250	149,145	120,018	29,127	40,954	36,831	4,123
Clerical and secretarial	434,129	387,361	46,768	340,494	297,779	42,715	93,635	89,582	4,053
Skilled crafts	61,231	59,858	1,373	58,333	57,013	1,320	2,898	2,845	53
Service/maintenance	222,453	215,247	7,206	183,787	177,767	6,020	38,666	37,480	1,186
Public	2,163,264	1,988,242	175,022	1,361,164	1,220,941	140,223	802,100	767,301	34,799
Primarily instruction	584,701	569,744	14,957	264,324	252,299	12,025	320,377	317,445	2,932
Instruction/research/public service	174,538	144,422	30,116	133,951	109,133	24,818	40,587	35,289	5,298
Primarily research	35,613	25,907	9,706	27,998	20,131	7,867	7,615	5,776	1,839
Primarily public service	11,988	9,827	2,161	8,111	6,259	1,852	3,877	3,568	309
Executive/administrative/managerial	93,720	88,238	5,482	90,559	85,334	5,225	3,161	2,904	257
Graduate assistants	240,494	228,683	11,811	†	†	†	240,494	228,683	11,811
Other professional (support/service)	403,317	346,057	57,260	342,022	292,328	49,694	61,295	53,729	7,566
Technical and paraprofessionals	138,581	123,421	15,160	106,867	93,877	12,990	31,714	29,544	2,170
Clerical and secretarial	285,639	261,184	24,455	218,715	196,295	22,420	66,924	64,889	2,035
Skilled crafts	45,863	45,291	572	43,758	43,204	554	2,105	2,087	18
Service/maintenance	148,810	145,468	3,342	124,859	122,081	2,778	23,951	23,387	564
Private not-for-profit	936,845	801,123	135,722	657,572	541,692	115,880	279,273	259,431	19,842
Primarily instruction	250,469	239,333	11,136	123,958	115,475	8,483	126,511	123,858	2,653
Instruction/research/public service	73,124	51,486	21,638	55,537	36,499	19,038	17,587	14,987	2,600
Primarily research	11,369	6,353	5,016	10,146	5,481	4,665	1,223	872	351
Primarily public service	7,004	1,411	5,593	5,331	839	4,492	1,673	572	1,101
Executive/administrative/managerial	81,461	73,368	8,093	78,522	70,753	7,769	2,939	2,615	324
Graduate assistants	53,218	49,612	3,606	†	†	†	53,218	49,612	3,606
Other professional (support/service)	184,660	149,080	35,580	157,127	126,126	31,001	27,533	22,954	4,579
Technical and paraprofessionals	49,253	31,163	18,090	40,556	24,419	16,137	8,697	6,744	1,953
Clerical and secretarial	139,488	117,183	22,305	114,290	94,003	20,287	25,198	23,180	2,018
Skilled crafts	15,199	14,398	801	14,453	13,687	766	746	711	35
Service/maintenance	71,600	67,736	3,864	57,652	54,410	3,242	13,948	13,326	622
Private for-profit	94,501	94,426	75	49,554	49,511	43	44,947	44,915	32
Primarily instruction	53,486	53,446	40	13,860	13,835	25	39,626	39,611	15
Instruction/research/public service	1,767	1,748	19	795	792	3	972	956	16
Primarily research	11	11	0	11	11	0	0	0	0
Primarily public service	53	53	0	44	44	0	9	9	0
Executive/administrative/managerial	8,235	8,227	8	8,051	8,044	7	184	183	1
Graduate assistants	162	162	0	†	†	†	162	162	0
Other professional (support/service)	17,308	17,308	0	16,184	16,184	0	1,124	1,124	0
Technical and paraprofessionals	2,265	2,265	0	1,722	1,722	0	543	543	0
Clerical and secretarial	9,002	8,994	8	7,489	7,481	8	1,513	1,513	0
Skilled crafts	169	169	0	122	122	0	47	47	0
Service/maintenance	2,043	2,043	0	1,276	1,276	0	767	767	0

† Not applicable; by definition, all graduate assistants are part time.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Employees by Assigned Position component.

Table 9. Average salaries of full-time instructional faculty on less-than-9-month contracts at Title IV degree-granting institutions, by academic rank, gender, and control and level of institution: United States, academic year 2003–04

Gender and control and level of institution	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank[1]
Total	$30,298	$50,335	$49,613	$38,615	$26,903	$17,814	$39,522
4-year	25,894	50,612	49,720	38,697	19,033	16,577	21,418
2-year	35,667	38,148	40,310	31,612	30,824	23,602	52,178
Public	33,314	69,208	60,257	47,511	29,661	21,603	42,051
4-year	26,618	70,941	60,257	47,761	16,836	20,910	14,018
2-year	38,274	31,077	†	24,000	33,578	23,602	52,933
Private not-for-profit	24,631	43,856	40,328	27,494	14,414	9,599	29,405
4-year	24,610	43,835	40,328	27,338	14,414	9,599	30,226
2-year	26,020	45,219	40,310	39,223	†	†	15,038
Private for-profit	23,792	†	†	†	23,765	†	31,784
4-year	28,404	†	†	†	28,404	†	†
2-year	21,246	†	†	†	21,191	†	31,784
Men, total	32,467	53,189	49,662	39,566	28,197	17,282	40,508
4-year	28,587	53,302	49,662	39,569	19,869	16,090	21,212
2-year	37,765	45,219	†	39,223	32,519	23,243	54,167
Public	35,844	73,150	62,261	48,642	30,672	22,011	43,544
4-year	29,764	73,150	62,261	48,642	15,458	21,570	13,532
2-year	40,587	†	†	†	35,250	23,243	55,341
Private not-for-profit	27,127	46,221	38,862	28,167	14,423	9,139	28,893
4-year	27,176	46,240	38,862	27,904	14,423	9,139	30,216
2-year	24,674	45,219	†	39,223	†	†	13,546
Private for-profit	26,375	†	†	†	26,375	†	†
4-year	29,475	†	†	†	29,475	†	†
2-year	24,220	†	†	†	24,220	†	†
Women, total	27,794	39,304	49,475	37,368	25,606	18,322	38,346
4-year	22,423	39,774	49,892	37,551	18,148	17,053	21,667
2-year	33,546	31,077	40,310	24,000	29,172	23,911	49,833
Public	30,749	53,000	54,790	46,021	28,744	21,267	40,304
4-year	23,231	59,264	54,790	46,572	18,060	20,375	14,598
2-year	36,031	31,077	†	24,000	32,050	23,911	50,138
Private not-for-profit	20,877	34,901	44,603	26,616	14,407	10,206	30,078
4-year	20,798	34,901	44,993	26,616	14,407	10,206	30,239
2-year	31,405	†	40,310	†	†	†	22,500
Private for-profit	19,961	†	†	†	19,862	†	31,784
4-year	26,033	†	†	†	26,033	†	†
2-year	17,658	†	†	†	17,493	†	31,784

† Not applicable. There are no faculty members in this cell.
[1]Includes faculty at institutions without standard academic ranks.
NOTE: Full-time instructional faculty are those members of the instruction/research staff who are employed full time and whose major regular assignment is instruction, including those with released time for research. Full-time instructional faculty also include full-time faculty for whom it is not possible to differentiate among teaching, research, and public service because each of these functions is an integral component of their regular assignment.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Salaries component.

Table 10. Average salaries of full-time instructional faculty on 9/10-month contracts at Title IV degree-granting institutions, by academic rank, gender, and control and level of institution: United States, academic year 2003–04

Gender and control and level of institution	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank[1]
Total	$62,615	$85,352	$61,744	$51,808	$49,076	$43,689	$47,746
4-year	65,355	87,930	62,677	52,418	38,291	43,815	47,340
2-year	52,890	62,775	52,485	46,107	55,129	41,059	47,836
Public	60,912	82,329	61,196	51,701	50,604	42,539	47,563
4-year	64,398	85,843	62,545	52,626	37,611	42,627	43,899
2-year	53,080	62,943	52,736	46,297	55,359	41,120	47,937
Private not-for-profit	66,817	91,313	62,783	52,025	39,411	47,621	49,837
4-year	67,042	91,439	62,894	52,098	39,651	47,643	50,876
2-year	36,841	44,089	39,238	36,686	33,047	33,028	36,442
Private for-profit	38,818	52,031	54,120	41,855	32,326	19,256	41,106
4-year	40,506	52,504	60,858	44,977	31,119	19,256	41,106
2-year	33,584	32,180	36,599	33,427	33,489	†	†
Men, total	67,509	88,254	63,465	53,660	50,997	46,273	48,977
4-year	70,391	90,126	64,243	54,263	39,422	46,463	49,078
2-year	54,436	64,739	53,539	47,010	56,545	41,294	48,952
Public	65,508	85,207	62,952	53,534	52,647	44,687	48,707
4-year	69,290	87,763	64,075	54,445	38,935	44,857	45,311
2-year	54,630	64,888	53,804	47,203	56,785	41,329	49,057
Private not-for-profit	72,143	94,068	64,436	53,906	40,012	51,403	51,568
4-year	72,341	94,149	64,528	53,973	40,380	51,414	52,542
2-year	36,231	45,788	38,171	34,479	30,468	31,000	37,959
Private for-profit	39,887	54,625	56,867	40,069	31,902	†	42,445
4-year	41,602	54,625	59,446	41,833	32,605	†	42,445
2-year	31,164	†	38,817	33,013	30,857	†	†
Women, total	55,425	76,749	59,093	49,696	47,414	41,562	46,555
4-year	56,965	80,505	60,134	50,245	37,478	41,598	45,367
2-year	51,410	60,486	51,508	45,344	53,771	40,925	46,794
Public	54,445	74,153	58,500	49,595	48,813	40,803	46,494
4-year	56,183	79,186	59,989	50,426	36,712	40,789	42,558
2-year	51,592	60,671	51,742	45,525	53,988	40,999	46,892
Private not-for-profit	58,106	82,407	60,226	49,906	38,936	44,298	47,630
4-year	58,330	82,644	60,360	49,979	39,076	44,323	48,723
2-year	37,354	42,536	40,111	38,082	35,168	33,434	34,796
Private for-profit	37,711	48,064	51,922	42,309	32,734	19,256	38,721
4-year	39,096	49,057	62,507	45,875	28,907	19,256	38,721
2-year	34,848	32,180	36,045	33,500	35,153	†	†

† Not applicable. There are no faculty members in this cell.
[1]Includes faculty at institutions without standard academic ranks.
NOTE: Full-time instructional faculty are those members of the instruction/research staff who are employed full time and whose major regular assignment is instruction, including those with released time for research. Full-time instructional faculty also include full-time faculty for whom it is not possible to differentiate among teaching, research, and public service because each of these functions is an integral component of their regular assignment.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Salaries component.

Table 11. Average salaries of full-time instructional faculty on 11/12-month contracts at Title IV degree-granting institutions, by academic rank, gender, and control and level of institution: United States, academic year 2003–04

Gender and control and level of institution	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank[1]
Total	$70,631	$101,396	$77,347	$67,680	$45,840	$52,793	$50,566
4-year	78,212	104,682	79,044	68,750	46,622	54,635	53,215
2-year	47,513	60,590	55,227	50,128	45,373	40,121	47,261
Public	78,203	108,051	81,097	69,225	51,920	53,224	55,565
4-year	86,991	112,547	83,823	71,009	49,467	54,187	59,158
2-year	54,203	64,206	57,364	51,394	52,747	44,958	53,249
Private not-for-profit	70,841	92,142	73,092	66,261	47,244	57,122	48,123
4-year	72,022	92,235	73,320	66,557	48,647	57,120	48,689
2-year	42,562	53,427	45,422	38,230	42,227	57,138	39,932
Private for-profit	41,172	56,622	50,950	50,601	38,735	26,169	42,633
4-year	47,894	62,724	54,368	51,537	42,976	41,710	51,255
2-year	35,752	41,224	34,113	41,386	36,310	19,602	31,596
Men, total	76,198	104,711	79,863	70,362	45,539	54,962	51,900
4-year	83,953	107,265	81,451	71,420	45,896	57,903	55,327
2-year	47,562	60,809	54,884	50,655	45,323	37,845	47,462
Public	85,519	111,549	84,097	72,559	51,568	55,418	57,783
4-year	94,140	114,821	86,514	74,406	49,475	57,034	63,182
2-year	54,352	65,109	57,726	51,686	52,169	45,592	54,177
Private not-for-profit	75,068	94,188	75,031	68,302	45,594	61,280	50,039
4-year	76,168	94,246	75,180	68,514	46,602	61,589	50,669
2-year	41,941	45,121	43,823	38,547	42,264	52,400	37,815
Private for-profit	42,890	58,141	51,772	51,563	40,663	16,819	42,654
4-year	48,790	64,275	55,867	52,257	43,876	40,886	51,224
2-year	37,594	41,713	34,239	40,387	38,579	10,031	31,444
Women, total	61,835	89,356	73,028	64,772	46,183	50,310	49,114
4-year	68,009	94,306	74,772	65,812	47,475	51,072	50,835
2-year	47,457	60,289	55,614	49,675	45,430	43,778	47,052
Public	66,508	94,442	75,875	65,493	52,221	50,649	53,280
4-year	73,216	102,230	78,856	67,121	49,461	51,130	54,827
2-year	54,055	63,042	56,975	51,132	53,280	43,235	52,318
Private not-for-profit	64,467	85,348	69,919	64,209	48,919	52,623	46,145
4-year	65,639	85,525	70,248	64,577	50,650	51,739	46,574
2-year	43,140	58,410	46,327	38,068	42,184	58,445	41,259
Private for-profit	38,338	52,985	49,075	48,042	35,556	35,335	42,606
4-year	46,156	58,794	51,209	49,331	41,122	42,187	51,295
2-year	33,070	40,206	33,665	42,242	32,997	31,267	31,784

[1]Includes faculty at institutions without standard academic ranks.

NOTE: Full-time instructional faculty are those members of the instruction/research staff who are employed full time and whose major regular assignment is instruction, including those with released time for research. Full-time instructional faculty also include full-time faculty for whom it is not possible to differentiate among teaching, research, and public service because each of these functions is an integral component of their regular assignment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Salaries component.

Table 12. Fringe benefits of full-time instructional faculty at Title IV degree-granting institutions, by contract length and control of institution: United States, academic year 2003–04

Control of institution and fringe benefits	9/10-month contracts		11/12-month contracts	
	Number covered	Average expenditures	Number covered	Average expenditures
Total				
Retirement plan (vested within 5 years)[1]	286,209	$6,178	52,141	$6,550
Retirement plan (vested after 5 years)[1]	123,718	5,280	23,949	6,143
Medical/dental plans	401,120	5,915	76,593	5,460
Group life insurance	336,180	215	64,450	570
Other insurance benefits	38,808	950	10,583	1,901
Guaranteed disability income protection	262,734	262	45,431	413
Tuition plan (dependents only)	56,146	3,504	9,407	3,022
Housing plan	1,865	6,101	629	8,904
Social Security taxes	391,057	4,240	78,775	4,473
Unemployment compensation	298,692	192	63,303	289
Worker's compensation	340,874	438	70,279	558
Other benefits in kind with cash options	34,979	1,451	6,231	1,640
Public				
Retirement plan (vested within 5 years)[1]	175,710	6,062	28,357	7,387
Retirement plan (vested after 5 years)[1]	118,219	5,329	19,252	6,893
Medical/dental plans	287,509	6,121	44,976	5,608
Group life insurance	220,305	206	34,199	258
Other insurance benefits	26,335	902	5,570	2,675
Guaranteed disability income protection	155,960	263	24,260	347
Tuition plan (dependents only)	34,553	1,022	3,070	1,597
Housing plan	4	4,589	3	11,276
Social Security taxes	267,621	4,043	44,125	4,738
Unemployment compensation	216,515	174	36,932	151
Worker's compensation	229,303	429	39,634	456
Other benefits in kind with cash options	18,526	1,334	4,166	1,807
Private not-for-profit				
Retirement plan (vested within 5 years)[1]	110,241	6,374	18,901	6,581
Retirement plan (vested after 5 years)[1]	5,440	4,260	2,730	3,644
Medical/dental plans	113,305	5,398	21,901	5,924
Group life insurance	115,679	230	20,471	1,164
Other insurance benefits	12,401	1,049	3,206	1,192
Guaranteed disability income protection	106,636	259	16,422	478
Tuition plan (dependents only)	21,559	7,487	5,637	3,676
Housing plan	1,861	6,104	626	8,892
Social Security taxes	122,945	4,675	22,920	4,663
Unemployment compensation	81,848	239	15,709	455
Worker's compensation	111,223	458	20,185	688
Other benefits in kind with cash options	16,440	1,582	1,723	1,375
Private for-profit				
Retirement plan (vested within 5 years)[1]	258	1,504	4,883	1,575
Retirement plan (vested after 5 years)[1]	59	994	1,967	2,271
Medical/dental plans	306	4,307	9,716	3,733
Group life insurance	196	1,056	9,780	418
Other insurance benefits	72	1,466	1,807	771
Guaranteed disability income protection	138	170	4,749	529
Tuition plan (dependents only)	34	1,527	700	3,998
Housing plan	0	0	0	0
Social Security taxes	491	2,941	11,730	3,105
Unemployment compensation	329	338	10,662	525
Worker's compensation	348	344	10,460	694
Other benefits in kind with cash options	13	4,061	342	934

[1]The retirement plan does not include Social Security.

NOTE: Full-time instructional faculty are those members of the instruction/research staff who are employed full time and whose major regular assignment is instruction, including those with released time for research. Full-time instructional faculty also include full-time faculty for whom it is not possible to differentiate among teaching, research, and public service because each of these functions is an integral component of their regular assignment. Institutions responding to the Salaries survey reported 432,046 full-time instructional faculty on 9/10-month contracts and 89,153 on 11/12-month contracts. Fringe benefits data are not collected for faculty on less-than-9-month contracts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2003–04, Salaries component.

2004 National Study of Postsecondary Faculty (NSOPF:04) Report on Faculty and Instructional Staff in Fall 2003

Emily Forrest Cataldi, Mansour Fahimi, and Ellen M. Bradburn

This article was originally published as the Introduction and Selected Results of the E.D. TAB of the same name. The sample survey data are from the National Study of Postsecondary Faculty (NSOPF).

Introduction

This is the first E.D. TAB based on the 2004 National Study of Postsecondary Faculty (NSOPF:04), which describes faculty and instructional staff in public and private not-for-profit postsecondary institutions offering an associate's or higher degree in fall 2003. The employment status, race/ethnicity, gender, tenure status, and compensation of faculty and instructional staff are presented by institution type[1] and program area.[2]

The faculty[3] component of the NSOPF:04 is the fourth data collection of postsecondary faculty and instructional staff at degree-granting institutions, following administrations of NSOPF in 1987–88, 1992–93, and 1998–99. NSOPF:04 is based on survey data collected from a nationally representative sample of about 35,000 faculty and instructional staff, using a web-based questionnaire that was either self-administered or conducted via telephone with a trained interviewer. Completed interviews were obtained from about 26,100 faculty and instructional staff, for a weighted response rate for the faculty component of 76 percent.[4] The survey respondents represent an estimated 1.2 million faculty and instructional staff in the 50 states and the District of Columbia. The population of faculty and instructional staff included instructional faculty, staff with instructional responsibilities, and faculty with no instructional responsibilities. Tables in this E.D. TAB include all survey respondents: instructional faculty, faculty with no instructional responsibilities (e.g., researchers with faculty appointments), and staff with instructional responsibilities regardless of faculty status. All comparisons made in the text were tested using Student's *t* statistic, and all differences cited were statistically significant at the .05 level.

NSOPF:04 covers a wide range of topics pertaining to faculty and instructional staff. The faculty questionnaire focused on the fall 2003 term, and included items relating to the nature of employment, academic and professional background, instructional responsibilities and workload, scholarly activities, job satisfaction and opinions, compensation, and sociodemographic characteristics.

Selected Results

- Among faculty and instructional staff in all institution types, 56 percent were employed full time and 44 percent were employed part time in fall 2003 (table 1).
- About two-thirds (67 percent) of faculty employed in public associate's institutions reported working part time, compared with 22 to 55 percent of faculty at other types of institutions (table 1).
- The largest proportion of full-time faculty and instructional staff were White (80 percent), compared with Asian/Pacific Islander (9 percent), Black (5 percent), Hispanic (3 percent), and other racial/ethnic groups (2 percent) (table 2).
- Full-time faculty and instructional staff in agriculture/home economics and fine arts were more likely to be White (88 percent) than faculty and instructional staff in business, education, engineering, health sciences, humanities, natural sciences, and social sciences (69–83 percent) (table 2).
- Asian/Pacific Islander faculty represented a larger proportion of full-time (table 2) than part-time faculty (table 3). Nine percent of full-time faculty were Asian/Pacific Islander, compared with 4 percent of those employed part time.
- Full-time faculty and instructional staff were more likely to be male than female in fall 2003: 62 percent were male and 38 percent were female (table 4).
- Full-time faculty and instructional staff at public doctoral and private not-for-profit doctoral institutions were less likely to be female (32–33 percent) than those at public master's, private not-for-profit baccalaureate, and other institutions (41 percent each);

[1] Type of institution is derived from the 2000 Carnegie Classification. See the glossary (appendix A in the full report) for more details.

[2] See appendix A in the full report for detailed descriptions of the teaching disciplines included in each program area.

[3] The terms "faculty" and "faculty and instructional staff" are used interchangeably in this E.D. TAB. Teaching and research assistants are not included in NSOPF.

[4] See the technical notes (appendix B in the full report) for more information on response rates and nonresponse bias analysis.

private not-for-profit master's institutions (43 percent); and public associate's institutions (50 percent) (table 4).

- Gender differences in program area were apparent among full-time faculty and instructional staff at 4-year institutions (table 4). Male-dominated fields included engineering (90 percent were male, 10 percent were female), the natural sciences (77 percent were male, 23 percent were female), and business (73 percent were male, 27 percent were female). Education was the only program area with a larger proportion of women than men (58 percent were female, 42 percent were male).
- Women represented a larger proportion of part-time (table 5) than full-time faculty (table 4). Forty-eight percent of part-time faculty and instructional staff were women, compared with 38 percent who worked full time.
- The largest proportion of faculty and instructional staff employed full time in all institutions held tenure in fall 2003 (48 percent). Another 24 percent were not on the tenure track, compared with 21 percent who were on the tenure track and 8 percent who were employed in institutions that did not have a tenure system (table 6).
- The largest proportion of part-time faculty and instructional staff were not on the tenure track (86 percent), compared with 3 percent who were tenured, 2 percent who were on the tenure track, and 9 percent whose institutions had no tenure system (table 7).
- The average total income for the 2003 calendar year among full-time faculty and instructional staff was $81,200. This includes an average of $67,400 in basic salary from the institution, $5,000 in other income from the institution, $2,200 in outside consulting income, and $6,600 in other outside income[5] (table 8).
- Health sciences faculty and instructional staff employed full time in 4-year institutions earned an average income of $116,600, the highest total income in 2003 compared with their peers in other program areas (table 8). In 2003, faculty and instructional staff in engineering earned $100,800, those in business earned $99,200, and those in other program areas earned between $66,000 and $86,000.
- Faculty and instructional staff employed part time had lower total incomes (table 9) than those who worked full time (table 8). However, outside income other than consulting income for faculty employed part time averaged $37,500, compared with $6,600 for those who were employed full time.

Data source: The NCES 2004 National Study of Postsecondary Faculty (NSOPF:04).

For technical information, see the complete report:

Forrest Cataldi, E., Fahimi, M., and Bradburn, E.M. (2005). *2004 National Study of Postsecondary Faculty (NSOPF:04) Report on Faculty and Instructional Staff in Fall 2003* (NCES 2005-172).

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To obtain the complete report (NCES 2005-172), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

[5]These estimates include all full-time faculty and instructional staff, regardless of whether they earned a particular type of income for the 2003 calendar year. About 50 percent of faculty earned income from the institution other than basic salary, 30 percent earned consulting income, and 52 percent earned income from outside the institution other than consulting income for the 2003 calendar year. Among those full-time faculty who earned a particular type of income in 2003, the average amount earned was $10,000 for income from the institution other than basic salary, $7,400 for consulting income, and $12,600 for income from outside the institution other than consulting income. (NSOPF:04 Data Analysis System. Not shown in tables.)

Table 1. Percentage distribution of all faculty and instructional staff, by employment status, institution type, and program area: Fall 2003

Institution type and program area	Employment status	
	Full time	Part time
All institutions[1]	56.3	43.7
Public doctoral[2]	77.8	22.2
Private not-for-profit doctoral[2]	68.7	31.4
Public master's	63.3	36.7
Private not-for-profit master's	45.1	54.9
Private not-for-profit baccalaureate	63.2	36.8
Public associate's	33.3	66.7
Other[3]	49.3	50.8
All program areas in 4-year institutions	66.1	33.9
Agriculture/home economics	78.4	21.6
Business	54.0	46.0
Education	51.3	48.7
Engineering	78.2	21.8
Fine arts	53.0	47.0
Health sciences	69.7	30.3
Humanities	65.4	34.6
Natural sciences	76.5	23.5
Social sciences	70.3	29.7
All other fields	62.6	37.4

[1]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[2]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[3]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 2. Percentage distribution of all full-time faculty and instructional staff, by race/ethnicity, institution type, and program area: Fall 2003

Institution type and program area	Race/ethnicity[1]				
	White	Black	Asian/Pacific Islander	Hispanic	Other
All institutions[2]	80.3	5.5	8.7	3.5	2.1
Public doctoral[3]	78.9	4.0	12.2	3.0	2.0
Private not-for-profit doctoral[3]	78.2	4.6	12.3	3.3	1.6
Public master's	78.1	8.6	7.2	3.7	2.4
Private not-for-profit master's	85.6	4.7	5.5	2.4	1.9
Private not-for-profit baccalaureate	85.7	6.6	3.4	2.2	2.0
Public associate's	80.7	6.9	4.0	5.9	2.5
Other[4]	86.7	4.5	5.5	1.8	1.6
All program areas in 4-year institutions	80.3	5.1	9.7	3.0	2.0
Agriculture/home economics	87.8	2.1	6.1	2.5	1.5
Business	76.9	4.3	13.9	1.9	3.1
Education	83.1	6.6	4.1	3.3	2.9
Engineering	69.3	4.9	21.7	2.4	1.8
Fine arts	87.5	6.2	2.9	2.2	1.2
Health sciences	78.4	4.6	11.7	3.0	2.3
Humanities	83.1	4.9	5.3	4.4	2.3
Natural sciences	77.1	3.4	15.7	2.6	1.3
Social sciences	81.5	7.4	5.1	4.0	2.0
All other fields	84.5	7.3	3.9	2.4	1.9

[1]Black includes African American, Asian/Pacific Islander includes Native Hawaiian, Hispanic includes Latino, and Other includes American Indian/Alaska Native and those who selected more than one race. Race categories exclude Hispanic origin unless specified.
[2]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[3]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[4]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All full-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed full time by their institutions. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 3. Percentage distribution of all part-time faculty and instructional staff, by race/ethnicity, institution type, and program area: Fall 2003

Institution type and program area	Race/ethnicity[1]				
	White	Black	Asian/Pacific Islander	Hispanic	Other
All institutions[2]	85.2	5.5	3.6	3.5	2.2
Public doctoral[3]	83.6	3.2	7.7	3.6	2.0
Private not-for-profit doctoral[3]	87.7	3.6	5.2	2.4	1.1
Public master's	87.2	4.7	2.6	3.2	2.4
Private not-for-profit master's	90.0	3.5	1.9	2.6	2.0
Private not-for-profit baccalaureate	87.5	7.2	2.7	1.5	1.1
Public associate's	83.7	6.8	2.7	4.4	2.4
Other[4]	83.8	6.8	4.0	2.3	3.1
All program areas in 4-year institutions	86.5	4.5	4.3	2.8	2.0
Agriculture/home economics	89.7	4.2	#	#	6.1
Business	89.3	5.0	2.7	1.3	1.7
Education	89.0	4.4	1.2	3.7	1.6
Engineering	80.8	1.8	13.2	1.3	2.9
Fine arts	89.2	2.9	2.2	2.5	3.2
Health sciences	85.0	3.0	9.0	2.0	1.0
Humanities	85.6	4.3	3.7	4.6	1.7
Natural sciences	84.3	3.4	8.4	2.1	1.7
Social sciences	85.1	6.0	3.0	2.8	3.3
All other fields	85.8	7.5	2.2	3.1	1.4

Rounds to zero.
[1]Black includes African American, Asian/Pacific Islander includes Native Hawaiian, Hispanic includes Latino, and Other includes American Indian/Alaska Native and those who selected more than one race. Race categories exclude Hispanic origin unless specified.
[2]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[3]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[4]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All part-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed part time by their institutions. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 4. Percentage distribution of all full-time faculty and instructional staff, by gender, institution type,and program area: Fall 2003

Institution type and program area	Gender	
	Male	Female
All institutions[1]	61.7	38.3
Public doctoral[2]	67.4	32.7
Private not-for-profit doctoral[2]	68.4	31.6
Public master's	59.0	41.0
Private not-for-profit master's	57.3	42.7
Private not-for-profit baccalaureate	59.1	40.9
Public associate's	50.4	49.6
Other[3]	58.7	41.3
All program areas in 4-year institutions	64.1	35.9
Agriculture/home economics	63.9	36.1
Business	72.6	27.4
Education	41.7	58.3
Engineering	90.5	9.5
Fine arts	62.6	37.4
Health sciences	52.0	48.0
Humanities	59.0	41.0
Natural sciences	77.1	22.9
Social sciences	64.3	35.7
All other fields	58.7	41.3

[1]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[2]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[3]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All full-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed full time by their institutions. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 5. Percentage distribution of all part-time faculty and instructional staff, by gender, institution type, and program area: Fall 2003

Institution type and program area	Gender	
	Male	Female
All institutions[1]	52.1	48.0
Public doctoral[2]	50.2	49.8
Private not-for-profit doctoral[2]	58.7	41.3
Public master's	50.1	49.9
Private not-for-profit master's	53.5	46.5
Private not-for-profit baccalaureate	50.6	49.4
Public associate's	50.9	49.2
Other[3]	56.8	43.2
All program areas in 4-year institutions	52.9	47.1
Agriculture/home economics	35.6	64.4
Business	74.4	25.6
Education	34.2	65.8
Engineering	89.8	10.2
Fine arts	52.4	47.6
Health sciences	41.2	58.8
Humanities	43.9	56.1
Natural sciences	60.3	39.7
Social sciences	60.2	39.8
All other fields	57.8	42.2

[1]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[2]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[3]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All part-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed part time by their institutions. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 6. Percentage distribution of all full-time faculty and instructional staff, by tenure status, institution type, and program area: Fall 2003

Institution type and program area	Tenure status			
	Tenured	On tenure track	Not on tenure track	No tenure system at institution
All institutions[1]	47.5	20.6	23.7	8.3
Public doctoral[2]	49.3	19.4	30.3	0.9
Private not-for-profit doctoral[2]	43.4	19.3	32.7	4.7
Public master's	53.9	27.6	17.6	0.9
Private not-for-profit master's	42.0	27.4	22.2	8.3
Private not-for-profit baccalaureate	42.7	24.4	22.7	10.2
Public associate's	48.5	15.5	10.1	25.9
Other[3]	39.8	16.8	19.4	24.1
All program areas in 4-year institutions	47.4	21.7	26.5	4.5
Agriculture/home economics	55.1	19.6	22.5	2.8
Business	52.2	26.1	17.3	4.3
Education	36.1	24.7	32.6	6.6
Engineering	59.1	22.7	15.4	2.8
Fine arts	46.0	24.6	17.9	11.6
Health sciences	29.7	19.4	44.1	6.8
Humanities	52.5	22.5	22.2	2.9
Natural sciences	53.5	19.9	24.0	2.6
Social sciences	56.6	24.1	16.2	3.1
All other fields	44.6	20.7	30.7	4.0

[1]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[2]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[3]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All full-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed full time by their institutions. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 7. Percentage distribution of all part-time faculty and instructional staff, by tenure status, institution type, and program area: Fall 2003

Institution type and program area	Tenure status			
	Tenured	On tenure track	Not on tenure track	No tenure system at institution
All institutions[1]	3.0	1.5	86.1	9.4
Public doctoral[2]	5.6	1.9	91.5	1.0
Private not-for-profit doctoral[2]	2.7	1.1	91.7	4.5
Public master's	4.3	1.0	91.9	2.8
Private not-for-profit master's	0.9	1.3	92.4	5.5
Private not-for-profit baccalaureate	3.3	1.5	86.4	8.8
Public associate's	2.6	1.8	82.7	12.9
Other[3]	2.2	0.6	74.2	23.0
All program areas in 4-year institutions	3.3	1.3	88.9	6.5
Agriculture/home economics	3.1	3.2	93.3	0.4
Business	1.2	0.3	84.6	13.9
Education	2.4	1.5	91.2	4.9
Engineering	8.0	#	92.0	#
Fine arts	1.2	1.1	89.4	8.2
Health sciences	4.0	3.2	82.6	10.2
Humanities	5.1	0.8	90.6	3.6
Natural sciences	5.4	1.2	88.5	4.9
Social sciences	3.2	1.7	89.3	5.8
All other fields	2.1	0.5	92.8	4.7

#Rounds to zero.
[1]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[2]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[3]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All part-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed part time by their institutions. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 8. Average income of all full-time faculty and instructional staff, by source of income, institution type, and program area: 2003

Institution type and program area	Total earned income	Source of income			
		Basic salary from institution	Other income from institution	Outside consulting income	Other outside income[1]
All institutions[2]	$81,200	$67,400	$5,000	$2,200	$6,600
Public doctoral[3]	91,100	76,300	5,700	2,600	6,400
Private not-for-profit doctoral[3]	107,600	87,500	6,500	3,700	9,800
Public master's	69,200	58,300	4,200	1,500	5,300
Private not-for-profit master's	71,200	57,700	4,000	2,100	7,400
Private not-for-profit baccalaureate	64,400	54,700	2,700	1,200	5,700
Public associate's	63,900	52,600	4,900	1,100	5,200
Other[4]	66,700	55,100	3,000	2,100	6,500
All program areas in 4-year institutions	84,800	70,500	5,000	2,400	6,800
Agriculture/home economics	75,800	66,300	2,600	1,900	5,000
Business	99,200	78,700	8,000	3,900	8,700
Education	71,100	58,000	4,700	1,800	6,700
Engineering	100,800	80,100	8,300	4,900	7,400
Fine arts	66,000	53,400	2,800	2,900	6,800
Health sciences	116,600	96,900	5,800	2,900	10,900
Humanities	66,700	57,700	3,100	1,100	4,800
Natural sciences	86,000	73,300	5,300	1,900	5,500
Social sciences	82,300	67,400	5,700	2,500	6,600
All other fields	74,700	61,200	4,300	2,600	6,600

[1]Includes income from employment at another academic institution, income from any other employment (except consulting), and income from other sources (e.g., investment income, royalties/commissions, pensions, real estate, loans, alimony, or child support).
[2]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[3]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[4]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All full-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed full time by their institutions. All faculty and instructional staff are included in averages, regardless of whether they had that type of income. Income is for the 2003 calendar year for faculty and instructional staff employed in the fall of 2003. Income excludes all reported nonmonetary income. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Table 9. Average income of all part-time faculty and instructional staff, by source of income, institution type, and program area: 2003

Institution type and program area	Total earned income	Source of income			
		Basic salary from institution	Other income from institution	Outside consulting income	Other outside income[1]
All institutions[2]	$52,500	$11,200	$900	$2,900	$37,500
Public doctoral[3]	65,000	18,900	1,500	3,500	41,100
Private not-for-profit doctoral[3]	74,100	16,300	1,100	5,100	51,600
Public master's	47,100	10,400	800	2,200	33,700
Private not-for-profit master's	58,300	9,300	700	3,900	44,400
Private not-for-profit baccalaureate	53,200	10,300	800	3,200	38,900
Public associate's	43,800	9,000	700	2,200	31,900
Other[4]	58,200	9,200	1,200	3,300	44,400
All program areas in 4-year institutions	59,600	13,000	1,100	3,500	42,000
Agriculture/home economics	45,700	11,900	1,200	2,600	30,000
Business	81,500	10,300	1,000	5,200	65,000
Education	58,300	10,400	1,100	2,100	44,800
Engineering	70,000	15,900	1,600	4,200	48,400
Fine arts	43,300	9,900	900	5,500	26,900
Health sciences	80,600	24,600	1,500	4,200	50,300
Humanities	38,200	11,400	1,000	1,300	24,500
Natural sciences	54,900	14,300	1,200	2,900	36,400
Social sciences	57,700	12,000	1,200	3,700	40,800
All other fields	65,900	9,800	600	4,100	51,300

[1]Includes income from employment at another academic institution, income from any other employment (except consulting), and income from other sources (e.g., investment income, royalties/commissions, pensions, real estate, loans, alimony, or child support).
[2]All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.
[3]Doctoral includes research/doctoral institutions, and specialized medical schools and medical centers as classified by the 2000 Carnegie Classification.
[4]Public baccalaureate, private not-for-profit associate's, and other specialized institutions, except medical schools and medical centers.
NOTE: All part-time faculty and instructional staff includes all faculty (regardless of whether they had instructional responsibilities) and all other instructional staff employed part time by their institutions. All faculty and instructional staff are included in averages, regardless of whether they had that type of income. Income is for the 2003 calendar year for faculty and instructional staff employed in the fall of 2003. Income excludes all reported nonmonetary income. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Study of Postsecondary Faculty (NSOPF:04).

Institutional Characteristics

Postsecondary Institutions in the United States: Fall 2003 and Degrees and Other Awards Conferred: 2002–03

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This article was originally published as the Introduction and Selected Findings of the E.D. TAB of the same name. The universe data are from the Integrated Postsecondary Education Data System (IPEDS).

The Integrated Postsecondary Education Data System (IPEDS) is designed to collect data from postsecondary institutions in the United States (the 50 states and the District of Columbia) and other jurisdictions, such as Puerto Rico.[1] 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.

Prior to the inception of IPEDS, the National Center for Education Statistics (NCES) collected data from approximately 3,600 institutions of higher education through its Higher Education General Information Survey (HEGIS) program. HEGIS was conducted from 1966 until 1985, when NCES expanded its collection to include all postsecondary institutions.

IPEDS 2003–04

Participation in IPEDS was a requirement for the 6,568 institutions that participated in Title IV federal student financial aid programs (such as Pell Grants or Stafford Loans) during the 2003–04 academic year.[2] Title IV schools include traditional colleges and universities, 2-year institutions, and for-profit degree- and non-degree-granting institutions (such as schools of cosmetology), among others. In addition, the four U.S. service academies are included in IPEDS as if they were Title IV institutions. In fall 2003, IPEDS requested minimal data from 83 administrative (central and system) offices, through a shortened version of the Institutional Characteristics component. These offices are also required to provide Fall Staff and Finance data. Institutions that do not participate in Title IV programs may participate in the IPEDS data collection on a voluntary basis.

Focus of This Report

Tabulations in this report present selected data items collected in fall 2003 from the 6,568 Title IV institutions (6,412 Title IV institutions in the United States and 156 Title IV institutions in the other jurisdictions). Additional detailed information is available through the various IPEDS web tools.[3] Institutions provided institutional characteristics and price data for the 2003–04 academic year and completions data (degrees, certificates, and other formal awards conferred) for the 2002–03 academic year. This report presents data for all Title IV institutions.

Selected Findings

Institutional Characteristics

The Institutional Characteristics component of IPEDS collects and maintains information used 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.

In addition, this component collects data on tuition and fees (by level of program: undergraduate, graduate, and first-professional) and room and board charges. Price of attendance is also collected for full-time, first-time degree- or certificate-seeking students. For schools that charge by program (e.g., for a 1,500-hour cosmetology program), tuition and fees data are collected for the entire program, not for an academic year.

[1]The other jurisdictions surveyed in IPEDS are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

[2]Institutions participating in Title IV programs are accredited by an agency or organization recognized by the Secretary of 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.

[3]See http://nces.ed.gov/ipeds.

Selected findings are presented below for the 2003–04 academic year.

Basic characteristics

- A total of 4,236 institutions, or 66 percent of the 6,412 Title IV institutions in the United States, were classified as degree-granting during the 2003–04 academic year (table 1 and figure 1).
- Among the 4,236 Title IV degree-granting institutions in the United States, 60 percent were classified as 4 years and above, meaning they offered a bachelor's or higher degree; the remaining 40 percent were classified as at least 2 but less than 4 years and offered the associate's as the highest degree (table 1 and figure 2).
- Of the 2,176 non-degree-granting Title IV institutions in the United States (those that award certificates only), 77 percent offered certificates for completing programs of less than 2 years' duration; 22 percent offered certificates for completing programs of at least 2 but less than 4 years' duration; and 1 percent offered certificates at the postbaccalaureate level or higher and are classified with 4-year-and-above institutions (table 1 and figure 2).
- About 41 percent of the 4,236 Title IV degree-granting institutions in the United States were public, 39 percent were private not-for-profit, and 20 percent were private for-profit (table 1 and figure 2). Among the 2,176 Title IV non-degree-granting institutions in the United States, 15 percent were public, 11 percent were private not-for-profit, and 74 percent were private for-profit.

Tuition and fees at degree-granting institutions

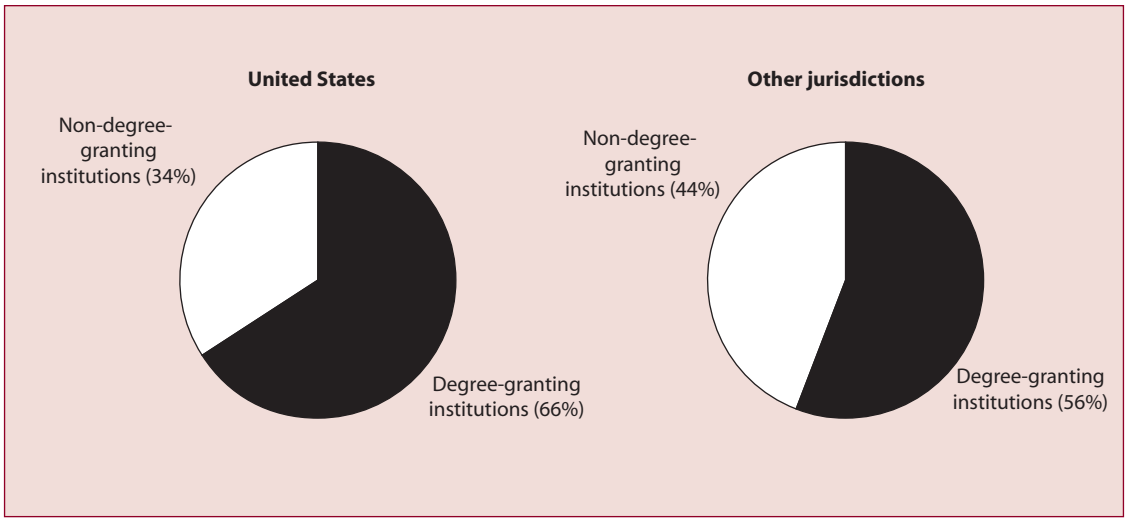
- Between 1998–99 and 2003–04, average charges for undergraduate tuition and required fees at 4-year public institutions rose 41 percent for in-state students and 35 percent for out-of-state students (table 2). During the same period, average undergraduate

Table 1. Title IV institutions and administrative offices, by geographic area, control of institution, degree-granting status, and level of institution/office: United States and other jurisdictions, academic year 2003–04

	United States				Other jurisdictions			
		Private				Private		
Degree-granting status and level of institution/office	Total	Total	Public	Not-for-profit	For-profit	Total	Public	Not-for-profit	For-profit
Institutions	6,568	6,412	2,047	1,913	2,452	156	29	49	78
4 years and above	2,612	2,550	635	1,564	351	62	18	37	7
At least 2 but less than 4 years	2,204	2,178	1,162	233	783	26	11	4	11
Less than 2 years	1,752	1,684	250	116	1,318	68	0	8	60
Degree-granting	4,323	4,236	1,720	1,664	852	87	29	41	17
4 years and above	2,592	2,530	634	1,546	350	62	18	37	7
At least 2 but less than 4 years	1,731	1,706	1,086	118	502	25	11	4	10
Less than 2 years	†	†	†	†	†	†	†	†	†
Non-degree-granting	2,245	2,176	327	249	1,600	69	0	8	61
4 years and above	20	20	1	18	1	0	0	0	0
At least 2 but less than 4 years	473	472	76	115	281	1	0	0	1
Less than 2 years	1,752	1,684	250	116	1,318	68	0	8	60
Administrative offices[1]	83	80	69	6	5	3	1	2	0
4 years and above	48	45	38	5	2	3	1	2	0
At least 2 but less than 4 years	31	31	31	0	0	0	0	0	0
Less than 2 years	4	4	0	1	3	0	0	0	0

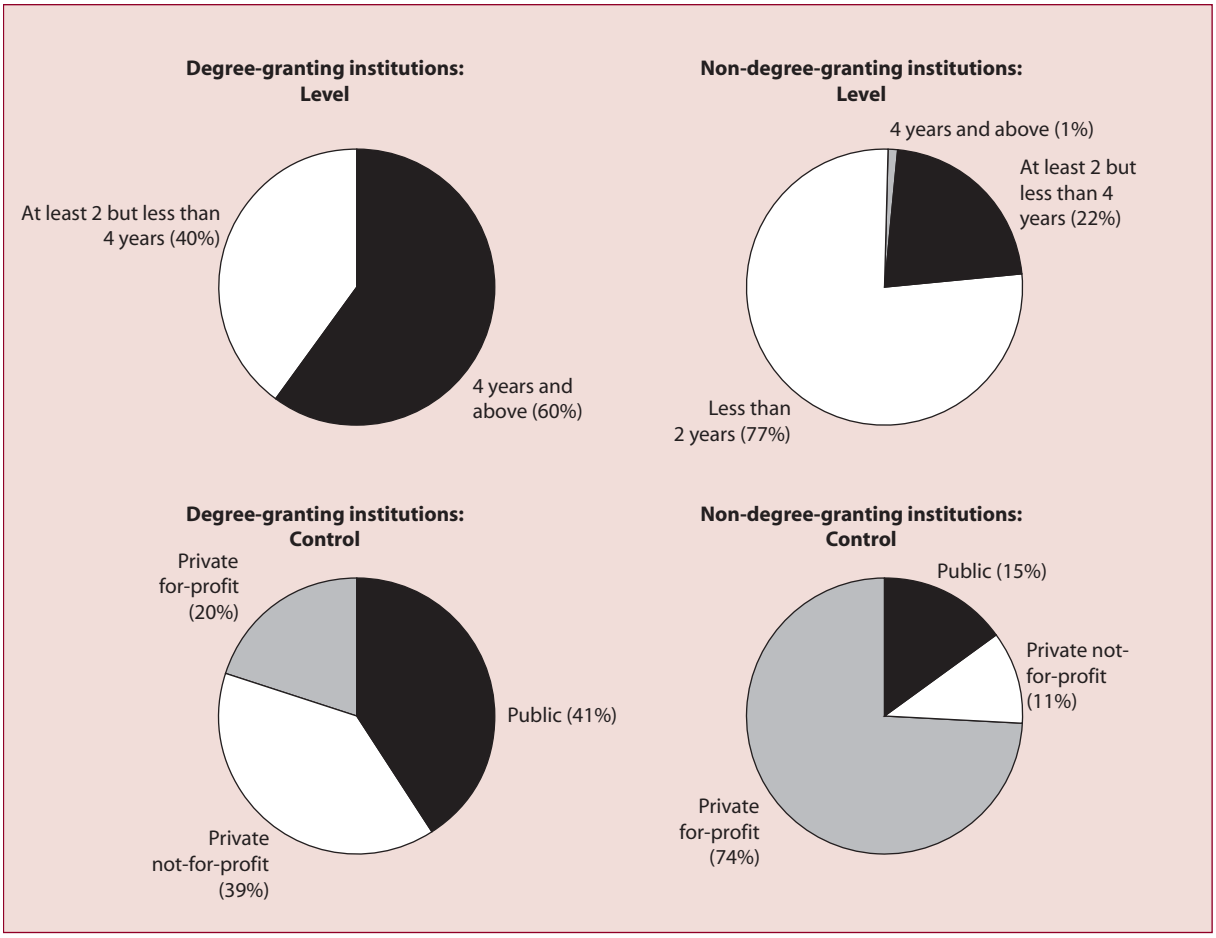
†Not applicable.
[1]Administrative offices (central and system offices) are not shown by degree-granting status since they are not authorized to grant degrees; the types of degrees/awards granted may vary among the institutions they administer. Level of administrative office is determined based on the highest level of offering among all institutions in the system. These offices are required to complete the Institutional Characteristics component in the fall, the Fall Staff component in the winter (if they have more than 15 full-time staff), and the Finance component in the spring (if they have their own separate budget).
NOTE: Data are not imputed. The item response rates for all cells in this table are 100.0 percent. The other jurisdictions include 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 2003.

Figure 1. Title IV institutions, by degree-granting status: United States and other jurisdictions, academic year 2003–04



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Figure 2. Title IV institutions, by degree-granting status and level and control of institution: United States, academic year 2003–04



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Table 2. Changes in institutional charges for undergraduate tuition and required fees for full-time, full-year undergraduates at Title IV degree-granting institutions, by year, level of institution, and residency: United States, academic years 1998–99 and 2003–04

Control of institution and residency	Undergraduate tuition and required fees					
	1998–99[1]		2003–04		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[2]						
In-district						
Average charge	$3,213	$1,437	$4,621	$1,876	43.8	30.6
Median charge	3,007	1,375	4,259	1,822	41.6	32.5
In-state						
Average charge	3,214	1,775	4,542	2,245	41.3	26.4
Median charge	3,007	1,490	4,185	2,112	39.2	41.7
Out-of-state						
Average charge	8,327	4,186	11,273	5,095	35.4	21.7
Median charge	8,324	4,170	10,853	4,852	30.4	16.4
Private not-for-profit institutions						
Average charge	11,610	7,298	15,149	9,091	30.5	24.6
Median charge	11,285	6,710	15,120	9,000	34.0	34.1
Private for-profit institutions						
Average charge	8,787	7,686	12,037	10,971	37.0	42.7
Median charge	8,160	7,501	10,932	9,960	34.0	32.8

[1]The item response rates for all cells for 1998–99 range from 87.8 percent to 99.5 percent.
[2]For public institutions, "in district" refers to the charges paid by a student who lives in the locality surrounding the institution, such as a county.
NOTE: Institutional charges data for 1998–99 are not imputed. Tuition and required fees are average institutional charges, not average amounts paid by students (i.e., charges are not weighted by enrollment). Institutions that report tuitions by program are not included. U.S. service academies are not included. Medians were calculated using SAS, Version 8, Proc Univariate. All amounts are in current dollars.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2000 (for 1998–99 data) and Fall 2003.

tuition and required fees at 2-year public institutions increased 26 percent for in-state students and 22 percent for out-of-state students.

- Between 1998–99 and 2003–04, average undergraduate tuition and required fees increased 30 percent at 4-year private not-for-profit institutions and 25 percent at 2-year private not-for-profit institutions (table 2).
- Between 1998–99 and 2003–04, average undergraduate tuition and required fees increased 37 percent at 4-year private for-profit institutions and 43 percent at 2-year private for-profit institutions (table 2).

Price of attendance at degree-granting institutions

Price of attendance is an estimate of the total amount an incoming undergraduate-level student should expect to pay to attend college. This price includes tuition and fees, books and supplies, room and board, and certain other designated expenses such as transportation. IPEDS collects price-of-attendance information for full-time, first-time, degree/certificate-seeking undergraduate students 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.

- In all cases, private institutions were more expensive to attend than public institutions (table 3 and figures 3 and 4).
- Private for-profit 4-year institutions reported the highest overall average price of attendance during 2003–04 for undergraduates living on campus ($26,626), while private not-for-profit 4-year institutions reported an average price of $25,029 (table 3). Public 4-year institutions reported an average price of $13,455 for in-state undergraduates living on campus and $20,328 for out-of-state undergraduates living on campus.
- During 2003–04, private not-for-profit 4-year institutions reported an average price of $24,988 for undergraduates living off campus and not with family, and

Table 3. Changes in average price of attendance for full-time, first-time, degree/certificate-seeking students at Title IV degree-granting institutions, by level of institution, control of institution, and residency: United States, academic years 1998–99 and 2003–04

Control of institution, residency, and price of attendance	1998–99		2003–04		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-state						
On campus[1]	$10,269	$7,074	$13,455	$9,011	31.0	27.4
Off campus (not with family)	11,449	9,327	14,504	11,592	26.7	24.3
Off campus (with family)	6,544	4,885	8,372	6,037	27.9	23.6
Out-of-state						
On campus[1]	15,441	9,116	20,328	11,322	31.6	24.2
Off campus (not with family)	16,470	11,685	21,133	14,448	28.3	23.6
Off campus (with family)[2]	11,565	7,244	15,002	8,893	29.7	22.8
Private not-for-profit institutions						
On campus[1]	19,905	14,232	25,029	17,881	25.7	25.6
Off campus (not with family)	19,980	15,593	24,988	19,373	25.1	24.2
Off campus (with family)	15,225	10,252	18,899	13,202	24.1	28.8
Private for-profit institutions						
On campus[1]	18,987	17,809	26,626	21,985	40.2	23.4
Off campus (not with family)	17,310	16,612	24,649	21,129	42.4	27.2
Off campus (with family)	12,758	12,023	17,062	15,338	33.7	27.6

[1]On-campus average price is based on those institutions that offer on-campus housing and/or meal service.
[2]Out-of-state, off-campus with family includes independent or dependent students living with family members; however, the student does not qualify for in-state tuition.
NOTE: Price data for 1998–99 are not imputed. The item response rates for all cells for 1998–99 range from 98.0 percent to 100.0 percent. Price of attendance includes tuition and fees, room and board charges, books and supplies, and other expenses. Institutions that report tuition by program are not included. U.S. service academies are not included. All amounts are in current dollars.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2000 (for 1998–99 data) and Fall 2003.

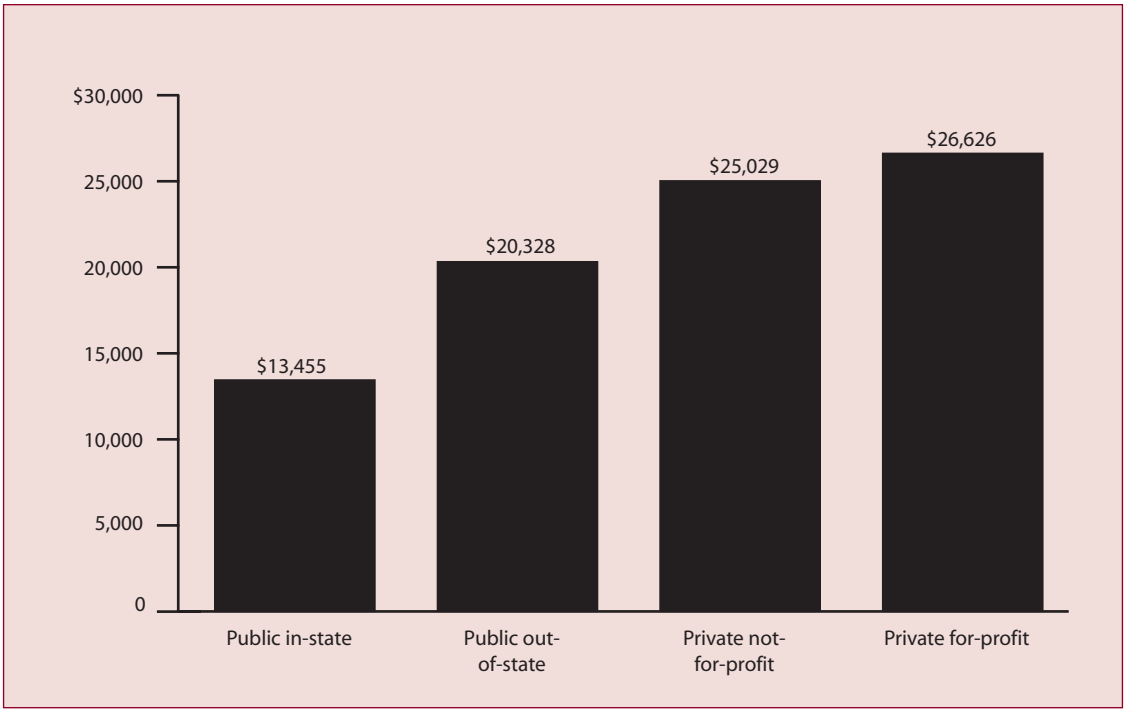
$18,899 for undergraduates living off campus with family (table 3).

- Two-year public institutions offered the lowest price of attendance overall in 2003–04: $6,037 for in-state students living off campus with family and $8,893 for out-of-state students living off campus with family (table 3).
- Between 1998–99 and 2003–04, the average price of attendance for undergraduates attending 4-year public institutions and living on campus rose 31 percent for in-state students and 32 percent for out-of-state students (table 3). Likewise, the price for undergraduates living on campus at 4-year private not-for-profit institutions rose 26 percent over the same 5-year period, while the price for undergraduates living on campus at 4-year private for-profit institutions rose 40 percent.

Distributions by state

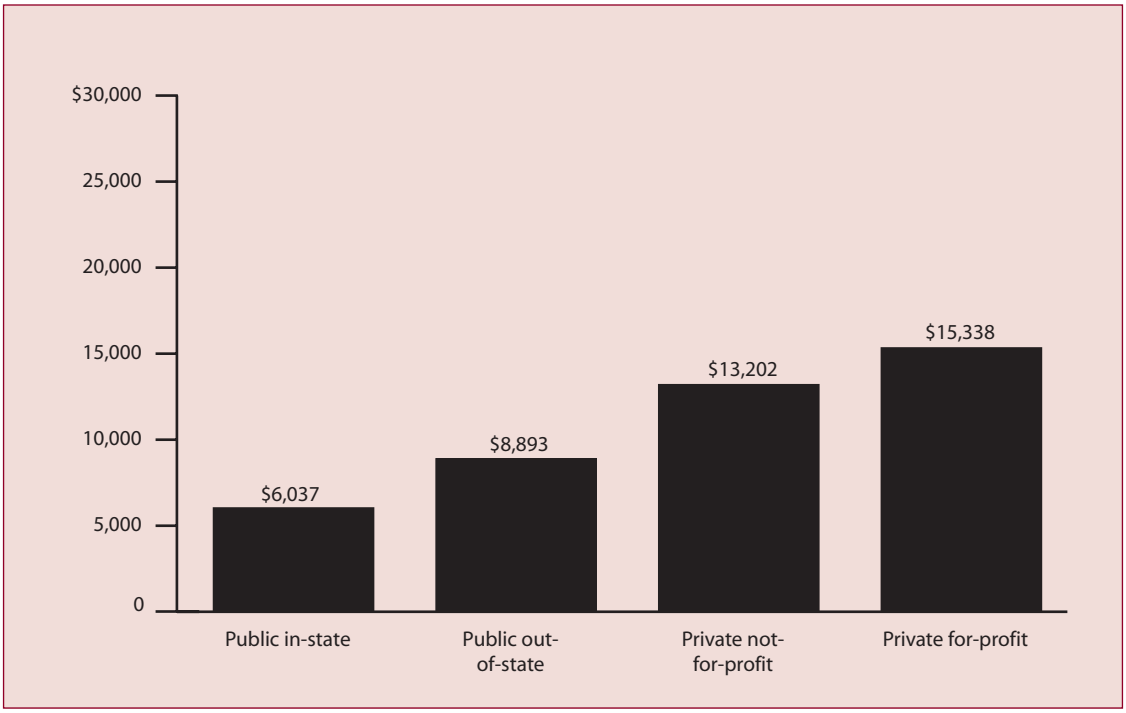
- There were 6,412 Title IV institutions in the United States during the 2003–04 academic year (table 4). Three states had more than 400 institutions: California had 634, New York had 447, and Pennsylvania had 413. The three states with fewer than 20 institutions were Alaska with 10, Wyoming with 11, and Delaware with 15.
- There were 4,236 Title IV degree-granting institutions in the United States during the 2003–04 academic year (table 5). California was the only state with more than 400 institutions, while New York had 309 and Pennsylvania had 262. Three states had 10 or fewer degree-granting institutions: Alaska, Wyoming, and Delaware (with 8, 9, and 10 institutions, respectively).

Figure 3. Average price of attendance for full-time, first-time, degree/certificate-seeking students living on campus at Title IV degree-granting 4-year institutions, by control of institution and residency: United States, 2003–04



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Figure 4. Average price of attendance for full-time, first-time, degree/certificate-seeking students living off campus with family at Title IV degree-granting 2-year institutions, by control of institution and residency: United States, 2003–04



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Table 4. Title IV institutions, by level and control of institution and state or other jurisdiction: Academic year 2003–04

State or other jurisdiction	Total	4 years and above			At least 2 but less than 4 years			Less than 2 years		
			Private			Private			Private	
		Public	Not-for-profit	For-profit	Public	Not-for-profit	For-profit	Public	Not-for-profit	For-profit
United States	6,412	635	1,564	351	1,162	233	783	250	116	1,318
Alabama	83	17	17	6	29	5	2	0	1	6
Alaska	10	3	2	1	2	0	0	1	0	1
Arizona	106	5	15	15	20	1	19	3	0	28
Arkansas	79	11	10	2	23	4	1	3	0	25
California	634	34	147	49	112	17	56	9	29	181
Colorado	99	14	14	18	16	1	16	3	0	17
Connecticut	81	11	19	1	12	4	3	0	1	30
Delaware	15	2	4	0	3	2	0	0	0	4
District of Columbia	21	2	11	3	0	1	0	0	1	3
Florida	290	15	52	38	55	2	48	7	6	67
Georgia	171	22	34	10	53	3	11	0	0	38
Hawaii	25	3	5	3	7	1	2	0	0	4
Idaho	26	4	4	2	3	0	11	0	0	2
Illinois	259	12	84	16	48	9	15	2	8	65
Indiana	134	14	42	6	16	4	23	3	0	26
Iowa	89	3	35	6	16	4	25	0	0	0
Kansas	86	9	21	2	29	2	4	2	2	15
Kentucky	106	8	26	2	26	1	39	0	1	3
Louisiana	143	16	10	3	48	2	17	1	0	46
Maine	42	8	12	0	7	3	3	0	1	8
Maryland	87	14	21	7	16	1	7	0	0	21
Massachusetts	177	15	81	3	16	7	8	5	1	41
Michigan	174	15	58	2	30	3	8	2	3	53
Minnesota	132	12	35	14	40	4	10	0	4	13
Mississippi	58	9	11	0	17	0	6	0	0	15
Missouri	184	15	55	14	23	7	22	21	1	26
Montana	30	6	4	0	12	3	3	0	0	2
Nebraska	48	7	16	0	8	4	12	0	0	1
Nevada	24	4	1	5	3	0	8	0	1	2
New Hampshire	37	5	15	1	4	0	1	0	2	9
New Jersey	148	14	22	2	20	9	6	4	2	69
New Mexico	51	7	6	7	20	1	1	0	0	9
New York	447	45	165	12	36	41	38	29	22	59
North Carolina	161	16	43	6	60	3	6	0	1	26
North Dakota	26	7	4	0	8	1	5	0	0	1
Ohio	314	25	70	6	38	12	83	49	4	27
Oklahoma	136	15	17	3	33	0	4	27	1	36
Oregon	86	9	25	4	17	1	23	0	0	7
Pennsylvania	413	44	100	9	23	38	82	31	7	79
Rhode Island	23	2	10	0	1	1	0	0	0	9
South Carolina	78	12	23	2	21	2	3	1	0	14
South Dakota	31	9	7	4	5	4	2	0	0	0
Tennessee	148	9	46	10	13	4	15	26	1	24
Texas	370	42	51	10	70	5	40	2	3	147
Utah	52	7	3	5	7	1	21	2	0	6

See notes at end of table.

Table 4. Title IV institutions, by level and control of institution and state or other jurisdiction: Academic year 2003–04—Continued

State or other jurisdiction	Total	4 years and above			At least 2 but less than 4 years			Less than 2 years		
			Private			Private			Private	
		Public	Not-for-profit	For-profit	Public	Not-for-profit	For-profit	Public	Not-for-profit	For-profit
Vermont	30	5	18	1	1	2	1	0	0	2
Virginia	155	15	32	23	25	5	17	7	3	28
Washington	124	11	21	11	35	3	22	1	1	19
West Virginia	70	12	11	0	10	1	22	8	6	0
Wisconsin	88	13	29	7	18	4	10	0	3	4
Wyoming	11	1	0	0	7	0	2	1	0	0
Other jurisdictions	156	18	37	7	11	4	11	0	8	60
American Samoa	1	0	0	0	1	0	0	0	0	0
Federated States of Micronesia	4	0	0	0	4	0	0	0	0	0
Guam	3	1	1	0	1	0	0	0	0	0
Marshall Islands	1	0	0	0	1	0	0	0	0	0
Northern Marianas	1	1	0	0	0	0	0	0	0	0
Palau	1	0	0	0	1	0	0	0	0	0
Puerto Rico	143	14	36	7	3	4	11	0	8	60
Virgin Islands	2	2	0	0	0	0	0	0	0	0

NOTE: Data are not imputed. The item response rates for all cells in this table are 100.0 percent.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Completions

The Completions component collects data annually on recognized degree completions in postsecondary education programs by level (associate's, bachelor's, master's, doctor's,[4] and first-professional[5]) and on other formal awards by length of program. Data are collected by race/ethnicity and gender of recipient and by field of study. In addition, completions data on the number of students with multiple majors are collected by field of study, degree level, race/ethnicity, and gender from those schools that award degrees with multiple majors. Data reflect all formal awards (degrees, diplomas, certificates) conferred between July 1, 2002, and June 30, 2003.

Numbers of degrees

- For the 2002–03 academic year, about 2.6 million degrees were awarded by Title IV degree-granting institutions located in the United States (table 6).
- Of the total number of degrees awarded in 2002–03, 24 percent were associate's degrees, 51 percent were bachelor's degrees, 20 percent were master's degrees, 2 percent were doctor's degrees, and 3 percent were first-professional degrees (table 6).

Degrees by control of institution

- Bachelor's degrees accounted for 51 percent of all degrees awarded by public institutions and 56 percent of all degrees awarded by private not-for-profit institutions during 2002–03 (table 6).
- Private for-profit institutions awarded 65 percent of their degrees at the associate's level during the 2002–03 academic year and 23 percent at the bachelor's level (table 6).
- Public institutions accounted for about two-thirds (65 percent) of all degrees awarded by Title IV degree-granting institutions in the United States during the 2002–03 academic year, while private not-for-profit institutions accounted for 30 percent and private for-profit institutions accounted for the remaining 5 percent (table 7).

Gender and race/ethnicity[6] of recipients

- Women continued to earn more degrees than men in academic year 2002–03, about 58 percent of all

[4]Doctor's degrees are considered the highest award a student can earn for graduate study. The doctor's degree classification includes such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Doctor of Philosophy degree in any field such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiology.

[5]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.).

[6]Race/ethnicity data are collected for U.S. citizens and resident aliens only; individuals are reported in one category only (White, non-Hispanic; Black, non-Hispanic; Hispanic; Asian/Pacific Islander; or American Indian/Alaska Native) or as race/ethnicity unknown. Nonresident aliens are reported separately. See the Glossary in the full report for definitions of terms.

Table 5. Title IV degree-granting institutions, by level and control of institution and state or other jurisdiction: Academic year 2003–04

State or other jurisdiction	Total	4 years and above			At least 2 but less than 4 years		
			Private			Private	
		Public	Not-for-profit	For-profit	Public	Not-for-profit	For-profit
United States	4,236	634	1,546	350	1,086	118	502
Alabama	75	17	17	6	29	4	2
Alaska	8	3	2	1	2	0	0
Arizona	74	5	15	15	20	1	18
Arkansas	47	11	10	2	22	1	1
California	401	34	146	48	110	16	47
Colorado	75	14	12	18	15	1	15
Connecticut	46	11	18	1	12	1	3
Delaware	10	2	4	0	3	1	0
District of Columbia	16	2	11	3	0	0	0
Florida	169	15	52	38	25	2	37
Georgia	126	22	33	10	52	3	6
Hawaii	20	3	5	3	7	1	1
Idaho	14	4	4	2	3	0	1
Illinois	173	12	82	16	48	3	12
Indiana	101	14	42	6	15	3	21
Iowa	63	3	35	6	16	2	1
Kansas	63	9	21	2	27	2	2
Kentucky	77	8	26	2	26	1	14
Louisiana	90	16	10	3	46	0	15
Maine	30	8	12	0	7	1	2
Maryland	63	14	21	7	16	1	4
Massachusetts	122	15	79	3	16	5	4
Michigan	110	15	58	2	30	1	4
Minnesota	113	12	35	14	40	3	9
Mississippi	40	9	11	0	17	0	3
Missouri	123	14	54	14	20	4	17
Montana	23	6	4	0	12	1	0
Nebraska	39	7	16	0	8	1	7
Nevada	17	4	1	5	3	0	4
New Hampshire	25	5	14	1	4	0	1
New Jersey	58	14	21	2	19	1	1
New Mexico	42	7	6	7	20	1	1
New York	309	45	163	12	35	21	33
North Carolina	130	16	43	6	59	1	5
North Dakota	21	7	4	0	8	1	1
Ohio	187	25	70	6	36	4	46
Oklahoma	53	15	17	3	14	0	4
Oregon	59	9	25	4	17	1	3
Pennsylvania	262	44	98	9	21	16	74
Rhode Island	13	2	10	0	1	0	0
South Carolina	63	12	23	2	21	2	3
South Dakota	26	9	7	4	5	1	0
Tennessee	95	9	46	10	13	3	14
Texas	208	42	51	10	69	4	32
Utah	28	7	3	5	6	1	6

See notes at end of table.

Table 5. Title IV degree-granting institutions, by level and control of institution and state or other jurisdiction: Academic year 2003–04—Continued

State or other jurisdiction	Total	4 years and above			At least 2 but less than 4 years		
			Private			Private	
		Public	Not-for-profit	For-profit	Public	Not-for-profit	For-profit
Vermont	27	5	18	1	1	1	1
Virginia	104	15	32	23	24	0	10
Washington	81	11	21	11	35	0	3
West Virginia	40	12	10	0	6	0	12
Wisconsin	68	13	28	7	18	1	1
Wyoming	9	1	0	0	7	0	1
Other jurisdictions	87	18	37	7	11	4	10
American Samoa	1	0	0	0	1	0	0
Federated States of Micronesia	4	0	0	0	4	0	0
Guam	3	1	1	0	1	0	0
Marshall Islands	1	0	0	0	1	0	0
Northern Marianas	1	1	0	0	0	0	0
Palau	1	0	0	0	1	0	0
Puerto Rico	74	14	36	7	3	4	10
Virgin Islands	2	2	0	0	0	0	0

NOTE: Data are not imputed. The item response rates for all cells in this table are 100.0 percent.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

degrees (table 7). Women earned 60 percent of all associate's degrees, 58 percent of all bachelor's degrees, and 59 percent of all master's degrees.

- About two-thirds (67 percent) of all degrees conferred during the 2002–03 academic year went to White, non-Hispanic students; 22 percent to members of groups other than Whites (includes Black, non-Hispanics, Hispanics, Asians/Pacific Islanders, and American Indians/Alaska Natives); and the remainder to nonresident aliens (5 percent) or individuals whose race/ethnicity was unknown (5 percent) (table 7).
- The proportion of degrees awarded to members of groups other than Whites was highest at the associate's level, with 27 percent of all degrees (table 7). These students also were 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.
- Nonresident aliens received 14 percent of all master's degrees and 25 percent of all doctor's degrees, much higher proportions than of any group other than White, non-Hispanics (table 7).
- Women earned about two-thirds (67 percent) of degrees granted to Black, non-Hispanics, 63 percent of degrees granted to American Indians/Alaska Natives, 61 percent of degrees granted to Hispanics, 58 percent of degrees granted to White, non-Hispanics, and 55 percent of degrees granted to Asians/Pacific Islanders (table 8).

Table 6. Number and percentage of degrees conferred by Title IV degree-granting institutions, by control of institution and level of degree: United States, academic year 2002–03

Level of degree	Total	Public	Private not-for-profit	Private for-profit
Total, all degrees	2,620,894	1,699,865	784,293	136,736
Percent of total	100.0	100.0	100.0	100.0
Associate's degrees	632,912	497,132	46,260	89,520
Percent of total	24.1	29.2	5.9	65.5
Bachelor's degrees	1,348,503	875,420	441,928	31,155
Percent of total	51.5	51.5	56.3	22.8
Master's degrees	512,645	265,695	231,963	14,987
Percent of total	19.6	15.6	29.6	11.0
Doctor's degrees[1]	46,024	28,069	17,113	842
Percent of total	1.8	1.7	2.2	0.6
First-professional degrees[2]	80,810	33,549	47,029	232
Percent of total	3.1	2.0	6.0	0.2

[1]Doctor's degrees are considered the highest award a student can earn for graduate study. The doctor's degree classification includes such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Doctor of Philosophy degree in any field such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiology.
[2]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 2003.

Distributions by state

- Institutions in California awarded more undergraduate degrees than institutions in any other state during the 2002–03 academic year: 90,028 associate's degrees and 135,844 bachelor's degrees (table 9). New York granted more master's degrees than any other state (58,210), followed by California with 48,651. At the doctorate level, California led with 5,731 degrees, followed by New York with 3,741.

Data source: The NCES Integrated Postsecondary Education Data System (IPEDS), Fall 2002 and Fall 2003.

For technical information, see the complete report:

Knapp, L.G., Kelly-Reid, J.E., Whitmore, R.W., Wu, S., Gallego, L., Cong, J., Berzofsky, M., Huh, S., Levine, B., and Broyles, S.G. (2005). *Postsecondary Institutions in the United States: Fall 2003 and Degrees and Other Awards Conferred: 2002–03* (NCES 2005-154).

Author affiliations: L.G. Knapp, consultant; J.E. Kelly-Reid, R.W. Whitmore, S. Wu, L. Gallego, J. Cong, M. Berzofsky, S. Huh, and B. Levine, RTI International; S.G. Broyles, NCES.

For questions about content, contact Aurora D'Amico (aurora.d'amico@ed.gov).

To obtain the complete report (NCES 2005-154), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Table 7. Degrees conferred and percentage distribution by Title IV degree-granting institutions, by level of degree, control of institution, gender, and race/ethnicity: United States, academic year 2002–03

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	2,620,894	100.0	632,912	100.0	1,348,503	100.0
Control of institution						
Public	1,699,865	64.9	497,132	78.5	875,420	64.9
Private not-for-profit	784,293	29.9	46,260	7.3	441,928	32.8
Private for-profit	136,736	5.2	89,520	14.1	31,155	2.3
Gender						
Men	1,103,695	42.1	253,060	40.0	573,079	42.5
Women	1,517,199	57.9	379,852	60.0	775,424	57.5
Race/ethnicity						
White, non-Hispanic	1,751,927	66.8	417,671	66.0	943,745	70.0
Black, non-Hispanic	237,615	9.1	72,004	11.4	117,774	8.7
Hispanic	175,290	6.7	63,077	10.0	84,333	6.3
Asian/Pacific Islander	150,438	5.7	31,067	4.9	83,232	6.2
American Indian/Alaska Native	19,764	0.8	7,134	1.1	9,314	0.7
Race/ethnicity unknown	144,017	5.5	28,518	4.5	66,866	5.0
Nonresident alien	141,843	5.4	13,441	2.1	43,239	3.2

Control of institution, gender, and race/ethnicity	Master's degrees		Doctor's degrees[1]		First-professional degrees[2]	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
All institutions	512,645	100.0	46,024	100.0	80,810	100.0
Control of institution						
Public	265,695	51.8	28,069	61.0	33,549	41.5
Private not-for-profit	231,963	45.2	17,113	37.2	47,029	58.2
Private for-profit	14,987	2.9	842	1.8	232	0.3
Gender						
Men	211,381	41.2	24,341	52.9	41,834	51.8
Women	301,264	58.8	21,683	47.1	38,976	48.2
Race/ethnicity						
White, non-Hispanic	309,055	60.3	25,863	56.2	55,593	68.8
Black, non-Hispanic	40,046	7.8	2,362	5.1	5,429	6.7
Hispanic	22,560	4.4	1,457	3.2	3,863	4.8
Asian/Pacific Islander	24,513	4.8	2,259	4.9	9,367	11.6
American Indian/Alaska Native	2,574	0.5	185	0.4	557	0.7
Race/ethnicity unknown	42,315	8.3	2,272	4.9	4,046	5.0
Nonresident alien	71,582	14.0	11,626	25.3	1,955	2.4

[1]Doctor's degrees are considered the highest award a student can earn for graduate study. The doctor's degree classification includes such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Doctor of Philosophy degree in any field such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiology.
[2]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 2003.

Table 8. Degrees conferred by Title IV degree-granting institutions, by gender and race/ethnicity: United States, academic year 2002–03

Race/ethnicity	Total degrees	Men	Women
		Number	
Total, all degrees	2,620,894	1,103,695	1,517,199
White, non-Hispanic	1,751,927	738,058	1,013,869
Black, non-Hispanic	237,615	77,711	159,904
Hispanic	175,290	68,948	106,342
Asian/Pacific Islander	150,438	67,986	82,452
American Indian/Alaska Native	19,764	7,405	12,359
Race/ethnicity unknown	144,017	63,946	80,071
Nonresident alien	141,843	79,641	62,202
		Percent	
Total, all degrees	100.0	42.1	57.9
White, non-Hispanic	100.0	42.1	57.9
Black, non-Hispanic	100.0	32.7	67.3
Hispanic	100.0	39.3	60.7
Asian/Pacific Islander	100.0	45.2	54.8
American Indian/Alaska Native	100.0	37.5	62.5
Race/ethnicity unknown	100.0	44.4	55.6
Nonresident alien	100.0	56.1	43.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Table 9. Selected degrees conferred by Title IV degree-granting institutions, by level of degree, gender, and state: Academic year 2002–03

State	Associate's degrees			Bachelor's degrees			Master's degrees			Doctor's degrees		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
United States	632,912	253,060	379,852	1,348,503	573,079	775,424	512,645	211,381	301,264	46,024	24,341	21,683
Alabama	8,744	3,177	5,567	20,479	8,355	12,124	8,441	3,229	5,212	586	327	259
Alaska	952	358	594	1,363	489	874	506	228	278	36	19	17
Arizona	12,042	5,192	6,850	23,372	10,537	12,835	12,618	5,471	7,147	803	408	395
Arkansas	4,714	1,516	3,198	10,591	4,410	6,181	2,384	838	1,546	180	96	84
California	90,028	34,625	55,403	135,844	57,400	78,444	48,651	20,481	28,170	5,731	3,070	2,661
Colorado	8,860	3,715	5,145	24,260	11,340	12,920	9,232	4,251	4,981	813	443	370
Connecticut	4,641	1,622	3,019	16,034	6,682	9,352	8,252	3,322	4,930	648	332	316
Delaware	1,147	389	758	5,164	1,948	3,216	1,763	658	1,105	168	95	73
District of Columbia	664	224	440	8,900	3,605	5,295	7,460	3,345	4,115	579	242	337
Florida	55,603	23,292	32,311	58,933	25,009	33,924	20,785	8,853	11,932	2,592	1,148	1,444
Georgia	10,689	3,782	6,907	31,974	13,197	18,777	12,059	5,002	7,057	1,122	599	523
Hawaii	3,745	1,760	1,985	5,047	1,978	3,069	1,728	694	1,034	146	71	75
Idaho	3,788	1,463	2,325	5,975	2,730	3,245	1,487	672	815	131	86	45
Illinois	27,827	10,907	16,920	59,569	25,572	33,997	30,240	13,104	17,136	2,582	1,389	1,193
Indiana	12,776	5,967	6,809	35,284	16,094	19,190	9,503	4,487	5,016	1,147	694	453
Iowa	10,518	4,426	6,092	20,034	8,624	11,410	3,948	1,752	2,196	506	285	221
Kansas	7,266	2,929	4,337	15,744	6,896	8,848	5,604	2,299	3,305	414	208	206
Kentucky	7,860	2,590	5,270	16,254	6,604	9,650	5,430	1,990	3,440	404	228	176
Louisiana	5,604	1,945	3,659	21,182	8,317	12,865	5,813	2,218	3,595	491	250	241
Maine	2,144	788	1,356	6,158	2,485	3,673	1,349	405	944	56	32	24
Maryland	8,432	3,236	5,196	24,537	10,494	14,043	12,057	5,003	7,054	969	488	481
Massachusetts	10,842	4,228	6,614	44,726	18,945	25,781	26,946	10,500	16,446	2,320	1,234	1,086
Michigan	21,298	7,804	13,494	50,178	21,334	28,844	23,196	9,828	13,368	1,525	868	657
Minnesota	13,302	5,458	7,844	25,783	10,727	15,056	9,185	3,242	5,943	941	463	478
Mississippi	7,515	2,430	5,085	11,797	4,649	7,148	3,417	1,243	2,174	340	160	180
Missouri	12,004	4,790	7,214	33,291	14,271	19,020	15,591	6,718	8,873	1,182	583	599
Montana	1,666	646	1,020	5,238	2,421	2,817	979	451	528	75	44	31
Nebraska	4,366	2,210	2,156	11,025	4,927	6,098	3,533	1,490	2,043	434	189	245
Nevada	2,489	980	1,509	4,877	1,977	2,900	1,527	580	947	132	67	65
New Hampshire	3,149	1,271	1,878	7,563	3,151	4,412	2,387	1,030	1,357	142	81	61
New Jersey	13,066	4,889	8,177	29,604	12,468	17,136	11,140	4,809	6,331	1,052	583	469
New Mexico	3,871	1,395	2,476	7,027	2,891	4,136	2,622	1,083	1,539	244	134	110
New York	53,569	20,528	33,041	106,188	43,868	62,320	58,210	21,361	36,849	3,741	1,959	1,782
North Carolina	15,460	5,280	10,180	37,272	15,252	22,020	10,143	4,426	5,717	1,138	595	543
North Dakota	1,931	892	1,039	4,882	2,309	2,573	928	393	535	90	44	46
Ohio	21,063	8,152	12,911	54,852	23,489	31,363	18,824	7,546	11,278	1,858	970	888
Oklahoma	8,070	3,208	4,862	16,348	7,180	9,168	5,389	2,488	2,901	416	244	172
Oregon	7,365	3,368	3,997	15,601	6,710	8,891	5,622	2,273	3,349	499	263	236
Pennsylvania	24,177	11,064	13,113	72,351	31,200	41,151	24,038	10,140	13,898	2,431	1,297	1,134
Rhode Island	3,516	1,688	1,828	9,108	3,896	5,212	2,056	874	1,182	246	146	100
South Carolina	7,526	2,793	4,733	17,817	7,335	10,482	4,496	1,647	2,849	428	237	191
South Dakota	2,200	995	1,205	4,344	1,947	2,397	1,070	480	590	75	37	38
Tennessee	8,826	3,247	5,579	24,369	10,125	14,244	8,136	3,049	5,087	731	347	384
Texas	34,919	15,016	19,903	82,649	34,809	47,840	27,879	12,317	15,562	2,626	1,449	1,177
Utah	9,374	4,299	5,075	19,086	9,579	9,507	3,827	2,239	1,588	336	216	120
Vermont	1,419	660	759	4,545	2,032	2,513	1,449	508	941	44	21	23
Virginia	13,486	5,326	8,160	34,657	14,379	20,278	11,251	4,566	6,685	1,169	650	519
Washington	21,773	9,463	12,310	25,908	11,105	14,803	8,310	3,319	4,991	663	339	324
West Virginia	3,216	1,167	2,049	9,335	4,174	5,161	2,479	936	1,543	160	92	68
Wisconsin	10,690	4,330	6,360	29,645	12,412	17,233	8,288	3,354	4,934	826	486	340
Wyoming	2,720	1,580	1,140	1,739	751	988	417	189	228	56	33	23

NOTE: Only the degree awarded for the first major is included for students with multiple majors.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2003.

Work-Related Courses

Reasons for Adults' Participation in Work-Related Courses, 2002–03

Matthew DeBell and Gail Mulligan

This article was originally published as an Issue Brief. The sample survey data are from the Adult Education for Work-Related Reasons Survey of the 2003 National Household Education Surveys Program (NHES).

In 2002–03, approximately 68.5 million people, or one-third of civilian, noninstitutionalized adults age 16 and older in the United States, took formal courses or training that were not part of a traditional degree, certificate, or apprenticeship program for reasons related to their job or career (O'Donnell 2005). This Issue Brief examines these adult learners' reasons for participation in such formal, work-related courses. While much information about adults enrolled in college/university and vocational/technical credential programs is available from institution-based surveys, less is known about participation in formal courses outside of these traditional programs, such as those offered by an employer.

Research suggests that there has been an increased demand for work-related adult education, resulting from changes in the labor market, technology, and management practices. These changes have placed new demands on workers, who increasingly are expected to assume multiple responsibilities, handle changing procedures, and use a broad base of knowledge on the job (U.S. Department of Commerce et al. 1999). During the 1990s there was an upward trend in participation rates in adult education programs overall, and among most subgroups identified by age, sex, race/ethnicity, educational attainment, and income (Creighton and Hudson 2002). While previous research has examined trends in participation rates, additional information about reasons for participation is needed to understand why adults take formal work-related courses. Such courses may help adults to respond to labor market demands, fulfill their own desires to learn and improve their skills, or satisfy employers' requirements (for example, for certification or skill development).

The data on reasons for participation in formal, work-related courses discussed in this Issue Brief come from the Adult

Education for Work-Related Reasons Survey (AEWR) of the 2003 National Household Education Surveys Program (NHES). NHES is a random-digit-dial telephone survey, and the sample chosen for the AEWR is representative of civilian, noninstitutionalized adults age 16 and older in the United States who were not enrolled in 12th grade or below at the time of the survey. Between January and April of 2003, interviews were conducted with 12,725 adults,[1] who provided information about their educational activities during the previous 12 months. The formal work-related courses that respondents described in the survey had an instructor and were reported as related to a job or career, whether or not the adult learner was employed while taking the course. Such courses included classes taken at colleges or universities that were not part of a degree program,[2] as well as seminars, training sessions, or workshops offered by various providers including businesses, unions, and government agencies, among others. Courses categorized as work-related education could pertain to any topic so long as the adult learner considered the courses to have been taken for work-related reasons. Excluded from this type of adult education are basic skills or GED classes, as well as courses that participants took in pursuit of a degree or diploma or as part of an apprenticeship leading to journeyman status.

All respondents who had taken formal work-related courses, regardless of employment status, were asked whether they had done so for any of a series of selected reasons: to maintain or improve skills or knowledge they already had; to learn completely new skills or knowledge; to help change their job or career field, enter the workforce, or start their own business; and to get or keep a state or industry certificate or license. In addition, participants who had been employed at some time in the previous 12 months, excluding those who were self-employed and had no other employer, were asked whether they had taken work-related courses to receive a promotion or pay raise or because their employers had required or recommended participation.

As shown in table 1, the maintenance or improvement of skills or knowledge was the most frequently mentioned reason for taking formal work-related courses. Almost all adult participants (92 percent) indicated that they sought to maintain or improve skills or knowledge that they already had, and a majority (77 percent) also sought to learn completely new skills or knowledge. One-third took courses to get or keep a certificate or license,[3] and about one-fifth took courses to help change their job or career field, enter the workforce, or start their own business.

About 94 percent of work-related course participants were employed sometime during the period from early 2002 to early 2003 (not shown in table).[4] Among these employed participants, about three-fourths took a course because their employer required or recommended that they take it, while 18 percent took a course to receive a promotion or a pay raise.

Reasons for participation varied by characteristics such as age, educational attainment, employment status, and income. The youngest participants were most likely to take classes to learn new skills or knowledge, compared to older participants. In contrast, they were less likely than those in the three middle age categories to be taking classes to maintain skills or knowledge they already had or to get or keep a certificate or license. Coursetaking to help change or get a job or start one's own business declined with age. Among employed participants, coursetaking to receive a promotion or pay raise also declined with age. Additionally, it was more common for employed participants ages 16 to 40 to take courses because of an employer's requirement or recommendation than for those over age 65 to do so.

Among participants, women were more likely than men to report taking formal work-related courses to learn completely new skills or knowledge (80 percent vs. 73 percent, respectively).

Among all participants, Whites were less likely than Blacks or Hispanics to take a course to learn new skills or knowledge or to help change their job or career field. Among employed participants, Whites (16 percent) were less likely than Blacks or Hispanics (26 percent each) to take courses to receive a promotion or a pay raise.

[1]The weighted sample represents approximately 206.5 million civilian, noninstitutionalized adults age 16 or older and not enrolled in 12th grade or below. The overall response rate for the 2003 AEWR, which is the product of the response rate for a screener questionnaire and the response rate for the AEWR interview, is 52.1 percent. For further detail about the NHES survey methodology and response rates, see Hagedorn et al. (2004).

[2]Enrollment in college/university degree programs is ascertained separately from enrollment in work-related courses that are not taken in pursuit of a formal degree. Therefore, estimates included here do not include adults enrolled in programs in pursuit of a college or university degree.

[3]Examples of such certificates or licenses include teaching certificates; licenses for physicians, nurses, and cosmetologists; commercial driver's licenses; and industry certifications such as A+ certification for computer technicians.

[4]In this report, adults referred to as employed are those who had worked at some time in the previous 12 months. These adults were not necessarily employed either at the time they took the course or on the date the interview was conducted. Additionally, respondents who were self-employed and had no other employer are not included in the group of employed participants, because they were not asked reasons for participation having to do with an employer.

Table 1. Percentage of adult participants who gave selected reasons for participation in work-related courses, by adult characteristics: 2002–03

Characteristic	Number of adults (thousands)	Reasons for participation: All adult participants: To maintain or improve skills or knowledge	To learn completely new skills or knowledge	To help change job or career field[1]	To get or keep certificate or license[2]	Employed adult participants[3]: Because employer required or recommended it	To receive a promotion or pay raise
Total	68,499	92	77	19	33	76	18
Age							
16 to 30 years	16,781	88	84	29	27	79	26
31 to 40 years	16,429	94	77	18	37	79	18
41 to 50 years	19,304	93	74	16	34	74	14
51 to 65 years	14,012	95	70	13	35	74	13
66 years or older	1,973	84	75	7	35	68	11
Sex							
Male	32,458	93	73	17	35	77	19
Female	36,041	92	80	20	32	76	17
Race/ethnicity							
White, non-Hispanic	51,552	92	75	16	34	76	16
Black, non-Hispanic	7,245	93	85	28	39	75	26
Hispanic	6,150	91	83	30	28	78	26
Asian or Pacific Islander, non-Hispanic	2,414	90	66	24	26	72	19
Other race, non-Hispanic	1,139	90	76	19	31	80	23
Highest education level completed							
Less than a high school diploma/equivalent	2,972	78	82	41	25	75	22
High school diploma/equivalent	14,268	89	78	22	34	77	27
Some college/vocational/associate's degree	21,183	92	79	20	33	79	21
Bachelor's degree	18,740	94	74	16	32	77	13
Graduate or professional degree	11,336	96	72	11	36	69	9
Employment and occupation							
Employed in last 12 months	64,559	93	76	18	33	76	18
Professional/managerial	29,207	96	75	12	35	73	13
Sales/service/clerical	26,433	91	79	23	30	78	22
Trades and labor	8,919	87	75	19	37	83	21
Not employed in last 12 months	3,940	83	78	38	34	†	†
Household income							
$20,000 or less	5,099	82	84	42	33	70	27
$20,001 to $35,000	8,921	89	78	26	37	81	24
$35,001 to $50,000	10,574	92	82	21	36	77	19
$50,001 to $75,000	17,351	93	78	17	32	79	18
$75,001 or more	26,553	95	71	12	32	74	14

† Not applicable.
[1] Full text as worded in the survey: "To help you change your job or career field, enter the workforce, or start your own business."
[2] Full text as worded in the survey: "To get or keep a state or industry certificate or license."
[3] These items were asked only of adults who reported having worked in the past 12 months and who were not only self-employed.
NOTE: Formal work-related courses include any training, courses, or classes that had an instructor and were related to a job or career, whether or not the respondent had a job when he or she took them. Excluded from this type of adult education are basic skills or GED classes, as well as courses that participants took in pursuit of a formal postsecondary credential or as part of an apprenticeship program. Information was collected on up to four work-related courses or trainings taken in the previous 12 months and reported as work-related. If an adult took more than four courses, four were sampled for data collection. Detail may not sum to totals due to rounding. Standard errors for this table are available at http://nces.ed.gov/pubs2005/2005088_se.pdf.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education for Work-Related Reasons Survey of the 2003 National Household Education Surveys Program.

Reasons for coursetaking also varied by the course taker's level of education. The percentage of participants who reported taking courses to maintain or improve existing skills or knowledge increased with educational attainment, from 78 percent among high school dropouts to 96 percent among those with a graduate or professional degree. Other reasons for participation were cited less frequently by participants with graduate or professional degrees. For example, course takers with a graduate or professional degree were the least likely to take courses to help get or change a job (11 percent), while participants with less than a high school diploma were most likely to report this reason (41 percent). Among employed participants, the most highly educated workers were less likely than those with less than a bachelor's degree to take courses in order to receive a promotion or pay raise (9 percent vs. 21–27 percent).

Reasons for participation also varied by the course taker's employment status. Participants who held a job at some time in the 12 months prior to the survey were more likely (93 percent) than those who were not employed (83 percent) to take courses to maintain or improve existing skills or knowledge, while employed participants were about half as likely (18 percent) as those not employed (38 percent) to take courses to help get or change a job, enter the workforce, or start a business.

Among participants who were employed in the 12 months prior to the survey, there were some differences in reasons for coursetaking by occupational group (classified as professional/managerial, sales/service/clerical, or trades and labor). Across the three occupational groups, most participants took work-related courses to maintain or improve skills or knowledge they already had. However, participants in professional or managerial jobs were the least likely to take courses in order to get or change a job (12 percent), because their employers required or recommended participation (73 percent), or to receive a promotion or pay raise (13 percent), compared to participants in other occupations. Additionally, participants working in sales/service/clerical occupations were less likely than participants in other types of occupations to report taking formal work-related courses to get or keep a certificate or license.

Household income was associated with differences in reasons for course participation. Participants in higher income households were more likely than those in lower income households to take courses to maintain skills or knowledge they already had. Conversely, participants in higher income households were less likely than those in lower income households to take courses to learn completely new skills or knowledge or to take courses to get or change a job. Among employed participants, those with lower household incomes were more likely than those with higher household incomes to take a course in pursuit of a promotion or pay raise.

Summary

More than 90 percent of adults who took formal work-related courses in 2002–03 reported doing so in order to maintain or improve skills or knowledge they already had, while fewer than 20 percent took such courses to get or change a job or career field. Among employed adults, the majority took courses because their employer required or recommended participation, while about a fifth did so in order to get a promotion or pay raise.

The likelihood of taking classes for the selected reasons examined in this brief generally varied by participants' age, education, employment status, occupation, and household income. A few differences also were found between participants of different races/ethnicities and between men and women. Participants who were older, the most highly educated, employed, or living in higher income households were more likely to say they took work-related courses to maintain or improve the skills they already had and less likely to report doing so in order to get or change a job. Among employed course takers, participation to fulfill an employer's requirement or recommendation, or to get a promotion or pay raise, was less common among the oldest, most highly educated, and professional/managerial workers.

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Data source: The Adult Education for Work-Related Reasons Survey of the 2003 National Household Education Surveys Program.

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School Library Media Centers

School Library Media Centers: Selected Results From the Education Longitudinal Study of 2002 (ELS:2002)

Leslie Scott

This article was originally published as the Executive Summary of the E.D. TAB of the same name. The sample survey data are from the Education Longitudinal Study of 2002 (ELS:2002).

Introduction

School libraries play an important role in making information available to students and in teaching students how to obtain and use that information. The constant improvement in the quality and affordability of personal computers, particularly when coupled with the increase in the availability of electronically stored information of all kinds, means that today's school libraries have become far more than simple repositories of books. One scholar suggests that, in order to meet the needs of today's students, school library media specialists "need to develop high-tech environments to provide the types of learning experiences that employers will require of their employees. Electronic access to local and remote online networks, in-house use of CD-ROM databases, and interactive media are necessary for all library media centers" (Craver 1995).

This report provides an overview of the current state of school library media centers[1] that serve U.S. 10th-graders. The National Center for Education Statistics (NCES) Education Longitudinal Study of 2002 (ELS:2002) provides comprehensive data from multiple sources on school library media centers that served 10th-graders in 2002. ELS:2002 is a longitudinal study of a nationally representative sample of 15,525[2] 10th-graders in 752 schools in the United States in 2002. The students will likely be followed until about age 30, with the first follow-up in 2004, when most of the students are in the 12th grade. During the high school years,

[1]The terms "school library" and "school library media center" are used interchangeably.

[2]This sample size (15,525) includes 163 students who were unable to complete the student questionnaire and cognitive tests due to disability, language barriers, etc. However, contextual data are available for these students on the ELS:2002 restricted-use data file. They are not on the public-use data file (where the sample size is 15,362).

ELS:2002 is a multilevel study, involving multiple respondent populations, including students, their parents, their teachers, and their schools (from which data are collected from the school principal, the school librarian, and a facilities checklist). Obtaining data from multiple respondents provides a more comprehensive picture of the home, community, and school environment and the influences they have on the student.

The ELS:2002 library media center survey, administered primarily to school librarians, examined various aspects of school libraries—their space, organization, collections, resources, staffing, and use. In addition, 10th-graders provided information on their use of and opinions about their school libraries.

Key Findings

This E.D. TAB summarizes findings for all ELS:2002 schools and students about library media centers. Findings for schools are presented by the following school characteristics: school sector, school urbanicity, school region, grade span, school enrollment, and the percentage of students receiving free or reduced-price lunch in grade 10. Findings for students are presented by the following student characteristics: sex, race/ethnicity, socioeconomic status (SES), composite achievement test score in grade 10, student's school sector, student's school urbanicity, and student's school region. Comparisons by these school and student characteristics have been tested for statistical significance (at the .05 level). This executive summary presents highlights of findings from the ELS:2002 library media center survey and student survey.

School library media centers: Who has them, and their organization

All participating ELS:2002 schools were asked if they had a school library media center, defined as

> . . . an organized collection of printed and/or audiovisual and/or computer resources which is administered as a unit, is located in a designated place or places, and makes resources and services available to students, teachers, and administrators. A library media center may also be called a library, media center, resource center, information center, instructional materials center, learning resource center, or some other name.

Schools that answered yes were then asked to complete a school library media center survey. In approximately three-quarters of the cases, the survey was completed by the school library media specialist; in other cases, the survey was completed by someone else.[3]

School library media centers are almost universally available. In 2002, 96 percent of schools had a library media center (table A). Ninety-three percent of these school library media centers were centrally organized (one area in one building), while 7 percent were decentralized (collections or services located in more than one location).

Library resources, staffing, and circulation

The library media center questionnaire asked numerous questions about the availability of library resources and services. The types of technology and equipment that many libraries had (and the percentage that had them) were internet access (96 percent), personal computer (94 percent), VCR (91 percent), audio equipment (89 percent), telephone (88 percent), and automated book circulation system (74 percent). Few libraries had these resources: electronic book reader (2 percent), technology for persons with disabilities (16 percent), and videoconferencing equipment (20 percent).

Of the database services that ELS:2002 asked school librarians about, 88 percent of school libraries had reference/bibliography databases, 82 percent had general articles and news databases, 62 percent had college and career databases, and 56 percent had academic subject databases (table B).

Sixty-two percent of school library media centers participated in some type of interlibrary loan (ILL) program with other libraries. School libraries were more likely to have an ILL program with public libraries in the area (43 percent) and area high schools (42 percent) than with colleges/universities (31 percent), the state library (30 percent), or other high schools in the state (25 percent). Public schools and schools in the Northeast were more likely to participate in ILL programs than Catholic and other private schools, and schools in the South and West.

Seventy-six percent of school library media centers had a state-certified librarian on staff. Combined elementary/secondary schools (schools with grades PK, K, 1, 2, 3, 4, or 5 through 12) and smaller schools (schools with 1–399 students) were less likely to have a state-certified librarian on staff than schools with other grade spans and larger student enrollments.

[3]Seventy-three percent of library media center questionnaire respondents were certified librarians/media specialists, 4 percent were principals or other school administrators, and 23 percent were other.

Table A. Percent of 10th-grade schools with a school library media center, by selected school characteristics: 2002

School characteristic	Percent with a school library media center
Total	96.1
School sector	
Public	100.0
Catholic	100.0
Other private	80.8
School urbanicity	
Urban	99.1
Suburban	93.1
Rural	98.0
School region	
Northeast	95.0
Midwest	97.7
South	94.3
West	98.2
Grade span	
PK, K, 1, 2, 3, 4, or 5–12	87.6
6, 7, or 8–12	100.0
9–10, 11, or 12	99.7
10–11 or 12	100.0
School enrollment	
1–399	92.6
400–799	100.0
800–1,199	100.0
1,200–1,599	100.0
1,600+	100.0
Grade 10, percent free lunch[1]	
0–5 percent	87.9
6–20 percent	100.0
21–50 percent	99.4
51–100 percent	100.0

[1]Percentage of a school's 10th-grade students receiving free or reduced-price lunch.
NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Base Year, School Survey, 2002."
(Originally published as table 1 on p. 18 of the complete report from which this article is excerpted.)

Table B. Percent of school library media centers with various services, by selected school characteristics: 2002

School characteristic	School library media center has					
	Online catalog	Other libraries' online catalogs	Internet access	E-mail or chat room access	Educational software[1]	Multimedia production facility[2]
Total	69.2	60.5	96.0	67.8	70.2	17.6
School sector						
Public	76.2	62.4	99.4	68.2	69.8	19.3
Catholic	67.3	66.2	95.7	58.4	72.3	19.6
Other private	36.5	49.9	79.7	69.0	71.6	8.8
School urbanicity						
Urban	66.2	62.1	92.3	65.5	65.0	11.0
Suburban	76.7	57.2	95.7	66.0	72.2	18.5
Rural	62.5	63.4	98.5	71.4	71.1	20.5
School region						
Northeast	78.7	76.2	93.7	63.4	65.8	15.7
Midwest	68.5	68.9	96.8	65.5	78.4	23.1
South	71.6	54.8	96.4	70.8	76.0	18.6
West	58.4	47.8	96.0	69.1	52.5	9.4
Grade span						
PK, K, 1, 2, 3, 4, or 5–12	41.1	47.4	89.5	69.6	78.0	22.9
6, 7, or 8–12	67.1	66.9	96.8	62.0	66.4	15.0
9-10, 11, or 12	83.4	65.0	98.8	68.8	67.3	15.3
10–11 or 12	68.2	65.4	100.0	62.7	77.3	34.5
School enrollment						
1–399	48.7	47.9	93.7	68.5	69.8	16.4
400–799	75.2	61.8	98.3	61.6	67.1	18.0
800–1,199	84.6	71.8	99.3	86.1	78.7	21.4
1,200–1,599	91.4	79.7	100.0	60.2	76.0	18.4
1,600+	97.1	76.2	100.0	68.7	75.5	26.0
Grade 10, percent free lunch[5]						
0–5 percent	61.0	60.6	87.9	65.8	72.2	9.4
6–20 percent	86.0	84.3	99.9	56.7	67.9	29.8
21–50 percent	65.5	54.4	99.5	73.9	74.6	17.7
51–100 percent	63.1	41.0	99.0	80.2	57.6	12.5

See notes at end of table.

Table B. Percent of school library media centers with various services, by selected school characteristics: 2002—Continued

School characteristic	School library media center has				
	Reference and bibliography database[3]	General articles and news databases	College and career databases	Academic subject databases[4]	Electronic full-text books, journals, references, or magazines
Total	88.1	82.1	62.1	56.0	62.0
School sector					
Public	92.5	87.9	67.6	59.4	66.7
Catholic	84.3	78.8	60.8	54.6	46.1
Other private	69.0	55.4	36.5	40.4	44.7
School urbanicity					
Urban	78.5	71.0	53.9	54.2	51.2
Suburban	85.2	77.2	62.9	55.8	59.2
Rural	97.0	94.1	66.0	57.2	71.7
School region					
Northeast	87.6	85.1	56.9	67.1	66.0
Midwest	94.7	89.2	71.4	63.2	64.4
South	86.8	80.8	60.8	57.4	58.5
West	82.0	72.7	56.2	35.3	62.1
Grade span					
PK, K, 1, 2, 3, 4, or 5–12	80.3	73.4	50.4	46.5	46.5
6, 7, or 8–12	89.4	79.8	72.4	50.5	65.5
9–10, 11, or 12	91.0	86.3	64.1	61.5	67.7
10–11 or 12	97.4	100.0	81.7	77.7	72.9
School enrollment					
1–399	86.2	76.2	55.6	42.4	49.8
400–799	85.2	83.8	63.4	59.0	69.9
800–1,199	97.3	89.9	74.3	78.5	67.7
1,200–1,599	96.8	96.8	69.5	75.7	80.2
1,600+	96.2	97.7	76.6	70.1	80.7
Grade 10, percent free lunch[5]					
0–5 percent	79.4	73.0	49.0	52.5	53.3
6–20 percent	92.2	90.6	66.1	77.4	81.1
21–50 percent	97.0	93.0	67.7	50.5	63.2
51–100 percent	80.7	70.2	63.4	48.8	48.1

[1]Examples include CD-ROMs and Math Blasters.
[2]A multimedia production facility is a studio containing a computer and equipment using text, full-color images and graphics, video, animation, and sound.
[3]Examples include encyclopedias and dictionaries.
[4]Education, business/management, humanities, science/engineering/math, or English databases (e.g., ERIC, Science Direct).
[5]Percentage of a school's 10th-grade students receiving free or reduced-price lunch.
NOTE: Two similar questions on internet access were asked in the Library Media Center Questionnaire. Table 5a in the full report presents the results of respondents' answers to question 11K, whereas this table presents respondents' answers to question 12C. Estimates across the two tables differ, perhaps due to the slight wording differences of the two questions.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Base Year, Library Media Center Survey, 2002." (Originally published as table 6 on pp. 27–28 of the complete report from which this article is excerpted.)

Seventy-five percent of school library media centers had fewer than 16,000 books (table C).[4] An average of 280 library materials (books, etc.) circulated from school libraries during a typical week (table D). On average, about one book (or other library material) per student circulated from school libraries each week.

[4]We recognize that a better measure would have been number of books per student, but the ELS:2002 variable for library holdings is not available as a continuous measure. The number of library book holdings is correlated with school size. For example, schools with the smallest enrollment size (1–399 students) were more likely than schools with larger enrollment sizes (400–799; 800–1,199; 1,200–1,599; 1,600 or more) to have fewer than 8,000 books. Likewise, the largest schools (1,600 or more students) were more likely than schools with fewer students to have 24,000 or more books in the library.

Students' self-reported use and opinions of their school libraries

The ELS:2002 student survey contained several questions about students' use of and opinions about their schools' libraries. Students reported using the school library sometimes or often for research papers (54 percent), in-school projects (53 percent), internet access (41 percent), and assignments (41 percent). Females used the school library more often than males for assignments, in-school projects, homework, research papers, and to read books for fun. Students from different SES backgrounds used school libraries for different reasons. Students from high-SES

Table C. Percent of school library media centers with different size library collections, by selected school characteristics: 2002

School characteristic	2001 holdings—books (all copies)				2001 holdings—video materials (tape, DVD, or laser disc titles; not duplicates)			
	Fewer than 8,000	8,000–15,999	16,000–23,999	24,000 or more	Fewer than 250	250–999	1,000–1,749	1,750 or more
Total	38.8	36.1	18.9	6.2	60.5	31.1	7.1	1.3
School sector								
Public	32.4	39.0	22.3	6.3	56.1	34.7	7.7	1.5
Catholic	32.0	50.4	14.3	3.3	62.7	32.5	4.8	#
Other private	69.5	18.8	4.7	7.0	79.1	14.8	5.2	0.8
School urbanicity								
Urban	42.6	28.3	18.1	11.0	56.0	31.4	10.3	2.3
Suburban	31.9	37.1	24.8	6.2	56.5	31.9	9.8	1.8
Rural	44.4	39.6	12.5	3.5	67.3	30.0	2.4	0.2
School region								
Northeast	31.1	34.4	26.6	7.9	60.0	32.5	6.1	1.4
Midwest	31.2	43.5	18.5	6.9	62.1	30.1	6.7	1.1
South	43.2	34.8	16.9	5.1	49.8	38.2	10.5	1.4
West	47.1	29.7	16.9	6.3	77.7	18.6	2.4	1.3
Grade span								
PK, K, 1, 2, 3, 4, or 5–12	58.2	25.8	12.5	3.5	77.8	16.5	5.2	0.5
6, 7, or 8–12	46.8	41.8	9.0	2.3	60.3	34.7	4.5	0.5
9–10, 11, or 12	27.9	38.9	24.7	8.5	51.6	37.8	8.9	1.7
10–11 or 12	6.1	56.7	24.1	13.2	53.5	30.7	7.9	7.9
School enrollment								
1–399	60.1	28.8	8.6	2.5	77.8	21.1	1.1	#
400–799	32.5	46.1	18.5	2.9	54.8	37.7	7.5	#
800–1,199	18.2	53.7	23.1	5.0	38.7	44.6	14.3	2.4
1,200–1,599	3.9	40.0	43.0	13.1	41.2	42.5	16.3	#
1,600+	1.1	29.3	41.6	28.0	35.3	31.6	22.1	11.0
Grade 10, percent free lunch[1]								
0–5 percent	44.8	33.7	11.8	9.7	68.0	24.6	6.6	0.8
6–20 percent	38.5	32.9	22.4	6.2	55.0	38.2	3.9	2.9
21–50 percent	29.3	41.5	24.8	4.4	61.8	31.5	5.7	0.9
51–100 percent	49.4	34.1	12.8	3.7	61.7	28.5	8.4	1.4

See notes at end of table.

Table C. Percent of school library media centers with different size library collections, by selected school characteristics: 2002—Continued

School characteristic	2001 holdings—periodical subscriptions (current print or microform subscriptions)				2001 holdings—electronic database subscriptions (online, CD-ROM, electronic journals, electronic books; not duplicates)			
	Fewer than 25	25–49	50–74	75 or more	None	1–3	4–6	7 or more
Total	42.3	35.8	12.3	9.6	25.0	44.1	14.3	16.5
School sector								
Public	34.8	40.6	14.2	10.4	20.2	45.3	16.0	18.6
Catholic	49.8	29.6	14.8	5.9	37.1	28.1	18.8	16.0
Other private	73.6	16.2	3.1	7.0	42.8	44.0	5.7	7.6
School urbanicity								
Urban	46.2	29.2	12.3	12.3	29.6	38.6	14.4	17.4
Suburban	37.8	36.5	14.4	11.3	27.0	34.4	19.0	19.5
Rural	45.3	38.9	9.9	5.9	20.1	58.6	8.8	12.5
School region								
Northeast	34.3	39.6	12.7	13.5	17.2	35.3	21.3	26.3
Midwest	36.1	36.8	15.2	11.8	22.8	43.3	19.2	14.7
South	44.1	35.0	12.6	8.3	31.2	39.4	10.3	19.1
West	53.4	33.1	7.7	5.8	22.8	59.7	9.9	7.5
Grade span								
PK, K, 1, 2, 3, 4, or 5–12	64.8	31.2	1.4	2.7	30.9	54.2	5.2	9.7
6, 7, or 8–12	36.9	47.2	11.3	4.6	32.1	31.3	18.4	18.2
9–10, 11, or 12	33.2	34.4	18.1	14.3	21.0	42.2	17.0	19.8
10–11 or 12	34.2	45.7	8.2	11.9	#	55.3	34.9	9.8
School enrollment								
1–399	59.3	30.4	6.4	3.9	36.3	46.4	10.1	7.2
400–799	35.1	45.5	11.5	7.8	22.0	44.1	14.0	19.9
800–1,199	27.0	42.2	13.6	17.2	16.0	43.4	16.9	23.7
1,200–1,599	19.6	34.2	26.5	19.7	4.3	38.9	26.7	30.1
1,600+	19.7	33.7	24.7	21.9	6.1	42.6	22.9	28.5
Grade 10, percent free lunch[1]								
0–5 percent	50.3	31.1	10.2	8.4	34.4	34.7	15.4	15.5
6–20 percent	37.2	33.2	15.1	14.5	15.3	49.4	13.1	22.3
21–50 percent	35.4	44.1	12.1	8.3	20.0	54.4	10.9	14.7
51–100 percent	42.4	40.0	10.9	6.7	36.2	34.0	14.1	15.6

#Rounds to zero.
[1]Percentage of a school's 10th-grade students receiving free or reduced-price lunch.
NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Base Year, Library Media Center Survey, 2002." (Originally published as table 4 on pp. 21–22 of the complete report from which this article is excerpted.)

Table D. Mean total circulation of library materials (books, etc.) checked out from the library media center during a typical week, and per student, by selected school characteristics: 2002

School characteristic	Mean circulation per week	Mean circulation per student, per week
Total	279.5	0.7
School sector		
Public	277.6	0.6
Catholic	82.3	0.2
Other private	359.0	1.0
School urbanicity		
Urban	291.8	0.3
Suburban	231.8	0.4
Rural	330.2	1.2
School region		
Northeast	191.3	0.3
Midwest	323.0	1.0
South	249.0	0.5
West	343.0	0.8
Grade span		
PK, K, 1, 2, 3, 4, or 5–12	423.9	1.3
6, 7, or 8–12	185.5	0.4
9–10, 11, or 12	237.0	0.4
10–11 or 12	209.4	0.2
School enrollment		
1–399	252.5	1.1
400–799	264.5	0.5
800–1,199	314.9	0.3
1,200–1,599	323.6	0.2
1,600+	453.2	0.2
Grade 10, percent free lunch[1]		
0–5 percent	251.8	0.7
6–20 percent	265.9	0.6
21–50 percent	305.7	0.8
51–100 percent	268.2	0.5

[1]Percentage of a school's 10th-grade students receiving free or reduced-price lunch.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Base Year, Library Media Center Survey, 2002." (Originally published as table 16 on p. 88 of the complete report from which this article is excerpted.)

families were more likely than students from middle- or low-SES backgrounds to use the library sometimes or often for assignments and in-school projects. Students from low-SES families were more likely than students from middle- or high-SES families to use the school library sometimes or often for homework, leisure reading, to read magazines or newspapers, to read books for fun, and for interests outside of school. Students with different test scores also used the library for different purposes. Students with high test scores were more likely than students with low or middle scores to use the library for assignments, in-school projects, and research papers. Students with low test scores were more likely than students with high or middle test scores to use the library for homework, leisure reading, to read magazines or newspapers, to read books for fun, and for interests outside of school.

The majority of students reported that their school library's reference materials were useful (58 percent reported they were useful and 22 percent reported they were very useful). The majority of students also reported that school library staff were helpful with different tasks. For example, 79 percent of students reported that library staff were helpful or very helpful with finding research resources, such as books, magazines, and newspaper articles, on a research topic.

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Data source: The NCES Education Longitudinal Study of 2002 (ELS:2002), "Base Year, Library Media Center Survey, 2002," "Base Year, School Survey, 2002," and "Base Year, Student Survey, 2002."

For technical information, see the complete report:

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To obtain the complete report (NCES 2005-302), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

School Library History

Fifty Years of Supporting Children's Learning: A History of Public School Libraries and Federal Legislation From 1953 to 2000

Joan S. Michie and Barbara A. Holton

This article was originally published as the Executive Summary of the Compendium of the same name. The data are from U.S. Department of Health, Education, and Welfare reports, National Center for Education Statistics reports, and the Schools and Staffing Survey (SASS).

The past 50 years have seen a dramatic change in the status of the school library. Since the early 1950s, almost 30,000 new school libraries have been established, and thousands of federally funded development and collection expansion projects have enhanced existing libraries in public elementary and secondary schools. At the same time, school libraries have evolved from having a primary focus on books to providing the rich array of resources found in the information centers of today.

The report provides basic information on school libraries from 1953–54 to 1999–2000. It describes some of the key variables for which data were available over this nearly 50-year time frame. While not a comprehensive history of library media centers in this country, the report provides a wealth of information drawn from more than 50 sources, the majority of which are federal surveys and reports. Most of the data in the report have been previously published, but the older reports are not easily accessible to the general public. Data in the tables of this document come from nine federally sponsored reports or databases of national data on school libraries. Only datasets that include national-level data were considered for this compilation. The data come from sample surveys that were self-administered. In addition to school library data, the report presents information about the evolving nature of federal legislation, regional school accreditation standards, and other factors relevant to the establishment, financial support, and minimum requirements of public school libraries.

The federal share of revenue for public elementary and secondary education was 4.5 percent in 1953–54 and 7.3 percent in 1999–2000 (U.S. Department of Education 2002). State and local legislative and funding efforts that were also occurring during the time period are not discussed because they are beyond the scope of the report. The efforts at all three levels—federal, state, and local—need to be kept in mind when the descriptive data on the characteristics of libraries across the time span are considered.

Highlights

The following findings were excerpted from the nearly 50-year span of data on characteristics of public school libraries:

- At the national level, there were approximately 129,000 public schools in 1953–54 and 84,000 in 1999–2000. School consolidation was a major factor in the reduction in the number of public schools (U.S. Department of Education 2002). At the same time, in 1953–54, approximately 27.7 million students attended public schools in the United States. In 1999–2000, the number of students attending the nation's public schools was about 45.0 million.
- In 1953–54, 36 percent of all public schools had library media centers, but these schools contained 59 percent of all public school students. In 1999–2000, 92 percent of all public schools had a school library; these schools contained 97 percent of all public school students.
- At the national level, 40 percent of public schools had a librarian in 1953–54. In 1999–2000, 86 percent of public schools had a librarian.
- Nationally, for all public school students there were 3 school library books per pupil in 1953–54 and 17 books per pupil in 1999–2000.
- In 1953–54, excluding salaries, per pupil expenditures for public school libraries were $6 (in adjusted 1999–2000 dollars). In 1999–2000, per pupil expenditures for public school libraries, excluding salaries, were $15.
- The percent of public schools with a librarian ranged from 17 percent in the New England accreditation region to 62 percent in the Western accreditation region in 1953–54. In the other accreditation regions, librarians were employed in public school libraries as follows: Middle States (36 percent), North Central (39 percent), Southern (42 percent), and Northwest (50 percent).
- In 1999–2000, the percent of public schools with a librarian ranged from 61 percent in the Western accreditation region to 93 percent in the Southern accreditation region. In the other accreditation regions, librarians were employed in public school libraries as follows: Northwest (79 percent), New England (86 percent), Middle States (92 percent), and North Central (86 percent).

- In 1953–54, 24 percent of elementary public schools and 95 percent of secondary public schools had a school library media center. In 1999–2000, 95 percent of elementary public schools and 87 percent of secondary public schools had a school library media center.
- In 1953–54, the percent of public schools with library media centers ranged from 13 percent in West Virginia to 80 percent in North Carolina. In 1999–2000, the percent of public schools with library media centers ranged from 73 percent in South Dakota to 100 percent in Hawaii, Vermont, and Wisconsin.
- In 1953–54, the percent of public schools with a librarian ranged from 7 percent in Vermont and the District of Columbia to 80 percent in Delaware. In 1999–2000, the percent of public schools with a librarian ranged from 59 percent in West Virginia to 100 percent in Hawaii.

Organization and Content

The report is divided into four sections that present categories of historical data about public school library media centers. In the order shown in the report, the categories are as follows:

- national-level data;
- regional-level data;
- school-level data; and
- state-level data.

The first section provides national data. The second section provides regional data tables and summarizes the history of standards for school libraries in each region. The states included in each region—defined in terms of the regional accrediting associations—are constant throughout the time period covered in this report.

The third section includes both elementary and secondary school data. In the final section, on state data, the accompanying text provides information on school library services from reports on federal programs that supported school libraries. Also included in state summaries are services provided by state library agencies to school libraries between 1996 and 2000 that involved funding, standards or guidelines, and development staff; these services are included because they relate specifically to the key variables in this report.

The report also includes four appendixes: Per Pupil Measures, Adjusting Dollars Using the Consumer Price Index, States in Regional Accrediting Associations, and Standard Error Tables. Since standard errors were not available for the older datasets used in this compendium, only the standard errors from 1990–91, 1993–94, and 1999–2000 are presented in the tables.

Key Variables

The main factors considered in the selection of variables were the importance of the variable, sufficiency of the data over the 50 years covered in the report, and comparability of the data. All tables of library data in the report contain the following 11 key variables:

- number of public schools;
- number of pupils in public schools;
- number of public schools with library media centers;
- percent of public schools with library media centers;
- number of pupils in schools with library media centers;
- percent of pupils in schools with library media centers;
- number of schools with a librarian;
- percent of schools with a librarian;
- books per pupil;
- library expenditures (excluding salaries) per pupil; and
- book expenditures per pupil.

The first two listed variables—*number of public schools* and *number of pupils in public schools*—were included to provide a context for the other data that are specific to school libraries.

Two of the most basic variables are the *number* and *percent of public schools with library media centers*. The number of public schools with a library media center or school library depends on the definition of a school library. That definition has changed over the years covered in this report to reflect changes in the concept of a school library. In this historical compilation, data on formal, organized libraries have been included because they are similar conceptually to what was later known as a library media center. Data from classroom collections have been excluded.

Regarding the staffing variables, *number* and *percent of schools with a librarian,* the number of schools with a librarian depends on the definition of a librarian. That definition has also changed a great deal over the past 50 years. Factors that have been incorporated into the definition over this time period include the number of semester hours in library

science and state certification in the field of library media. In this report, the prevailing definition of a school librarian at the time was used for each school year presented.*

Holdings are an important part of a school library, and several holdings variables were considered for this compilation. *Books per pupil* was selected because it is a school library measure of the educational resources available to students, and it was available in most of the reports reviewed. Only books in formal, organized libraries were included; those in classroom collections were excluded. The total number of books held in the school library was used, not just those books purchased during the previous year.

For this historical report, enrollment data for all public school pupils, not just pupils in public schools with school libraries, was selected. During the past 50 years, the number of public schools with library media centers has approached or reached 100 percent in many states. Using a denominator that represents 100 percent of public school pupils provides a broader context to observe change in the number of library books per pupil, a proxy for societal support for school libraries.

Two other holdings variables considered were the number of periodical subscriptions and the number of titles of audiovisual materials. Comparability of data was a problem in both cases. For example, for some years it was not clear if microform subscriptions were being counted under microforms or subscriptions. Types of materials varied considerably over the years. Similarly, data regarding computers were not comparable, even for the most recent years.

To obtain *library expenditures (excluding salaries) per pupil* and *book expenditures per pupil,* only library expenditure data for formal, organized libraries were used in this report. Library expenditures included books and subscriptions, and also in more recent years, video materials and CD-ROMs for formal, organized school libraries. Expenditures for computer hardware and audiovisual equipment were excluded in order to provide comparable data for the years presented.

Enrollment data used to calculate per pupil expenditures included all public school pupils, not just pupils in public schools with school libraries. For this historical report, it was useful to examine per pupil library expenditures in the context of all public school pupils in the categories presented in the tables. These measures of per pupil library and book expenditures allow the reader to observe change and to perceive the overall support for school libraries over time. For both of these expenditure variables, the Consumer Price Index was used to adjust all dollar amounts to the 1999–2000 school year (see appendix B in the full report).

*The education level of librarians was considered but excluded as a variable because of the great variation in how education level has been defined and reported over these years. The lack of comparability in the definitions of other library staff resulted in exclusion of this category as a variable.

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NCES: *Statistics of Public School Libraries/Media Centers, Fall 1978*; *Statistics of Public and Private School Library Media Centers, 1985–86; Digest of Education Statistics 2001;* Schools and Staffing Survey (SASS): "Public School Questionnaire," 1990–91, 1993–94, and 1999–2000; "Public School Library Media Center Questionnaire," 1993–94 and 1999–2000; and 1999–2000 Schools Without Libraries Restricted-Use Data File.

For technical information, see the complete report:

Michie, J.S., and Holton, B.A. (2005). *Fifty Years of Supporting Children's Learning: A History of Public School Libraries and Federal Legislation From 1953 to 2000* (NCES 2005-311).

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To obtain the complete report (NCES 2005-311), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Public Libraries in the United States: Fiscal Year 2002

Adrienne Chute, P. Elaine Kroe, Patricia O'Shea, Terri Craig, Michael Freeman, Laura Hudgins, Joanna Fane McLaughlin, and Cynthia Jo Ramsey

This article was originally published as the Introduction and Findings of the E.D. TAB of the same name. The universe data are from the Public Libraries Survey (PLS). Tables, technical notes, and the glossary from the original report have been omitted.

Introduction

Survey purpose and data items included in the report

The Public Libraries Survey (PLS) provides a national census of public libraries and their public service outlets. These data are useful to federal, state, and local policymakers; library and public policy researchers; and the public, journalists, and others.

This report provides summary information about public libraries in the 50 states and the District of Columbia for state fiscal year (FY) 2002. It covers service measures such as access to the Internet, number of users of electronic resources, other electronic services, number of internet terminals used by staff only, number of internet terminals used by the general public, reference transactions, public service hours, interlibrary loans, circulation, library visits, children's program attendance, and circulation of children's materials. It also includes information about size of collection, staffing, operating income and expenditures, type of geographic service area, type of legal basis, type of administrative structure, and number and type of public library service outlets. This report is based on the final data file.

The PLS is a universe survey. A total of 8,969 of the 9,141 public libraries responded to the FY 2002 survey (8,968 public libraries in the 50 states and the District of Columbia and 1 public library in the outlying areas, in the U.S. Virgin Islands), for a unit response rate of 98.1 percent. The FY 2002 survey is the 15th in the series.[1] The data were submitted using customized personal computer survey software furnished by NCES.

Key library terminology

- *Public library*. A public library is an entity that is established under state enabling laws or regulations to serve a community, district, or region, and that provides at least the following: (1) an organized collection of printed or other library materials, or a combination thereof; (2) paid staff; (3) an established schedule in which services of the staff are available to the public; (4) the facilities necessary to support such a collection, staff, and schedule; and (5) that is supported in whole or in part with public funds. (Note: In the report, the term public library means an administrative entity.)
- *Administrative entity*. An administrative entity is the agency that is legally established under local or state law to provide public library service to the population of a local jurisdiction. The administrative entity may have a single public library service outlet, or it may have more than one public library service outlet.
- *Public library service outlet*. Public libraries can have one or more outlets that provide direct service to the public. The three types of public library service outlets included in this report are central library outlets, branch library outlets, and bookmobile outlets. Information on a fourth type of outlet, books-by-mail-only outlets, was collected but omitted from the report.

Tables included in the report

There are 60 tables in the full report, displaying data for the nation as a whole and for each of the 50 states, the District of Columbia, and one outlying area (the U.S. Virgin Islands, whose data are not included in the table totals).

Caveats for using the data

The data include imputations, at the unit and item levels, for nonresponding libraries. Comparisons to data prior to FY 1992 should be made with caution, as earlier data do not include imputations for nonresponse, and the percentage of libraries responding to a given item varied widely among states.

State data comparisons should be made with caution because of differences in state fiscal year reporting periods and adherence to survey definitions.[2] The District of Columbia, while not a state, is included in this report. Special care should be used in comparing the District's data to state data since it is an urban area, not a state. Caution should also be used in making comparisons with the state of Hawaii, as Hawaii reports only one public library for the entire state.

[1] Trend data from some of the earlier surveys are discussed in *Public Library Trends Analysis, Fiscal Years 1992–1996* (Glover 2001), an NCES Statistical Analysis Report.

[2] The definitions used by some states in collecting data from their public libraries may not be consistent with the PLS definitions. The NCES *Report on Coverage Evaluation in the Public Library Statistics Program* (Kindel 1994) and the NCES *Report on Evaluation of Definitions Used in the Public Library Statistics Program* (Kindel 1995) address issues of consistency in definitions among states.

History of the Public Libraries Survey and Cooperative Data Collection Today

History of the Public Libraries Survey

In 1985, the National Center for Education Statistics (NCES) and the American Library Association (ALA) conducted a pilot project in 15 states to assess the feasibility of a federal-state cooperative program for the collection of public library data. The project was jointly funded by NCES and the U.S. Department of Education's former Library Programs office. In 1987, the project's final report recommended the development of a nationwide data collection system. The Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (P.L. 100-297) charged NCES with developing a voluntary Federal-State Cooperative System (FSCS) for the annual collection of public library data.[3] To carry out this mandate, a task force was formed by NCES and the National Commission on Libraries and Information Science (NCLIS), and the FSCS was established in 1988.

The first E.D. TAB in this series, *Public Libraries in 50 States and the District of Columbia: 1989*, which included data from 8,699 public libraries in 50 states and the District of Columbia, was released by NCES in 1991 (Podolsky 1991). A data file and survey report have been released annually since then. The states have always submitted their data electronically, via customized personal computer survey software furnished by NCES.

Cooperative data collection today

The 1988 NCES-NCLIS task force evolved into the FSCS Steering Committee as we know it today. This committee is integral to the design and conduct of the survey. Its membership includes State Data Coordinators (SDCs) and representatives of the Chief Officers of State Library Agencies (COSLA), NCLIS, ALA, the Institute of Museum and Library Services (IMLS), the U.S. Census Bureau (the data collection agent), and NCES.

Data are collected through the PLS, conducted annually by NCES through the FSCS for Public Library Data. FSCS is a cooperative system through which states and the outlying areas submit data for each of 9,000 public libraries to NCES on a voluntary basis. At the state level, FSCS is administered by SDCs appointed by the COSLA. The SDC collects the requested data from public libraries and submits these data to NCES. NCES aggregates the data to provide the state and national totals presented in this report.

[3]This was superseded by the National Education Statistics Act of 1994 (P.L. 103-382) and, more recently, by the Education Sciences Reform Act of 2002.

Findings

Number of public libraries and population of legal service area

- There were 9,137[4] public libraries (administrative entities) in the 50 states and the District of Columbia in FY 2002.
- Public libraries served 98 percent[5] of the total population of the states and the District of Columbia, either in legally established geographic service areas or in areas under contract.
- Eleven percent of the public libraries served 72 percent of the population of legally served areas in the United States; each of these public libraries had a legal service area population of 50,000 or more.

Service outlets

- In FY 2002, 81 percent of public libraries had one direct-service outlet (an outlet that provides service directly to the public). Twenty percent had more than one direct-service outlet. Types of direct-service outlets include central library outlets, branch library outlets, and bookmobile outlets.
- A total of 1,535 public libraries (17 percent) had one or more branch library outlets, with a total of 7,500 branch outlets. The total number of central library outlets was 8,986. The total number of stationary outlets (central library outlets and branch library outlets) was 16,486. Eight percent of public libraries had one or more bookmobile outlets, with a total of 873 bookmobiles.

Legal basis and interlibrary relationships

- In FY 2002, 54 percent of public libraries were part of a municipal government, 10 percent were part of a county/parish, 15 percent were nonprofit association libraries or agency libraries, 11 percent were separate government units known as library districts, 4 percent had multijurisdictional legal basis under an intergovernmental agreement, 3 percent were part of a school district, 1 percent were part of a city/county, and 1 percent reported their legal basis as "other."
- Seventy-six percent of public libraries were members of a system, federation, or cooperative service, while 23 percent were not. One percent served as the

[4]Of the 9,137 public libraries, 7,358 were single-outlet libraries and 1,779 were multiple-outlet libraries.

[5]This percentage was derived by dividing the total unduplicated population of legal service areas for the 50 states and the District of Columbia by the sum of their official state total population estimates. (The percentage is based on unrounded data.) Also see *Data File (Public Use): Public Libraries Survey: Fiscal Year 2002* (Kroe et al. 2005).

headquarters of a system, federation, or cooperative service.[6]

Library services

Children's services

- Nationwide, circulation of children's materials was 682.9 million, or 36 percent of total circulation, in FY 2002. Attendance at children's programs was 52.1 million.

Internet access and electronic services

- Nationwide, 93 percent of public libraries provided access to electronic services.[7]
- Nationwide, uses of electronic resources per year totaled 292.7 million, or 1.1 uses of electronic resources per capita.[8]
- Nationwide, 97 percent of public libraries had access to the Internet.
- Internet terminals available for public use in public libraries nationwide numbered 141,000, or 2.5 per 5,000 population. The average number of internet terminals available for public use per stationary outlet was 8.6.[9]
- Ninety-nine percent[10] of the unduplicated population of legal service areas had access to the Internet through their local public library.

Other services

- Total nationwide circulation of public library materials was 1.9 billion, or 6.8 materials circulated per capita. By state, the highest circulation per capita was 14.6, and the lowest was 2.1.
- Nationwide, 23.3 million library materials were loaned by public libraries to other libraries.
- Nationwide, reference transactions in public libraries totaled 301.8 million, or 1.1 reference transactions per capita.
- Nationwide, library visits to public libraries totaled 1.2 billion, or 4.5 library visits per capita.

Collections

- Nationwide, public libraries had 785.1 million books and serial volumes in their collections, or 2.8 volumes per capita, in FY 2002. By state, the number of volumes per capita ranged from 1.7 to 5.1.
- Public libraries nationwide had 35.7 million audio materials and 28.7 million video materials in their collections.
- Nationwide, public libraries provided 6.6 materials in electronic format per 1,000 population (e.g., CD-ROMs, magnetic tapes, and magnetic disks).

Staff

- Public libraries had a total of 136,000 paid full-time-equivalent (FTE) staff in FY 2002, or 12.3 paid FTE staff per 25,000 population. Of the total FTE staff, 22 percent, or 2.7 per 25,000 population, had master's degrees from programs of library and information studies accredited by the American Library Association ("ALA-MLS" degrees); 11 percent were librarians by title but did not have the ALA-MLS degree; and 67 percent were in other positions.
- Forty-six percent of all public libraries, or 4,211 libraries, had librarians with ALA-MLS degrees.

Operating income and expenditures

Operating income

- In FY 2002, 79 percent of public libraries' total operating income of about $8.6 billion came from local sources, 12 percent from state sources, 1 percent from federal sources, and 9 percent from other sources, such as monetary gifts and donations, interest, library fines, and fees.
- Nationwide, the average total per capita[11] operating income for public libraries was $30.97. Of that, $24.49 was from local sources, $3.61 from state sources, $.17 from federal sources, and $2.69 from other sources.

[6]Libraries that identify themselves as the headquarters of a system, federation, or cooperative service are not included in the count of members of a system, federation, or cooperative service.

[7]Access to electronic services refers to electronic services (e.g., bibliographic and full-text databases, multimedia products) provided by the library due to subscription, lease, license, or consortial membership or agreement. It includes full-text serial subscriptions and electronic databases received by the library or an organization associated with the library.

[8]The number of users (not uses) per typical week (not per year) was reported on the survey. Survey respondents were instructed to count a user who uses the library's electronic resources three times a week as three users. In this finding, the data are presented on an annualized basis for comparison with other annual data in the report; per capita values (instead of per 1,000 population) are used due to the change in scale of the data; and "uses" was substituted for "users" for meaningful per capita comparisons as there cannot be more "users" than the population base.

[9]The average was calculated by dividing the total number of internet terminals available for public use in central and branch outlets by the total number of such outlets.

[10]This percentage was derived by summing the unduplicated population of legal service areas for all public libraries that provided public-use internet terminals, and then dividing the total by the unduplicated population of legal service areas in the United States. Also see *Data File (Public Use): Public Libraries Survey: Fiscal Year 2002* (Kroe et al. 2005).

[11]Per capita figures are based on the total unduplicated population of legal service areas (which excludes populations of unserved areas) in the 50 states and the District of Columbia, not on the state total population estimates.

- Per capita operating income from local sources was under $3.00 for 9 percent of public libraries, $3.00 to $14.99 for 34 percent of libraries, $15.00 to $29.99 for 33 percent of libraries, and $30.00 or more for 24 percent of libraries.[12]

Operating expenditures

- Total operating expenditures for public libraries were $8 billion in FY 2002. Of this, 65 percent was expended for paid staff and 14 percent for the library collection.
- Thirty percent of public libraries had operating expenditures of less than $50,000, 41 percent expended $50,000 to $399,999, and 29 percent expended $400,000 or more.
- Nationwide, the average per capita operating expenditure for public libraries was $28.94. By state, the highest average per capita operating expenditure was $53.93, and the lowest was $13.14.
- Expenditures for library collection materials in electronic format were 1 percent of total operating expenditures for public libraries. Expenditures for electronic access were 3 percent of total operating expenditures.

[12]Percentages are based on unrounded data.

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For technical information, see the complete report:

Chute, A., Kroe, P.E., O'Shea, P., Craig, T., Freeman, M., Hudgins, L., McLaughlin, J.F., and Ramsey, C.J. (2005). *Public Libraries in the United States: Fiscal Year 2002* (NCES 2005-356).

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To obtain the complete report (NCES 2005-356), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Comparative Indicators

Comparative Indicators of Education in the United States and Other G8 Countries: 2004

Anindita Sen, Lisette A. Partelow, and David C. Miller

This article was originally published as the Summary of the Statistical Analysis Report of the same name. Data sources, outlined at the end of this article, include collections and assessments of the Organization for Economic Cooperation and Development (OECD) and the International Association for the Evaluation of Educational Achievement (IEA).

Introduction

This report is designed to describe how the U.S. education system compares with the education systems in the Group of Eight, or G8, countries. These countries, Canada, France, Germany, Italy, Japan, the Russian Federation, the United Kingdom, and the United States, are among the world's most economically developed. *Comparative Indicators of Education in the United States and Other G8 Countries: 2004* draws on the most current information about education from the Indicators of National Education Systems (INES) project at the Organization for Economic Cooperation and Development (OECD), the international assessments conducted by the International Association for the Evaluation of Educational Achievement (IEA), and the OECD's Program for International Student Assessment (PISA). Started in 2002, this report is published on a biennial basis. The main findings of this report are highlighted below. The highlights are organized around the four major sections of the report: the context of education, preprimary and primary education, secondary education, and higher education. All indicators from this report and the 2002 G8 report are online at http://nces.ed.gov/surveys/international/intlindicators.

Context of Education

Size and growth rate of school-age population

In 2003, the United States and the Russian Federation had the highest proportion of 5- to 29-year-olds, relative to their total populations, as compared to the other G8 countries. In the past 10 years (1993-2003), the population growth rate for youth ages 5 to 19 was higher in the United States than in any other G8 country.

Participation in formal schooling

In 2001, all of the G8 countries, except the Russian Federation, had close to universal participation in formal education for youth ages 5 to 14. Compulsory education ends at age 18 in Germany; age 17 in the United States; age 16 in Canada, France, and the United Kingdom; and age 15 in Italy, Japan, and the Russian Federation. Participation in formal education tends to be high until the end of compulsory education for all the countries, but in Germany and the United Kingdom, enrollment rates drop below 90 percent before the age at which compulsory education ends (figure A).

Funding and expenditures

In 2000, the United States ranked the highest among the six G8 countries with data in terms of expenditure per student at both the combined primary and secondary level as well as for higher education.

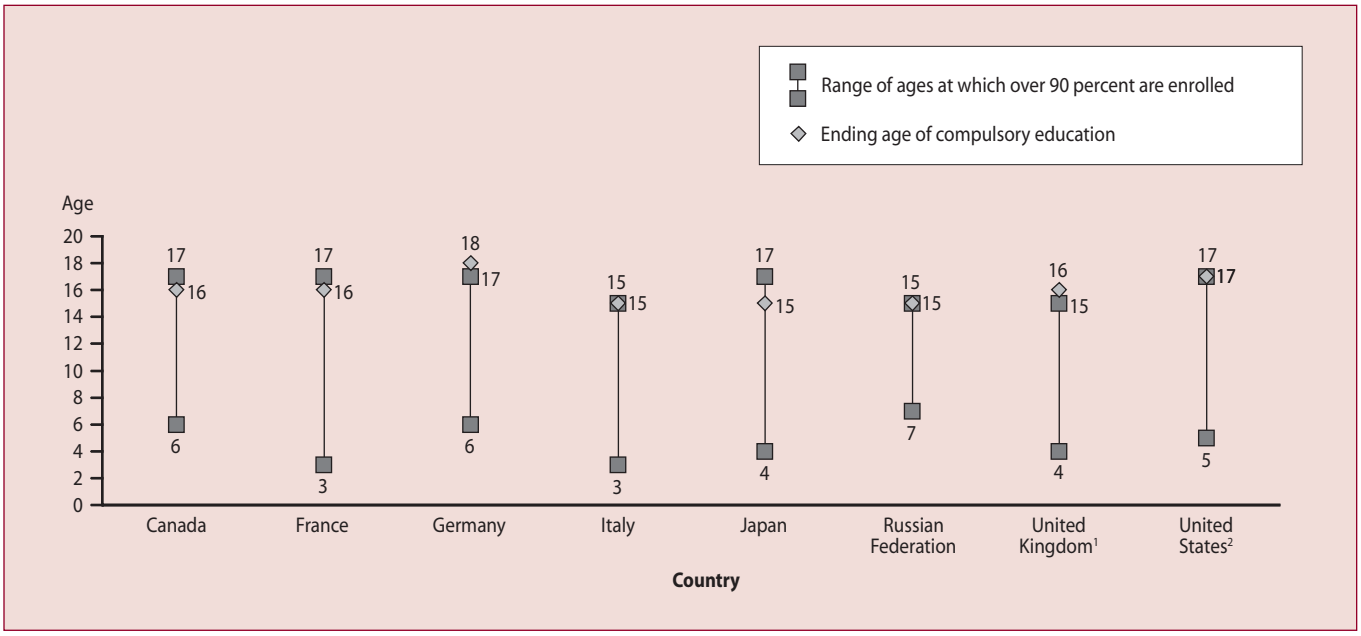
In 2000, public funding for higher education was more centralized than funding for primary and secondary education in all of the G8 countries. However, in some G8 countries, including the United States, much of the funding for higher education came from regional sources, including states.

Education and the labor force

In 2001, labor force participation rates increased with educational attainment for adults in the United States and the other G8 countries reporting data. Women participated in the labor force at a lower rate than men in each of the G8 countries reporting data for all education levels examined.

The earnings premium associated with higher education compared to upper secondary education for adults ages

Figure A. Range of ages at which over 90 percent of the population is enrolled in formal education, and ending age of compulsory education, by country: 2001



[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.
[2]The ending age of compulsory education in the United States varies across states, ranging from 16 to 18. The national figure of age 17 is calculated as a weighted average (weighting is based on the population of states) of the ending age of compulsory education for all the states. The modal age for the end of compulsory education in the United States is 16. (Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 2001. Available: http://www.census.gov/population/socdemo/school/cps2001/tab02.xls.)
NOTE: Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Ending age of compulsory education is the age at which compulsory schooling ends. For example, an ending age of 18 indicates that all students under 18 are legally obliged to participate in education. The "age range at which over 90 percent are enrolled" refers to the full range of ages at which enrollment reaches this level. Formal education enrollment figures for preprimary include only children who attended center-based programs and exclude children in home-based early childhood education.
SOURCE: Organization for Economic Cooperation and Development (OECD).(2003). *Education at a Glance: OECD Indicators 2003*, table C1.2. (Originally published as figure 2 on p. 15 of the complete report from which this article is excerpted.)

25 to 64 was higher in the United States than in the other five G8 countries presented (figure B).

Preprimary and Primary Education

Learning in early childhood

Sixty-four percent of U.S. children ages 3 to 5 were enrolled in center-based preprimary and primary education in 2001, a rate that was lower than the rates of all G8 countries reporting data except Canada. Eighty-nine percent of 5-year-olds in the United States were enrolled in public or private preprimary programs, while 7 percent were enrolled in primary schooling.

Reading literacy

Only fourth-graders from England scored higher than their U.S. counterparts among all the G8 countries on the Progress in International Reading Literacy Study (PIRLS) 2001 combined reading literacy scale.

In the United States and all the other countries presented, fourth-graders who reported having 0–10 books in the home had lower average reading achievement than did fourth-graders who reported having more books.

To examine fourth-graders' views on reading for enjoyment, PIRLS 2001 created an index of Students' Attitudes Toward Reading (SATR). All of the participating G8 countries, with the exception of England, had greater percentages of fourth-graders with higher SATR scores than the United States.

Primary school teachers

In 2001, the most common strategies employed by U.S. fourth-grade teachers to help a student who was falling behind in reading were to work individually with the student and have other students help the student. These were also some of the most common strategies used in the majority of the other participating G8 countries.

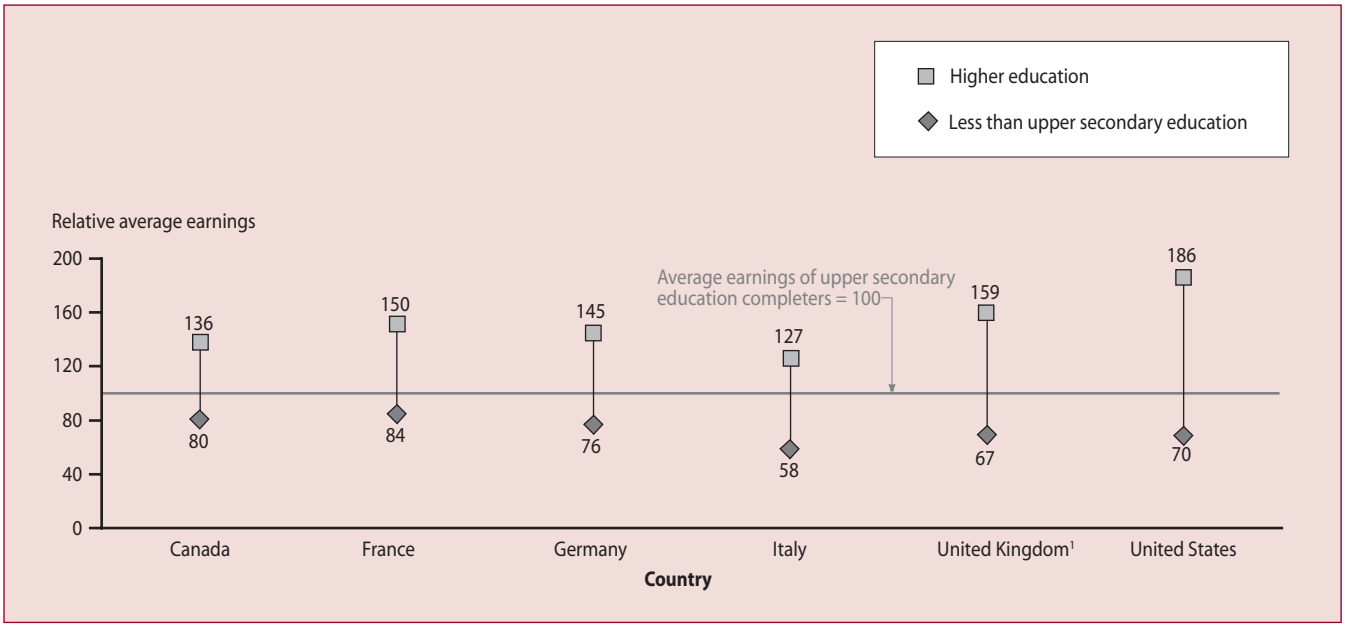
In the United States in 2001, public primary school teachers with minimum qualifications were paid an average starting salary of $28,681, which was the second highest of all G8 countries reporting data.

Secondary Education

Secondary school enrollment

A large majority of 16- and 17-year-olds in the countries presented were enrolled in secondary education in 2001.

Figure B. Relative average earnings of adults ages 25 to 64 who completed less than upper secondary education or higher education, compared with those with an upper secondary education, by country: Various years, 1998–2001



[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.
NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Upper secondary refers to ISCED level 3. Higher education refers to ISCED level 5A (academic higher education-first stage). For more information on ISCED levels, see the appendix in the full report. Data reported in 1999 for Canada and France, 2000 for Germany, 1998 for Italy, and 2001 for the United Kingdom and the United States. Relative earnings percentages are derived from the indexed relative earnings values reported by the Organization for Economic Cooperation and Development.
SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, table A.14.1. (Originally published as figure 6 on p. 23 of the complete report from which this article is excerpted.)

Eighty-eight percent of 16-year-olds and 75 percent of 17-year-olds were enrolled in secondary education in the United States. Over 90 percent of 17-year-olds were enrolled in secondary education in Canada, Germany, and Japan.

Academic achievement

According to PISA 2000, reading literacy scores among 15-year-olds were higher for females than for males in all of the G8 countries, including the United States.

In the United States, students achieving at the lowest levels on the PISA 2000 reading scale reported lower levels of engagement in reading than their peers who achieved at the highest level. This pattern was found in other G8 countries as well (figure C).

Citizenship

Compared to students in most other G8 countries, U.S. 14-year-olds placed more trust in national government and more importance on adult citizenship activities in 1999. They were less affirming, however, of the role of government in the social and economic spheres than 14-year-olds in most other G8 countries.

Home language and reading proficiency

In the United States, 15-year-olds whose home language differed from the language of instruction were overrepresented at the lowest levels of reading literacy.

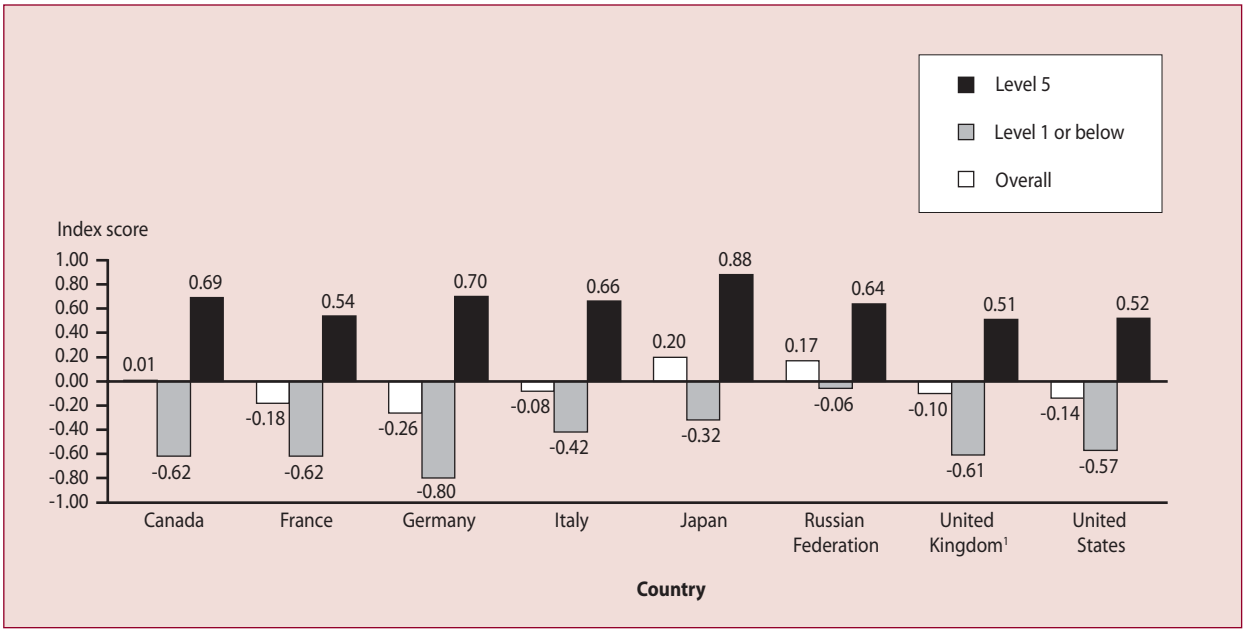
In the United States in 2000, more 15-year-olds at the lowest level of reading literacy achievement reported attending remedial language courses outside of school than 15-year-olds in the overall population.

Secondary school teachers

In 2001, public upper secondary teachers with the minimum qualifications in the United States earned the second-highest starting salary on average ($28,806) of the countries presented.

Primary and secondary school teachers in the United States also taught more hours per year than teachers in the other G8 countries reporting data in 2001.

Figure C. Average index scores of 15-year-old students' sense of engagement in reading, by reading proficiency level and country: 2000



[1]The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: The engagement in reading index was constructed in such a way that the mean index score of the 27 Organization for Economic Cooperation and Development (OECD) countries that participated in PISA 2000 was set to zero. A negative index value implies a lower than average engagement in reading, while a positive index value suggests a higher than average engagement in reading. PISA 2000 measured students' engagement in reading by asking for their level of agreement (strongly disagree, disagree, agree, strongly agree) with the following statements: I read only if I have to (reverse coded); reading is one of my favorite hobbies; I like talking about books with people; I find it hard to finish books (reverse coded); I feel happy if I receive a book as a present; for me, reading is a waste of time (reverse coding); I enjoy going to a bookstore or a library; I read only to get information that I need (reverse coded); and I cannot sit still and read for more than a few minutes (reverse coded). In order to reach a particular proficiency level, a student must have been able to answer correctly a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA 2000. (Originally published as figure 17 on p. 49 of the complete report from which this article is excerpted.)

Higher Education

Enrollment in higher education

Almost one-quarter of U.S. 18- to 29-year-olds were enrolled in higher education in 2001, the highest enrollment rate among the G8 countries presented. Females had a higher enrollment rate than males in all the countries except Germany.

Fields of study

In the United States in 2001, 44 percent of first-university degrees were awarded in the social sciences, business, and law. Seventeen percent were awarded in humanities and arts, and 11 percent were awarded in science. Seven percent of first-university degrees were awarded in the general field of engineering, manufacturing, and construction (figure D).

Foreign students in higher education

The number of foreign students enrolled in higher education in the United States was greater than the numbers in any of the other G8 countries, although as a percentage of all students in the country it was not among the highest.

Data sources:

OECD: Indicators of National Education Systems (INES) project—including data from OECD's *Education at a Glance 2003* and the OECD 2003 database—and Program for International Student Assessment (PISA) 2000.

IEA: 2001 Progress in International Reading Literacy Study (PIRLS) and 1999 Civic Education Study (CivEd).

Other: The U.S. Census Bureau's Current Population Survey (CPS) and International Database; the NCES Common Core of Data (CCD), Integrated Postsecondary Education Data System (IPEDS), and Schools and Staffing Survey (SASS); and national data sources for other member countries.

For technical information, see the complete report:

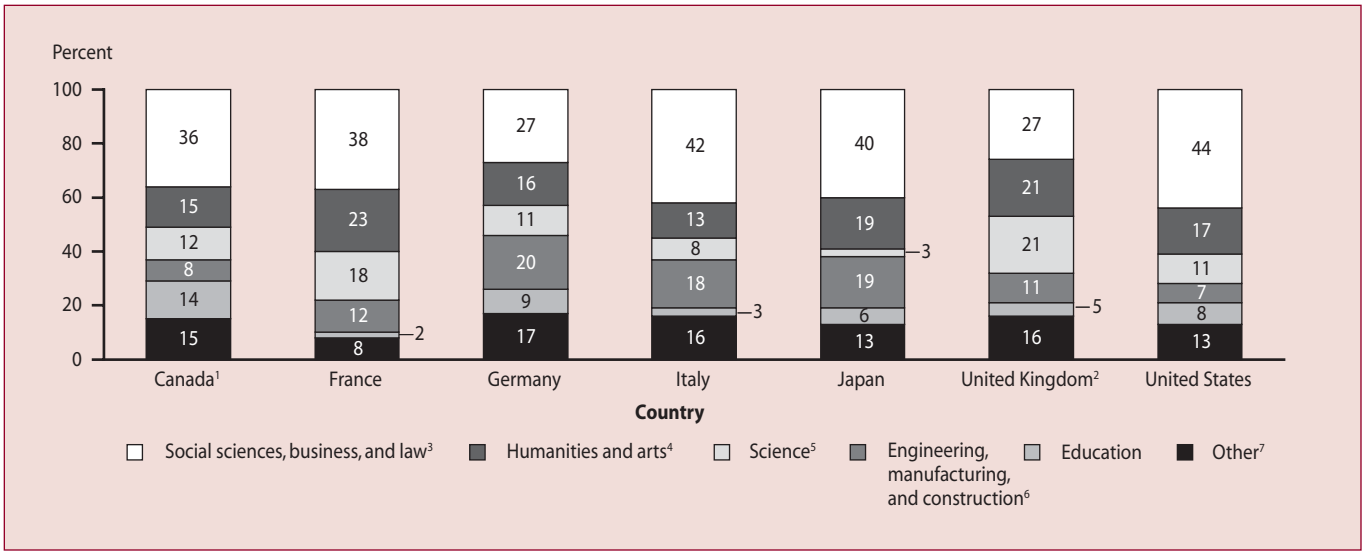
Sen, A., Partelow, L.A., and Miller, D.C. (2005). *Comparative Indicators of Education in the United States and Other G8 Countries: 2004* (NCES 2005-021).

Author affiliations: A. Sen, L. A. Partelow, and D.C. Miller, Education Statistics Services Institute.

For questions about content, contact Eugene Owen (eugene.owen@ed.gov).

To obtain the complete report (NCES 2005-021), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Figure D. Percentage distribution of first-university degrees awarded, by field of study and country: 2001



[1]Data for Canada are from 2000.
[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.
[3]Includes social and behavioral sciences (ISC 31), journalism and information (ISC 32), business and administration (ISC 34), and law (ISC 38).
[4]Includes arts (ISC 21) and humanities (ISC 22).
[5]Includes life sciences (ISC 42), physical sciences (ISC 44), mathematics and statistics (ISC 46), and computing (ISC 48).
[6]Includes engineering and engineering trades (ISC 52), manufacturing and processing (ISC 54), and architecture and building (ISC 58).
[7]Includes agriculture, forestry, and fishery (ISC 62); veterinary (ISC 64); health and welfare (ISC 72); and services and degrees not known or unspecified.
NOTE: Detail may not sum to totals because of rounding. The fields of education shown follow the 1997 revision of the International Standard Classification of Education Major Field of Study (ISCED MFS) (UNESCO 1997). Programs that prepare students for advanced research and highly qualified professions are classified as first-university degree programs, which corresponds to ISCED level 5A. First-university degrees vary in duration in different countries in different programs of study. In the United States, the first-university degree corresponds to a bachelor's degree; it excludes associate's degrees. For more information on ISCED levels, see the appendix in the full report.
SOURCE: Organization for Economic Cooperation and Development, Education Database, September 30, 2003. (Originally published as figure 22 on p. 61 of the complete report from which this article is excerpted.)

Adult Literacy and Lifeskills

Highlights From the 2003 International Adult Literacy and Lifeskills Survey (ALL)

Mariann Lemke, David Miller, Jamie Johnston, Tom Krenzke, Laura Alvarez-Rojas, David Kastberg, and Leslie Jocelyn

This article was originally published as an Issue Brief. The sample survey data are from the Adult Literacy and Lifeskills Survey (ALL).

Background

The Adult Literacy and Lifeskills Survey (ALL) is an international comparative study conducted in 2003 to provide participating countries with information about the skills of their adult populations. ALL measured the literacy and numeracy skills of a nationally representative sample of 16- to 65-year-olds from six participating countries (Bermuda, Canada, Italy, Norway, Switzerland, and the United States). Literacy is defined as the knowledge and skills needed to understand and use information from text and other written formats. Numeracy applies to the knowledge and skills required to manage mathematical demands of diverse situations. A second phase of ALL, in which additional countries are collecting data, is currently under way. This will allow for a greater number of country comparisons.

ALL builds upon earlier national and international studies of adult literacy.* Information from ALL addresses questions such as:

- What is the distribution of literacy and numeracy skills among American adults? How do these skill distributions compare to those of other countries?
- What is the relationship between these literacy skills and the economic, social, and personal characteristics of individuals? For example: Do different age or linguistic groups manifest different skill levels? Do males and females perform differently? At what kinds of jobs do people at various literacy levels work? What wages do they earn? How do adults who have completed different levels of education perform?
- What is the relationship between these skills and the economic and social characteristics of nations? For example, how do the skills of the adult labor force of a country match with areas of the economy that are growing?

The purpose of this Issue Brief is to provide selected initial findings from ALL, so the Issue Brief will address only some of these questions. For further results from ALL, see *Learning a Living: First Results of the Adult Literacy and Life Skills Survey* (Statistics Canada and Organization for Economic Cooperation and Development 2005). A technical report for ALL, which describes in detail the procedures used in the design, data collection, quality control, and analysis for the study, is also forthcoming.

Study Description

ALL consisted of two components:

- A background questionnaire designed to collect general participant information (such as sex, age, race/ethnicity, education level, and labor force status) and more targeted questions related to literacy practices, familiarity with information and communication technology, education coursetaking, and health.
- A written assessment of the skills of participants in literacy and numeracy.

Trained interviewers administered approximately 45 minutes of background questions and 60 minutes of assessment items to participants in their homes. Sample items can be found online with this Issue Brief and at http://nces.ed.gov/surveys/all. In the United States, a nationally representative sample of 3,420 adults ages 16–65 participated in ALL. Data collection for the United States took place between January and June 2003.

Data in this Issue Brief are shown at the national level for six countries: Bermuda, Canada, Italy, Norway, Switzerland, and the United States. Subnational estimates (for French- and English-speaking Canada, for instance) and estimates for the participating state of Nuevo León in Mexico are available in Statistics Canada and Organization for Economic Cooperation and Development (2005).

*An assessment of young adult literacy was conducted in the United States in 1985, an assessment of the literacy of job seekers in 1991, a National Adult Literacy Survey (NALS) in 1992, and a follow-up to NALS, the National Assessment of Adult Literacy (NAAL), was conducted in 2003. ALL is the direct successor to the International Adult Literacy Survey (IALS), which was conducted in three phases (1994, 1996, and 1998) in 20 nations, including the United States. IALS measured adults' prose, document, and quantitative literacy skills. Prose literacy items are made up of continuous texts (formed of sentences organized into paragraphs). Document literacy items are made up of noncontinuous texts (tables, schedules, charts, graphs, or other texts with clearly defined rows and columns). In IALS, the quantitative literacy scale was made up of continuous and noncontinuous texts in which respondents had to identify and perform one or more arithmetic operations. This scale was replaced with the numeracy scale in ALL, so that change over time can be measured only for prose literacy and document literacy. The numeracy scale was designed to be broader than the quantitative literacy scale, going beyond applying arithmetic skills to a wider range of mathematical skills (e.g., use of number sense, estimation, statistics). An additional skill area, problem solving, was assessed in other participating countries in ALL in 2003; however, the United States did not collect this information. For results in problem solving, see Statistics Canada and Organization for Economic Cooperation and Development (2005).

Overall Performance of U.S. Adults

In this Issue Brief, prose literacy and document literacy scores are combined into a single literacy score measured on a scale of 0–500 points. Numeracy scores also range from 0–500. U.S. adults had an average literacy score of 269 and a score of 261 in numeracy (table 1). The United States outperformed Italy in literacy and numeracy, but was outperformed by Bermuda, Canada, Norway, and Switzerland in both skill areas. In addition to average scores, it can also be informative to examine how well high and low performers scored in each country. Score differences between high and low performers can also help illustrate how widely performance within a country varies.

In both literacy and numeracy, adults in Bermuda, Canada, and Norway had higher scores than U.S. adults at both the high and low ends of the score distribution. The highest performers (the top 10 percent of adults) had literacy scores of 353 or higher in Bermuda, 344 or higher in Canada, and 348 or higher in Norway, compared to 333 or higher in the United States. The lowest performers (those in the bottom 10 percent) in Bermuda, Canada, and Norway also outscored their peers in the United States in both literacy and numeracy.

The difference in literacy and numeracy scores between the highest and lowest performers in Norway (approximately 114 points for literacy and 118 points for numeracy) was smaller than in the United States (where it was 132 points for literacy and 149 points for numeracy). In Bermuda and Canada, the differences between high and low achievers in literacy and numeracy were not measurably larger than the U.S. differences. In other words, although literacy scores for Bermudans, Canadians, and Norwegians on average were higher than in the United States, in Bermuda and Canada scores were spread to about the same degree as in the United States, while in Norway there was less variation in scores.

Switzerland's low performers outscored U.S. low performers in literacy, while their high performers did not score measurably differently. Swiss adults outperformed U.S. adults throughout the distribution in numeracy, and the differences between high and low performers in literacy and numeracy were smaller than in the United States. In contrast, Italian adults scored consistently lower than U.S. adults throughout the distribution in both literacy and numeracy.

Performance of U.S. Adults by Sex and Race/Ethnicity

There was no measurable difference in the literacy performance of men and women in Bermuda, Canada, Norway, or the United States (figure 1). However, in Italy and Switzerland, men outscored women. Men outperformed women on the numeracy scale in every country, with a range from 11 points (Italy) to 16 points (Switzerland). In the United States, men scored 15 points higher than women on the numeracy scale.

Racial and ethnic groups vary between countries, so it is not feasible to compare their performance across countries on international assessments. Findings are therefore reported here for the United States only. White U.S. adults outscored Black, Hispanic, and "other" adults in both literacy and numeracy (figure 2).

Table 1. Average literacy and numeracy scores of 16- to 65-year-olds, by country: 2003

Literacy		Numeracy	
Country	Score	Country	Score
Norway	293	Switzerland	290
Bermuda	285	Norway	285
Switzerland	274	Bermuda	270
Canada	281	Canada	272
United States	**269**	**United States**	**261**
Italy	228	Italy	233

Score is significantly higher than the U.S. average.
Score is not significantly different from the U.S. average.
Score is significantly lower than the U.S. average.

NOTE: Participants were scored on a 500-point scale.
SOURCE: Statistics Canada and Organization for Economic Cooperation and Development, Adult Literacy and Lifeskills Survey (ALL), 2003.

There was no measurable difference in the performance of Blacks and Hispanics in literacy or numeracy.

Reference

Statistics Canada and Organization for Economic Cooperation and Development. (2005). *Learning a Living: First Results of the Adult Literacy and Life Skills Survey*. Ottawa and Paris: Author.

Data source: Statistics Canada and Organization for Economic Cooperation and Development, Adult Literacy and Lifeskills Survey (ALL), 2003.

For technical information, such as standard errors and sample items, see the online version of this Issue Brief at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005117.

For more information on ALL, visit http://nces.ed.gov/surveys/all.

Author affiliations: M. Lemke, NCES; D. Miller and J. Johnston, Education Statistics Services Institute; T. Krenzke, L. Alvarez-Rojas, D. Kastberg, and L. Jocelyn, Westat.

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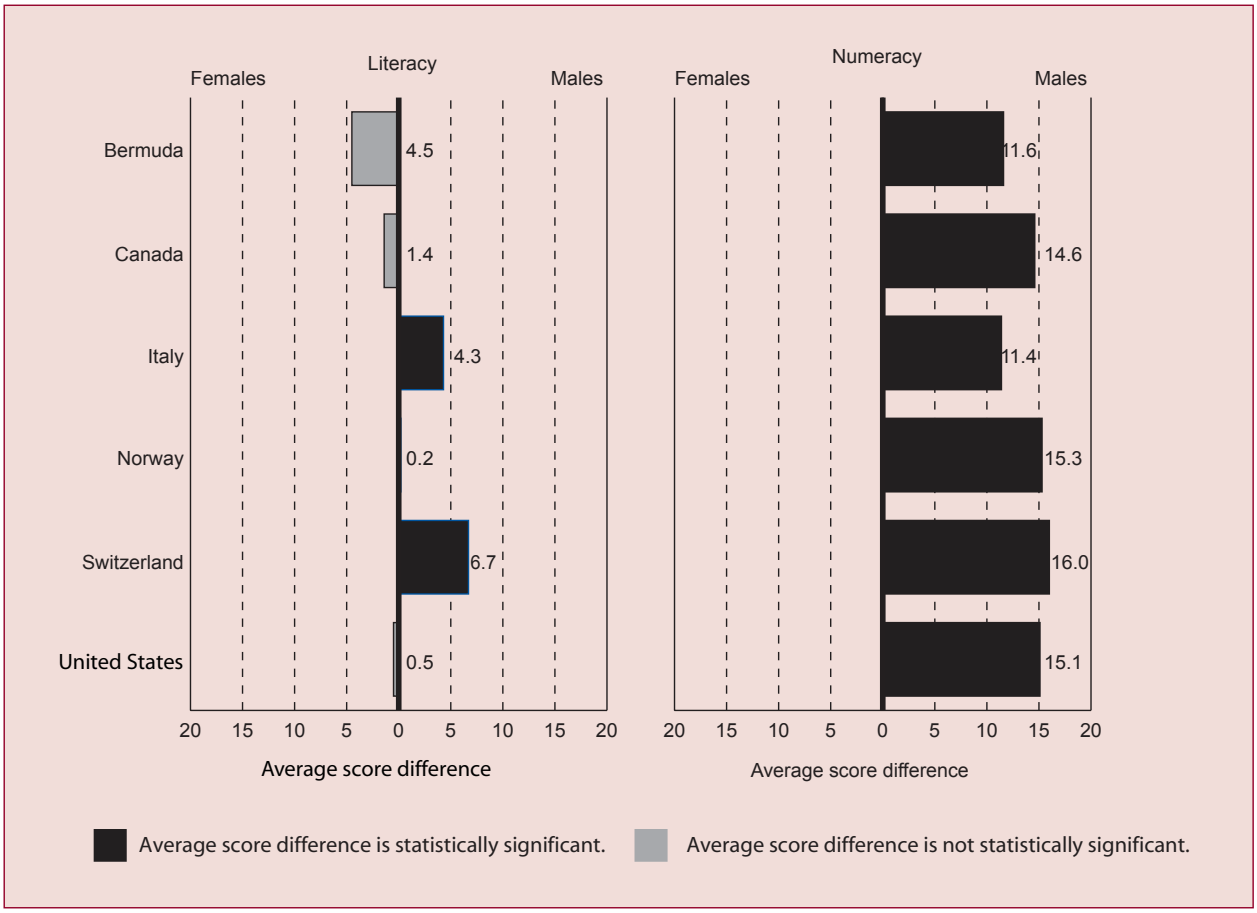
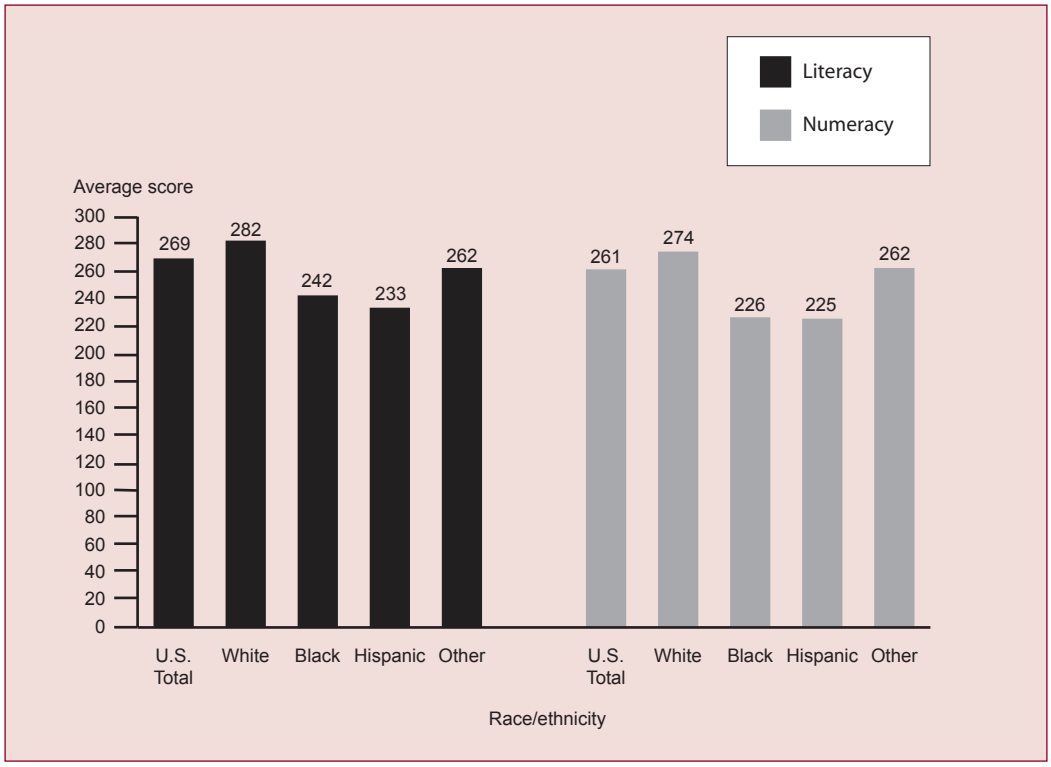
Figure 1. Differences in average scores of 16- to 65-year-old males and females in literacy and numeracy, by country: 2003



NOTE: Each bar above represents the average score difference between males and females.
SOURCE: Statistics Canada and Organization for Economic Cooperation and Development, Adult Literacy and Lifeskills Survey (ALL), 2003.

Figure 2. Average literacy and numeracy scores of U.S. 16- to 65-year-olds, by race/ethnicity: 2003



NOTE: "White" refers to non-Hispanic White adults, "Black" to non-Hispanic Black adults, and "Hispanic" to Hispanic respondents of any race. "Other" includes adults who selected more than one race and groups (such as Asians, American Indians, or Alaska Natives) for which sample sizes are too small to reliably estimate scores. Participants were scored on a 500-point scale.
SOURCE: Statistics Canada and Organization for Economic Cooperation and Development, Adult Literacy and Lifeskills Survey (ALL), 2003.

The Condition of Education

The Condition of Education 2005

U.S. Department of Education, National Center for Education Statistics

This article was originally published as the Commissioner's Statement in the Compendium of the same name. The universe and survey data are from various studies carried out by NCES, as well as surveys conducted elsewhere, both within and outside of the federal government.

Introduction

Reliable data are critical in guiding efforts to improve education in America. To provide such data, the National Center for Education Statistics (NCES) each year submits to Congress the mandated report of *The Condition of Education*. This year's report presents indicators of important developments and trends in American education. Recurrent themes underscored by the indicators include participation and persistence in education, student performance and other outcomes, the environment for learning, and societal support for education. In addition, this year's volume contains a special analysis that describes the teacher workforce and the movement of teachers into and out of this workforce.

This statement summarizes the main findings of the special analysis and the 40 indicators that appear in the full report.

Special Analysis on Mobility in the Teacher Workforce

Each year teachers enter, leave, and move within the K–12 teacher workforce in the United States. Such movement affects not only the composition of teachers and institutional stability of individual schools but also the demographics and qualifications of the teacher workforce as a whole. Understanding the dynamics of such change in the teacher workforce is important for objectively considering such policy issues as teacher shortages, teacher attrition, and teacher quality.

This special analysis uses national data on public and private school teachers from the 1999–2000 Schools and Staffing Survey (SASS) and the related 2000–01 Teacher Follow-up Survey (TFS) to describe the nature of the teacher workforce, look at who joined and who left the workforce in

1999–2000, and compare these transitions with those in 1987–88, 1990–91, and 1993–94. The major findings are as follows:

- At the start of the 1999–2000 school year, 17 percent of the teacher workforce were new hires at their schools, with the majority of new hires being experienced teachers. Only a relatively small percentage of the workforce—about 4 percent—were first-time teachers that school year. The average age of first-time teachers was 29, and private schools were more likely to have first-time teachers than public schools.
- At the end of 1999–2000, about 16 percent of the teacher workforce "turned over" or did not continue teaching in the same school during the 2000–01 school year. The turnover rate was larger at the end of 1999–2000 than at the end of 1987–88, 1990–91, or 1993–94.
- About half of teacher turnover can be attributed to teachers transferring from one school to another, and the rest is due to teachers leaving teaching either temporarily or indefinitely.
- Most public school teachers who transfer move to another public school; only 2 percent transferred to a private school at the end of 1999–2000. In contrast, 53 percent of private school teachers who transferred moved to a public school.
- Public school teachers in high-poverty schools are twice as likely as their counterparts in low-poverty schools to transfer to another school.
- Relative to rates of total turnover, the percentage of teachers who retired at the end of the 1999–2000 school year was small: only 2 out of 16 percent.
- The percentage of teachers who left teaching and took a job other than elementary or secondary teaching at the end of 1999–2000 was nearly twice as large as that of teachers who retired (table A). Teachers who took a job other than teaching were disproportionately male compared with those who stayed in teaching.
- The percentage of teachers who left teaching for family reasons, to return to school, or for other reasons at the end of 1999–2000 was less than 2 percent (table A). Virtually all teachers who left for family reasons were female. Teachers who left to return to school tended to be younger than those who stayed in teaching (table B).
- Not all teachers who leave the teacher workforce do so permanently: 4 of the 17 percent of teachers who were newly hired in 1999–2000 were former teachers who returned to teach after a break from teaching.
- Private school teachers are more likely to leave teaching than public school teachers.
- Both teachers who left teaching and teachers who transferred at the end of 1999–2000 reported a lack of planning time, too heavy a workload, too low a salary, and problematic student behavior among their top five sources of dissatisfaction with the school they left.

Student Participation in Education

As the U.S. population increases, so does its enrollment at all levels of public and private education. At the elementary and secondary levels, growth is due largely to the increase in the size of the school-age population. At the postsecondary level, both population growth and increasing enrollment rates help explain rising enrollments. Adult education is also increasing

Table A. Number and percentage of 1987–88, 1990–91, 1993–94, and 1999–2000 public and private K–12 teachers who did not teach in the same school the following year, by turnover categories

	1987–88		1990–91		1993–94		1999–2000	
Turnover categories	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total turnover at the end of the year	391,000	14	383,000	13	418,000	14	546,000	16
Transfers at the end of the year	218,000	8	209,000	7	205,000	7	269,000	8
Leavers	173,000	6	174,000	6	213,000	7	278,000	8
Retired	35,000	1	46,000	2	48,000	2	66,000	2
Took other job	64,000	2	56,000	2	90,000	3	126,000	4
Went back to school	11,000	#	13,000	#	8,000	#	12,000	#
Left for family reasons	48,000	2	33,000	1	35,000	1	47,000	1
Other	14,000	1	25,000	1	30,000	1	26,000	1

Rounds to zero.
NOTE: All numbers are estimates with confidence intervals varying from ± 2,000 to ± 34,000. Denominator used to calculate the percentage is the total number of teachers in the workforce during the Teacher Follow-up Survey year. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Current Teacher Questionnaire" and "Former Teacher Questionnaire," 1988–89, 1991–92, 1994–95, and 2000–01. (Originally published on p. 13 of the complete report from which this article is excerpted.)

Table B. Among public and private K–12 teachers who left teaching between 1999–2000 and 2000–01, average age, average years of teaching experience, percentage female, percentage out-of-field, and percentage with both a major and certification in field, by the reason teachers left

Reason teachers left	Average age	Average years of teaching experience	Percent female	Percent teaching out-of-field the previous year	Percent with both major and certification in field taught in the previous year
All leavers	42	15	76	20	54
Retired	58	29	71	16	65
Took other job	39	10	68	24	50
Went back to school	30	4	77	22	52
Left for family reasons	34	9	99	16	53
Other	40	13	84	19	47

NOTE: "Out-of-field" teachers have neither an undergraduate or graduate major nor certification in the field of their main teaching assignment.
SOURCE: U.S. Department of Education, National Center for Education Statistics: Schools and Staffing Survey (SASS), "Public Teacher Questionnaire," "Charter Teacher Questionnaire," and "Private Teacher Questionnaire," 1999–2000; and Teacher Follow-up Survey (TFS), "Current Teacher Questionnaire" and "Former Teacher Questionnaire," 2000–01. (Originally published on p. 14 of the complete report from which this article is excerpted.)

due to demographic shifts in the age of the U.S. population, increasing rates of enrollment, and changing employer requirements for skills. As enrollments have increased, the cohorts of learners have become more diverse than ever before, with students who are members of racial/ethnic minorities or speak a language other than English at home making up an increasing share of the school-age population.

- Rising immigration and a 25 percent increase in the number of annual births that began in the mid-1970s and peaked in 1990 have boosted school enrollment. Public elementary and secondary enrollment reached an estimated 48.3 million in 2004 and is projected to increase to an all-time high of 50.0 million in 2014. The West is projected to experience the largest increase in enrollments of all regions in the country.
- The number of private school students enrolled in kindergarten through grade 12 increased from 1989–90 to 2001–02, though at a slower rate than enrollments in public schools. Thus, the percentage of private school students as a percentage of total elementary and secondary enrollment decreased slightly over this period. Catholic schools retained the largest enrollment share of private school students, but there was a shift in the distribution of students from Catholic to other religious and nonsectarian private schools at both the elementary and secondary levels during this period.
- About 1.1 million, or 2.2 percent, of all students were homeschooled in the United States in the spring of 2003, an increase from 850,000, or 1.7 percent, of all students in 1999. The majority of homeschooled students received all of their education at home, but some attended school up to 25 hours per week.
- The percentage of public school students who are racial/ethnic minorities increased from 22 percent in 1972 to 42 percent in 2003, primarily due to growth in Hispanic enrollments. In 2003, minority public school enrollment (54 percent) exceeded White enrollment (46 percent) in the West.
- The number of children ages 5–17 who spoke a language other than English at home more than doubled between 1979 and 2003. Among these children, the number who spoke English with difficulty (i.e., did not speak English "very well") also grew markedly during this period. For both of these groups of children, Spanish was the language most frequently spoken at home.
- In 2000, some 3.9 million children, or 8 percent of those enrolled in public elementary and secondary schools, were classified as having mental retardation, an emotional disturbance, or a specific learning disability and received services under the Individuals with Disabilities Education Act (IDEA). Males were twice as likely as females to be served under IDEA, and Black and American Indian children were both overrepresented in the population of children classified as having one of these categories of disability.
- In the next 10 years, undergraduate enrollment is projected to increase. Women's undergraduate enrollment is expected to increase at a faster rate than men's, and full-time enrollment is projected to increase at a faster rate than part-time enrollment. During this period, the growth in enrollment at

4-year institutions is expected to be greater than at 2-year institutions.

Learner Outcomes

How well does the American educational system—and its students—perform? Data from national and international assessments of students' academic achievement can help answer this question, as can data on adults' educational and work experiences, literacy levels, and earnings later in life. In some areas, such as reading, mathematics, and science, the performance of elementary and secondary students has shown some improvement over the past decade, but not in all grades assessed and not equally for all students. The association between education and the earnings and employment of adults helps underscore the importance of education for individuals and society and the outcomes of different levels of educational attainment.

- According to data from the Early Childhood Longitudinal Study, Kindergarten Class of 1998 (ECLS-K), smaller percentages of children from homes with more family risk factors, such as poverty and a primary home language other than English, mastered more complex reading and mathematics skills by the spring of 3rd grade compared with their peers with fewer or no risk factors. For example, in reading, the percentage of children who had two or more risk factors and were proficient at deriving meaning from text increased from 0 to 24 percent from the spring of kindergarten to the spring of grade 3, versus an increase of 0 to 54 percent for those with no risk factors.
- The reading performance of 8th-graders assessed by the National Assessment of Educational Progress (NAEP) improved between 1992 and 2003, but no measurable difference was found in the performance of 4th-graders. Females outperformed males in both grades, and White and Asian/Pacific Islander students outperformed American Indian, Hispanic, and Black students.
- The mathematics performance of 4th- and 8th-graders assessed by NAEP improved steadily from 1990 to 2003. For both grades, the average scores in 2003 were higher than in all previous assessments, and the percentages of students performing at or above the *Basic* and *Proficient* levels and at the *Advanced* level, defined as "superior performance," were higher in 2003 than in 1990. In both grades, males outperformed females, and White and Asian/Pacific Islander students outperformed Black, Hispanic, and American Indian students.
- According to findings from NAEP in 2003, students in large central city public schools had lower average scores in reading and mathematics than students in rural, urban fringe, and all central city schools. In both subjects, the percentages of 4th- and 8th-graders in large central city public schools who performed at or above the *Proficient* level were lower than the national percentages.
- The 2003 Trends in International Mathematics and Science Study (TIMSS) assessed students' mathematics performance at grade 4 in 25 countries and at grade 8 in 45 countries. Findings from TIMSS showed that U.S. students at grades 4 and 8 scored above the international average in mathematics in 2003. U.S. 4th-graders showed no measurable change in mathematics from 1995 to 2003, while 8th-graders showed improvement over this period.
- According to findings from TIMSS on science performance, U.S. students at grades 4 and 8 scored above the international average in 2003. U.S. 4th-graders showed no measurable change in science from 1995 to 2003, while 8th-graders showed improvement over this period.
- The Program for International Student Assessment (PISA)—which reports on the mathematics literacy and problem-solving ability of 15-year-olds in 29 participating Organization for Economic Cooperation and Development (OECD) industrialized countries—showed that U.S. 15-year-olds, on average, scored below the international average for participating OECD countries in combined mathematics literacy, specific mathematics skill areas, and problem solving in 2003.
- The percentage of adults age 25 or older who reported having read a novel, short story, play, or poem in the past 12 months decreased between 1982 and 2002. A strong positive relationship existed between reading literature and educational attainment in 2002: the more education a person had, the more likely that person was to report having read literature in the past 12 months.
- White, Black, and Hispanic young adults (ages 25–34) who have at least a bachelor's degree have higher median earnings than their peers with less education, and these differences increased between 1977 and 2003. Gaps in the median earnings of young adults by race/ethnicity existed at all levels of educational attainment during this period, with Whites earning more than Blacks or Hispanics at each level. Between 1977 and 2003, the earnings gap between Blacks and

Whites decreased among those who did not complete or go beyond high school, while no change was detected at higher levels of educational attainment. There was no measurable change in the earnings gap between Whites and Hispanics at any of the levels of educational attainment.

- In 2004, 5 percent of young adults (individuals between the ages of 25 and 34) were unemployed. Although this percentage has fluctuated since 1971, one constant has been a relationship between unemployment and educational attainment. Generally speaking, the more education a young adult has attained, the less likely that person is to be unemployed. For example, over this 33-year period, young adults with at least a bachelor's degree were less likely to be unemployed than their peers with less education, a pattern that held for White, Black, and Hispanic young adults.

Student Effort and Educational Progress

Many factors are associated with school success, persistence, and progress toward high school graduation or a college degree. These include students' early school experiences, motivation and effort, and courses taken and other learning experiences, as well as various student characteristics, such as sex, race/ethnicity, parents' educational attainment, and family income. Monitoring these factors in relation to the progress of different groups of students through the educational system and tracking students' attainment are important for knowing how well we are doing as a nation in education.

- Among children enrolled in kindergarten in fall 1998, about 1 out of 10 was either repeating kindergarten or had a delayed entry (had not enrolled the year he or she became age eligible). Both groups were more likely than their on-time classmates to be male and less likely to have attended preschool. Compared with those who entered on time, delayed entrants were more likely to be White and to have parents with a bachelor's degree or higher. However, kindergarten repeaters were more likely than on-time entrants to have parents with less than a high school education.
- The status dropout rate represents the percentage of an age group that is not enrolled in school and has not earned a high school diploma or its equivalent. Since 1972, status dropout rates for Whites, Blacks, and Hispanics ages 16–24 have declined; nonetheless, rates for Hispanics have remained higher than those for other racial/ethnic groups. Although the status dropout rate declined over the whole 30-year period from 1972 through 2002, it remained fairly stable over the last decade (1992 through 2002).
- Between 1972 and 2003, the rate at which high school completers enrolled in college in the fall immediately after high school increased from 49 to 64 percent, but it has remained at about 64 percent since 1998. Between the mid-1980s and the late 1990s, the difference between the rates of immediate enrollment of Blacks and Whites declined, but the difference between the rates of immediate enrollment of Hispanics and Whites increased.
- Among the cohort of 1992 high school seniors who had enrolled in any postsecondary education by 2000, 66 percent enrolled first in a postsecondary institution in their home state and also lived in their home state in 2000. Students whose highest degree was a bachelor's degree were more likely than those whose highest degree was an associate's degree to have either enrolled in a postsecondary institution outside of their home state or lived outside their home state after high school.
- Twelfth-graders in 1992 were more likely than their counterparts in 1972 and 1982 to enroll in postsecondary education within 8.5 years of high school graduation. Among those who earned more than 10 postsecondary credits, the proportion earning a bachelor's degree by their mid-twenties increased (50 percent of the class of 1992 did so vs. 43 and 46 percent, respectively, of the classes of 1982 and 1972).
- The percentage of 25- to 29-year-olds who have completed high school has increased since 1971. By 2003, some 87 percent of these young adults had received a high school diploma or its equivalent, and many had received additional education. However, racial/ethnic differences in levels of educational attainment remain.

Contexts of Elementary and Secondary Education

The school environment is shaped by many factors, including curricular offerings, methods of instruction and assessment, scheduling, the configuration of classrooms and schools, and the climate for learning. Monitoring these and other factors provides a better understanding of the conditions in schools that can influence education.

- Students in 20 states, accounting for more than half of all public school students in the United States, were required to pass exit examinations (such as minimum competency, standards-based, or end-of-course examinations) in order to graduate from high

school in 2004. Five additional states will be phasing in exit examinations between 2004 and 2008. By 2009, of the 25 states with exit examinations in place, all but 6 will use these examinations to meet the accountability requirements of the No Child Left Behind Act of 2001.

- Students attending school in a central city or urban fringe/large town and in schools with a 12th-grade enrollment of 450 or more were more likely than their peers to have the opportunity to take four or more advanced courses each in mathematics, English, science, and a foreign language in 2000. Students attending schools in the Northeast and Southeast were also more likely than their peers in schools in Central states to have such an opportunity.
- The average number of hours per year that U.S. public school students spent in school increased between 1987–88 and 1999–2000. On average, middle school students spent more time in school than elementary or high school students. In both years, students who attended rural schools spent more time in school than students in urban fringe/large town schools, as did those in the Midwest than those in the Northeast, South, and West.
- Approximately 50 percent of all disabled students in 2003–04 spent 80 percent or more of their day in a regular classroom, up from 45 percent in 1994–95. Black students with disabilities spent less time in a regular classroom on average than their peers of other races/ethnicities with disabilities.
- Charter schools—public schools of choice that have been exempted from some local and state regulations to provide greater flexibility than regular public schools—differ from one another and from regular public schools in their origins, the authority under which they are chartered, and the students they serve. Among students enrolled in charter schools in 2003, 51 percent attended schools chartered by a school district, 28 percent attended schools chartered by a state board of education, 16 percent attended schools chartered by a postsecondary institution, and 6 percent attended schools chartered by a state chartering agency.
- There was a general decline in the rate at which students ages 12–18 were victims of nonfatal crime—including theft, violent crime, and serious violent crime—at school from 1992 through 2002. The rates of these crimes when students were away from school also decreased. In each year observed, the rates for serious violent crime—rape, sexual assault, robbery, and aggravated assault—were lower when students were at school than away from school.

Contexts of Postsecondary Education

The postsecondary education system encompasses various types of institutions, both public and private. Although issues of student access, persistence, and attainment have been predominant concerns in postsecondary education, the contexts in which postsecondary education takes place matter as well. Important aspects of this context include the diversity of the undergraduate and graduate populations; differences in the educational missions, policies, and services of colleges and universities; the types of courses that students take; and the ways in which colleges and universities attract and employ faculty and other resources.

- In 2002, some 29 percent of all students enrolled in degree-granting institutions were racial/ethnic minorities (American Indian, Asian/Pacific Islander, Black, or Hispanic). That year, 12 percent of Black students attended an institution where they made up at least 80 percent of the total enrollment. This was more than twice the percentage of Hispanic students who attended an institution where they made up at least 80 percent of the total enrollment. About one-fifth of Black and Hispanic students attended an institution where they were the majority.
- Inflation-adjusted average salaries for full-time faculty increased 8 percent between 1987–88 and 2002–03. Combining salary with benefits, full-time faculty received a total compensation package averaging $78,300 in 2002–03, about $8,300 more than they received in 1987–88 after adjusting for inflation. Faculty at private 4-year doctoral/research universities earned more and received more in benefits than faculty at other types of institutions.
- Academic libraries are not only providing a broad array of electronic services to their primary clientele but are also increasingly providing these services to off-campus users other than their primary clientele. Although academic libraries at institutions with graduate programs are generally taking the lead in providing electronic services, gaps between types of institutions are narrowing.
- Many states have implemented laws and policies to promote successful transfers of students from community colleges to 4-year institutions. In fall 2000, most community college students attended institutions in states with legislation on transfer and articu-

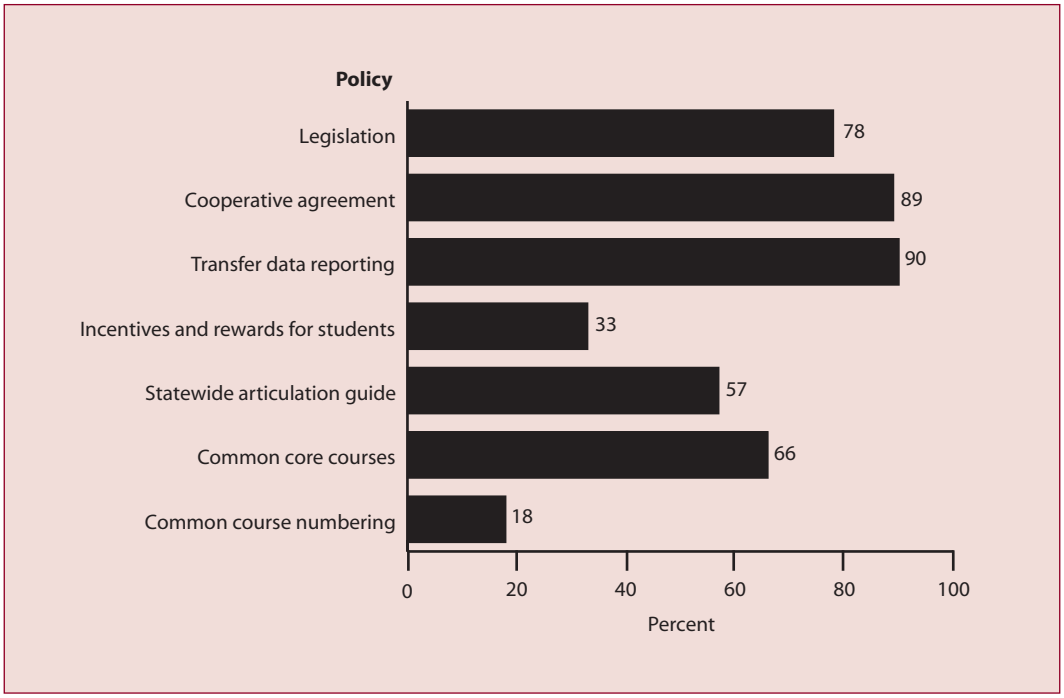
lation, cooperative agreements, and requirements for reporting transfer data (78, 89, and 90 percent of community college students, respectively), and more than half attended institutions in states with common core courses and statewide articulation guides (66 and 57 percent, respectively) (figure A).

Societal Support for Learning

Society and its members—families, individuals, employers, and governmental and private organizations—provide support for education in various ways. This support includes learning activities that take place outside schools and colleges as well as financial support for learning inside schools and colleges. Parents contribute to the education of their children in the home through reading, playing, and engaging in other activities with young children and helping them with their homework. Communities impart learning and values through various modes, both formal and informal. Financial investments in education are made both by individuals through income spent on their own education (or the education of their children) and by the public through public appropriations for education. These investments in education are made at all levels of the education system. Other collective entities, such as employers and other kinds of organizations, also invest in various forms of education for their members.

- According to data from the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), children about 9 months of age with family risk factors—living in a household below the poverty level, having a primary home language other than English, having a mother whose highest education was less than a high school diploma, and living in a single-parent household—were less likely to have family members who read to them, told them stories, and sang to them daily in 2001–02.
- In 1999–2000, expenditures per student in public elementary/secondary schools were highest in the most affluent school districts and next highest in school districts with the most low-income families. Between 1989–90 and 1999–2000, total expenditures per student in constant dollars increased the least for the most affluent districts. Current expenditures per

Figure A. Transfer and articulation policies: Percentage of public 2-year students enrolled in institutions in states with selected transfer and articulation policies: 2000



NOTE: Transfer is the procedure by which credits students earn at one institution are applied toward a degree at another institution; articulation refers to the statewide policies and/or agreements among institutions to accept the transfer of credits. For more information, see http://www.ecs.org/html/issue.asp?issueid=220. A summary of state policies and activities enacted since 2001 is available at http://www.ecs.org. Much of this recent activity refines or expands earlier policies.
SOURCE: Education Commission of the States. (2001, February). *Transfer and Articulation Policies*. This information is the sole property of the Education Commission of the States, copyright © 2001. All rights reserved. Used with permission. Retrieved November 4, 2004, from http://www.ecs.org/clearinghouse/23/75/2375.htm; and U.S. Department of Education, National Center for Education Statistics. (2003). *Digest of Education Statistics 2002* (NCES 2003-060), table 201. Data from U.S. Department of Education, National Center for Education Statistics, 2000 Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:00). (Originally published on p. 84 of the complete report from which this article is excerpted.)

student, which include instructional, administrative, and operation and maintenance expenditures, followed the same pattern.

- The proportion of total revenue for public elementary and secondary education from local sources in constant dollars declined nationally from 1989–90 to 2001–02, reflecting decreases in the proportion of local revenue from property tax revenue and other local revenue. In both the Midwest and Northeast, the proportion of total public school revenue from local sources declined during this period, while the proportion changed little in the South and West.
- Between 1989–90 and 2001–02, total expenditures per student in public elementary/secondary schools, which include all expenditures allocable to per student costs divided by fall enrollment, increased by 24 percent, from $7,365 to $9,139 in constant dollars. Among the five major categories of public elementary and secondary school expenditure (instruction, administration, operation and maintenance, capital expenditures, and other), capital expenditures increased the most in percentage terms (70 percent) between 1989–90 and 2001–02. In comparison, instructional expenditures increased by 21 percent. Despite these increases, more than half of the total amount spent went toward instructional expenditures in 2001–02.
- Public revenue per student at the elementary and secondary levels increased 109 percent in constant dollars between 1969–70 and 2001–02. After first declining and then increasing since the mid-1980s, total public revenue comprised a similar percentage of gross domestic product (GDP) in 2001–02 as in 1969–70 (4.08 and 3.98 percent, respectively).
- The education and general revenues per student of public 2- and 4-year degree-granting institutions increased by 33 percent in constant dollars from 1969–70 to 2000–01. During this period, government appropriations per student to institutions increased by 3 percent, from $5,227 to $5,409, while the revenues per student to institutions from sources other than government appropriations increased at a faster rate. Tuition and fees per student increased from $1,364 to $2,716 (by 99 percent), and other sources of education and general revenues increased from $2,204 to $3,571 (by 62 percent).

Conclusion

Trends in the condition of American education continue to show promise and challenge, as well as underscore the importance of schooling. Progress in reading achievement is uneven, while performance has risen in mathematics. International assessments also present a mixed picture. Certain family risk factors present a challenge to students' educational progress and achievement.

In elementary and secondary education, enrollments have followed population shifts and are projected to increase each year through 2014 to an all-time high of 50 million, with the West expected to experience the largest increase in enrollments. Over the past three decades, rates of enrollment in degree-granting postsecondary education have increased and are projected to continue to do so throughout the next 10 years.

NCES produces an array of reports each month that present findings about the U.S. education system. *The Condition of Education 2005* is the culmination of a yearlong project. It includes data that were available by early April 2005. In the coming months, a number of other reports and surveys informing us about education will be released, including the first follow-up to the Birth Cohort of the Early Childhood Longitudinal Study; 2005 National Report Cards in reading, mathematics, and science; the National Assessment of Adult Literacy; and the 10-year follow-up to the Baccalaureate and Beyond Longitudinal Study of 1992/93. As is true of the indicators in this volume, these surveys and reports will continue to inform Americans about the condition of education.

Data sources: Many studies from NCES and other sources.

For technical information, see the complete report:

U.S. Department of Education, National Center for Education Statistics. (2005). *The Condition of Education 2005* (NCES 2005-094).

For questions about content, contact Patrick Rooney (patrick.rooney@ed.gov).

To obtain the complete report (NCES 2005-094), 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).

Methodology

Student Unit Record Systems

Feasibility of a Student Unit Record System Within the Integrated Postsecondary Education Data System

Alisa F. Cunningham and John Milam

This article was originally published as the Executive Summary of the Research and Development Report of the same name.

The Research and Development (R&D) series of reports at the National Center for Education Statistics (NCES) has been initiated to

- share studies and research that are developmental in nature. The results of such studies may be revised as the work continues and additional data become available.
- share the results of studies that are, to some extent, on the "cutting edge" of methodological developments. Emerging analytical approaches and new computer software development often permit new and sometimes controversial analyses to be done. By participating in "frontier research," we hope to contribute to the resolution of issues and improved analysis.
- participate in discussions of emerging issues of interest to education researchers, statisticians, and the federal statistical community in general. Such reports may document workshops and symposia sponsored by NCES that address methodological and analytical issues or may share and discuss issues regarding NCES practices, procedures, and standards.

The common theme in all three goals is that these reports present results or discussions that do not reach definitive conclusions at this point in time, either because the data are tentative, the methodology is new and developing, or the topic is one on which there are divergent views. Therefore, the techniques and inferences made from the data are tentative and subject to revision.

This report examines the feasibility of implementing a student unit record (UR) system to replace the student-related components of the Integrated Postsecondary Education Data System (IPEDS). The feasibility study was initiated by the National Center for Education Statistics (NCES), a part of the Institute of Education Sciences (IES) within the U.S. Department of Education (ED), in response to growing interest within the postsecondary education community for more accurate measures of net price and graduation rates, especially measures that take into account institutional mission and student mobility. This interest parallels a growing congressional desire to hold postsecondary institutions accountable for student outcomes.

Background

This discussion of the feasibility of a UR system at the federal level is occurring within the context of the development of other UR systems for students attending postsecondary institutions. Unit record systems are maintained by most colleges and universities to track registration for courses, academic performance, degree and certificate completion, financial aid, and other purposes. A number of states began to develop UR systems in the mid-1980s and use UR data for analysis and program evaluation. Today, 39 states have at least one student UR system. A limitation of state UR systems, however, is that most do not include data on students attending private institutions, or students who leave an institution and transfer across state lines.

Many governmental and other organizations also maintain UR systems on specific groups of students. For example, the National Student Loan Data System (NSLDS) within the office of Federal Student Aid (FSA) compiles information on all recipients of federal student loans, including verification of enrollment by academic term. In addition, the National Collegiate Athletic Association (NCAA) collects UR data on 1,800 institutions with Division I, II, or III varsity athletic programs, and about 2,800 colleges and universities currently contract with the National Student Clearinghouse to perform enrollment verification and other services using student UR data uploaded from member institutions.

At IES/NCES, IPEDS is the core postsecondary education data collection program, designed and implemented to meet its mission to report on the condition of postsecondary education in the United States. IPEDS is a single, comprehensive system that encompasses over 10,000 institutions whose primary purpose is to provide postsecondary education (including roughly 6,700 institutions that have Program Participation Agreements with ED for Title IV federal student financial aid programs and are required by statute to report to IPEDS). IPEDS collects institution-level data in the areas of enrollment, program completions, graduation rates, faculty, staff, finances, institutional prices, and student financial aid. The use of aggregate data has some limitations in comparison with UR data, such as the inability to track the academic progress and experiences of individual students, and therefore to study the longitudinal enrollment of different types of students.

Despite its comprehensiveness, IPEDS cannot measure many of the evolving trends in postsecondary education that are necessary for sound policy decisions. The current IPEDS framework cannot accurately capture changing enrollment and completions patterns in the postsecondary education sector, especially given increasing numbers of nontraditional students, and cannot describe the prices various types of students face after financial aid is taken into account. To do so, it would be necessary to collect accurate student-level information on persistence systemwide (i.e., regardless of institution and nationwide), multiple enrollment, part-time enrollment, transfer, and attainment. It would also be necessary to collect student-level information on prices and financial aid, in order to calculate net prices that take into account the individual circumstances of each student. By its very nature, a UR system would enable the collection of data that would lead to more accurate estimates of these variables. In addition, a UR system would allow the development of a whole range of new measures, such as net prices for specific groups of students, graduation rates that take into account institutional missions, persistence rates that consider student mobility and a systemwide perspective, measures of enrollment patterns for nontraditional students, and time to degree by field of study.

Goals and Design of the Feasibility Study

In exploring the feasibility of a UR system, the study attempted to investigate whether such a system *could* be constructed technically and effectively, given the knowledge about UR systems already accumulated at the state and institutional levels. In addition, the feasibility study tried to explore whether such a system *should* be developed by the federal government. To do so, the study solicited input on several dimensions, including privacy and confidentiality, institutional burden, coordination, technical issues, and timing.

As part of the feasibility study, three Technical Review Panels (TRPs) were designed to gather feedback and ideas from different perspectives related to the study, and included representatives from the following groups: (1) states, state

systems, private systems, and private associations of colleges and universities; (2) institutions, particularly institutional researchers and registrars; and (3) other stakeholders, including the national postsecondary education association community, federal agencies, units within ED, and vendors such as administrative information system developers. In addition, the contractor developed an architecture and flow of operations for a proposed student UR system, as well as a list of potential data elements that might be collected under such a system.

In reading this report, it is important to keep in mind that any redesign of IPEDS to develop a UR system would require legislative authorization through amendments to the Higher Education Act (HEA) and funds would have to be appropriated by Congress to implement the system.

Proposed Redesign of IPEDS

If authorized and funded, the proposed UR system would replace the student-related components in the current IPEDS collection—Fall Enrollment, Completions, Student Financial Aid, and Graduation Rates—as well as the price-of-attendance variables collected in the Institutional Characteristics component. The UR system would be designed to include all of the variables necessary to replace those components and calculate institution-level estimates for the Peer Analysis System (PAS). The collection process for nonstudent-related components in IPEDS would remain the same.

It is difficult to describe exactly what the UR system would look like before the design process is undertaken. Such a process would involve numerous TRPs and input from campuses, university systems, and state coordinators, particularly from states with UR systems. Generally, the UR collection system would be designed to collect individually identifiable data through files that are submitted electronically by institutions. The files would be used to calculate institutional summary totals for each school, with information about enrollment, completions, graduation rates, financial aid, and price. Four types of files would be submitted:

- *Header files:* These data provide individually identifiable information such as name, Social Security Number (SSN), date of birth, address, race/ethnicity, and gender that are attached to an individual student's record. These files would be required at least once for every student. New header records would be submitted as needed to document any changes in these key data.
- *Enrollment/term files:* These data include program information such as number of courses and credits attempted, major field of study, start and end dates, and attendance status. The files would be required three to four times a year, and institutions would be allowed to upload files more frequently if they wished.
- *Completions files:* These data include information on degree completions and the date of completion. The files would need to be uploaded at least once per year.
- *Financial aid files:* These data include information on financial aid received from federal, state, and institutional sources. Information on price of attendance would also be included with the financial aid file. These data also would need to be uploaded at least once a year.

In addition, in the first year of an IPEDS UR collection, additional files would need to be submitted in order for NCES to complete the historical calculations that are part of the Graduation Rate Survey (GRS). Depending on program length, these could include up to 6 years of data for key pieces of information.

For each submission of data, the IPEDS keyholder at an institution or coordinating agency would submit data electronically through the IPEDS collection system, similar to the process that exists currently. After submission, NCES would review the data to make sure they are consistent within the file and with prior submissions. Schools would work with the IPEDS Help Desk to match all records, and any that do not match would have to be resolved. The UR data would then be summarized in online institutional reports, which would also be checked for consistency, before the keyholder "locks" or finalizes the submission.

The UR data would then be moved from the collection system to the permanent database storage system. The full UR database would only exist in this permanent storage area, which would not be accessible via the Internet and would be subject to high IES/NCES levels of protection for confidentiality and security. Ultimately, aggregate estimates would be calculated from the full UR database and moved to the PAS, where they would be stored as institution-level data.

Individually identifiable data would remain within the permanent storage system. The only allowable redisclosures of individually identifiable data would have to be specifically authorized in the HEA legislation, including

- *Enrollment verification for the National Student Loan Data System (NSLDS):* The UR system would be used to verify enrollment for students who are receiving federal student loans. Currently, this verification is

being done either by institutions themselves, or by organizations such as the National Student Clearinghouse.

- *Verification of subsequent enrollment to the IPEDS keyholder:* The UR system would be used to redisclose individually identifiable data back to the initial keyholders and to state/system coordinators, in order to give something back to institutions. Data on the subsequent enrollment of students who left the first institution in the previous year would be redisclosed to the keyholder, including the institution of subsequent enrollment, date, attendance status, attainment, and date of attainment.[1]
- *Record mismatches:* During the process of data collection for the UR system, mismatches between data records and other types of edit failures would have to be resolved. This would involve sending individually identifiable information back to the IPEDS keyholder. These types of edit failure resolutions would be essential to the data integrity of the database.

Other uses of the data would not involve the disclosure of individually identifiable student information. For example, while ensuring the confidentiality of the data, NCES could generate aggregate reports for the Office of Postsecondary Education (OPE) using the UR data (e.g., to generate aggregate measures of persistence, transfer, and attainment for various types of federal student aid recipients, such as those attending on a part-time basis). It would also be possible to add new derived variables to the PAS, used by institutional researchers and other analysts. Each of these derived variables would be reviewed for potential disclosure risks prior to their release on the PAS. Such variables could include new definitions of net price; new measures of graduation rates that better take into account the missions of postsecondary institutions and the mobility of students across institutions; new definitions of time to degree, including transfer calculated for various fields of study; variables that describe enrollment by field of study and program length; and completions by field of study.

Challenges to Implementing a UR System

Technically, UR could be done at most institutions in the long term, after investment of time and financial resources. This can be inferred from the fact that 39 states have compiled UR systems in some form; thousands of postsecondary institutions already submit UR data electronically to private organizations; and postsecondary institutions that are Title IV participants are required to upload information on federal aid recipients to the FSA. Nonetheless, in feedback from institutions, states, associations, and other stakeholders, it is clear if a UR system is legislatively authorized, certain concerns must be dealt with and resolved in the design phase of implementation.

Privacy and confidentiality

Concerns have been raised about student privacy and the confidentiality of individually identifiable student data under a federal UR system. ED, IES, and NCES have always taken seriously the importance of safeguarding student data, but a UR system raises questions about students' rights to withhold or control personal information. This is particularly the case for students who do not receive federal student aid. However, these students benefit indirectly[2] from federal student aid funds, which support all programs, and benefit directly from state appropriations at public institutions and the tax-exempt status of private, not-for-profit institutions. Additionally, data on nonaided students are a critical element to compute graduation rates, retention measures, and other indicators. Information on nonaided students would be necessary in order to compare these measures with information on students receiving student aid.

In addition to misgivings about student privacy, there are practical, technical concerns about unauthorized access to the data by hackers and identity theft. This is particularly true given the proposal to use SSNs as one of several personal identifiers that are necessary for matching student records. The use of SSNs would be essential to a UR system to accurately link together student information on financial aid, enrollment, and completions, as well as records from various institutions. Enrollment verification for the FSA already includes the use of SSNs as a student identifier. An additional measure of enrollment intensity at the start of each term (such as full- or part-time) would also be collected to satisfy FSA requirements.

Despite these concerns, IES/NCES is well suited to protect the data, given the strict limits of the legislation regarding data confidentiality under which it operates. IES/NCES legislation protects the privacy of individuals, making wrongful disclosure a Class E felony punishable by up to 5 years in jail and a $250,000 fine. NCES has experience in working with individually identifiable data through its various sample surveys, and has created the structures and procedures necessary to prevent unauthorized disclosure of such

[1]Redisclosure of student information to the original institutions could take place over a longer time period if this was decided by future design TRPs and NCES.

[2]Tuition at these schools is probably lower than it would be if they were not the beneficiaries of tax-exempt status and state appropriations.

data. In fact, there are no cases where individually identifiable data collected by NCES have been wrongfully disclosed by an employee, a contractor, or a restricted licensee, or of cases in which hackers have breached IES/NCES firewalls. If collected, the data would be technologically protected and secure, and would not leave NCES unless allowed by law. Under the Patriot Act, the Attorney General and the Department of Justice could conceivably obtain access to UR data in order to fight terrorism. Students on whom data are held would be able to "opt out" of the redisclosure of subsequent enrollment information.

Institutional burden

The additional burden of a UR system can be divided into two categories: initial implementation and subsequent operations. The burden of initial implementation is expected to be higher than the costs of subsequent operations. A field test would be necessary in order to make sure the system works, to anticipate and address problems that would be encountered, and to develop all necessary features in the system prior to implementation. About 1,200 to 1,500 institutions would be required to participate in the field test and report using both the old and new IPEDS collection system. Although NCES would make every effort to notify selected institutions early, participating institutions would need to make changes in their reporting systems within a relatively short time frame, depending upon the desire of Congress for an implementation schedule.

In the full-scale implementation, many institutions would need to upgrade information technologies and assign staff to comply with new reporting requirements. Staff would need to be trained in the use of these systems and the details of reporting procedures. Some institutions would need to rely on vendors to provide upgrades to existing software, build their UR extracts, or pay for changes to legacy information systems. These additional activities would likely increase software costs. Obtaining historical GRS files for all cohorts in the first year would present a burden (although these same files are needed now to calculate the GRS locally). The initial burden on small institutions is likely to be relatively high, unless the institutions are part of a larger system or state association.

The additional costs of subsequent operations under a UR reporting system are expected to be lower than the costs of initial implementation. Keyholders would need to coordinate with offices on campus to gather data, run internal checks to make sure data make sense, submit data to NCES several times per year, and work with the IPEDS Help Desk to reconcile record mismatches and discrepancies in data. Some mismatches of records could be difficult to resolve, especially if there are numerous records.

It is very difficult, at the conceptual stage, to make cost estimates with any degree of precision. Costs would differ widely among postsecondary institutions, depending on whether they are in state UR systems, whether they currently upload to organizations such as the National Student Clearinghouse, whether they use local or proprietary administrative information systems, and the extent of their information technology and institutional research capability. There would be a decrease in burden after the initial implementation of a UR system, as postsecondary institutions would no longer need to track and maintain records on GRS cohorts for 6 years or fill out the current IPEDS student-related components.

If a UR system were implemented, it would be important to take into account these various issues during the design phase of implementation so as to minimize institutional burden. There are different ways to offset the cost and burden of a UR system. One funding mechanism, Administrative Cost Allowances (ACAs), is used to help defray the cost of administering federal student aid programs.[3] A similar funding mechanism could be put in place for a UR system.

Technical issues

Technical issues were also raised as potential challenge to the implementation of a federal UR system. The proposed system would include the creation and maintenance of a database of millions of student records, with new records added every year. In addition, the system would require the uploading of large files from postsecondary institutions to NCES, using multiple forms of security to protect against unauthorized disclosures of data. NCES currently has most of the hardware and software necessary to implement a UR system, including current equipment used in the web-based IPEDS collection as well as servers capable of storing large amounts of student data. One necessary addition would be database storage, to be located offline in a secure site and protected by physical and software firewalls.

There would likely be greater technical challenges for postsecondary institutions, with the extent varying among the registrar, institutional research, and financial aid offices, which sometimes utilize different and incompatible information systems. Institutions using both legacy and proprietary student information systems would need to make

[3]Institutions currently receive over $150 million in ACAs, which is provided to help cover the cost of administration of federal programs such as Pell Grants and campus-based aid.

software conversions or updates. For the smallest schools, an Excel template could be provided to collect data and generate the data file needed for submission. Although the technical issues could present a problem, these schools currently find a way to do uniform reporting for FSA financial aid eligibility and NSLDS loan deferment.

The proposed UR system would also use XML[4] technology for the submission of data files to NCES, although it is likely that ASCII files would be accepted in the early years of implementation. Some postsecondary institutions have already adopted XML and are using it in their exchange of data with other organizations. On the other hand, many institutions do not currently use XML and training would be required on the use of this technology. Nonetheless, the FSA has already mandated that institutions begin submitting data to the office using XML by 2005–06.

Coordination

Coordination of the flow of information presents a multitude of challenges in implementing a UR system. For example, a UR system might not work well within the existing IPEDS structures in some states. Most state systems are based on specific census dates. If multiple header and/or enrollment files need to be submitted at different points in time to capture total enrollment, this would involve a change in workload for both institutions and systems. Special TRP meetings should be held during the UR design phase in order to leverage existing UR systems whenever possible in order to meet federal and state/system requirements and needs. This will prevent unnecessary duplication of effort and reporting, and ensure that any federal UR system maximizes the lessons that have been learned through years of state UR reporting.

Timing

In implementing a UR system, the timing of data collections would have to be addressed. If a UR system were authorized in 2005, a field test would then be administered in 2006–07, followed by full-scale implementation in 2007–08. The project timetable is designed to yield data relatively quickly while avoiding potential problems associated with an expedited time frame. A phased implementation could also be considered to provide additional time to address problems during implementation. To respond adequately as part of the field test, it might be necessary for institutions to examine the utility of their administrative information systems for the purposes of producing UR extracts and to address some of the burden issues mentioned above such as training and staffing. Early notification for the selected institutions would be crucial for the institution's ability to respond in a timely and accurate fashion. It is possible that NCES could draw the sample of institutions immediately after legislative authorization to allow selected institutions almost a year to prepare.

Since the UR system is based on individually identifiable records, it must comply with the Office of Management and Budget (OMB) requirement for collecting race/ethnicity data with a two-question format. A byproduct of the UR system is that schools that have not yet implemented this change will need to do so to meet OMB Statistical Policy Directive No. 15, Race and Ethnic Standards for Federal Statistics and Administrative Reporting.

Another important issue is operational—how to time data collection schedules, while minimizing conflicts with other reporting schedules. The proposed UR system likely would collect enrollment records once per term. However, some institutions do not have standard terms; for example, courses may be offered on a rolling basis or on 6-week terms. Institutions could choose to upload data more frequently, especially for the purpose of enrollment verification for student loan programs. It would be necessary to find a method of specifying a whole range of flexible term reporting options, perhaps by asking institutions to document all possible term sequences using the IPEDS Institutional Characteristics component.

Degree and certificate completions would likely be collected with only one file per year, although institutions with several commencement periods might wish to submit multiple files over the year. In some cases, awards are recorded months after the relevant students have stopped attending institutions; degree dates then reflect the date the degree was awarded rather than when the degree was finished. In designing the timing of data collections and the periods of reference for the data, it would be useful to align the completions data with the enrollment data necessary to calculate graduation rates so that completions records can be matched to comparable enrollment records.

Student financial aid information also would likely be collected in only one file per year. Data submitted in an academic year would be from the previous year's award cycle. It would be important to time the collection of financial aid data so that it does not conflict with the institution's aid packag-

[4]XML is a "markup language," or mechanism for identifying structures within a document or data file. It employs tags to identify data elements, thereby facilitating the seamless exchange of data. In other words, it allows users to describe data and deliver it across a network, through the creation of common records across disparate databases.

ing period, which is the busiest time of year for financial aid offices. In addition, the treatment of summer sessions varies by institution, especially regarding whether summer sessions would follow or lead the submission of an annual data file.

All of these timing issues would be addressed during the design phase of UR implementation, should a UR system be authorized. In the proposed UR system, collection schedules would not need to be on a uniform schedule, but rather could be geared to a schedule that works best for individual institutions. In other words, institutions with different calendars or financial aid packaging schedules could submit data to NCES on different cycles.

Conclusions

As this report has outlined, a central question for a UR system is *"Could it be done?"* Have the information technologies and infrastructures at the campus and state levels matured, could the current IPEDS web-based reporting system be adapted to a UR system, and would there be adequate technical and legal protections in place at IES/NCES? The report has addressed some of the technical and system problems associated with the design and development of a new IPEDS UR system. At the technical level, a UR system could be done at most institutions given time for implementation.

The feasibility study also addressed the *"Should it be done?"* question, providing a framework for the discussion of issues inherent in this question. These issues constellate in several areas of concern—privacy, burden, coordination, technology, and timing—which would need to be addressed and resolved in the design phase of a UR system, should policymakers decide to authorize and fund such a system.

Finally, the feasibility study outlined areas of federal interest: better information for informed consumer decisions, including the improved calculation of net prices; and more accurate measures for institutional accountability and program effectiveness, including enrollment, persistence, transfer, and attainment rates by program of study. Policymakers would be able to monitor in real time federal student aid programs (such as Pell Grants) and variations in aid packaging. The study also has attempted to highlight some potential benefits to institutions, researchers, consumers, and other users of NCES data.

The study did not attempt to address every challenge or make recommendations about how each aspect should be addressed. Nor did the study document specific organizational positions regarding the obstacles a UR system might face. Rather, it provided a framework for policymakers to understand the potential costs and benefits of a UR system as they discuss whether it should be considered.

The central defining question of the feasibility of a UR system in IPEDS is not a "could" question. It is a "should" question, asking whether the federal government should develop a system that is based upon individually identifiable information about enrollment, financial aid, and attainment. This system would, for the first time, give policymakers and consumers much more accurate and comprehensive information about postsecondary education in this country. Some of the benefits of a UR system include the collection of new data that would measure the success rates of students at institutions to which family and federal student aid monies flow, provide more accurate consumer guidance, and improve federal programs that support those families and students. In addition to benefits, the feasibility study found a number of significant issues that would need to be overcome before a UR could be implemented, including objections about student privacy, confidentiality of data, new institutional burdens, coordination within and of institutions, and timing issues.

For technical information, see the complete report:

Cunningham, A.F., and Milam, J. (2005). *Feasibility of a Student Unit Record System Within the Integrated Postsecondary Education Data System* (NCES 2005-160).

Author affiliations: A.F. Cunningham, Institute for Higher Education Policy; J. Milam, HigherEd.org, Inc.

For questions about content, contact Cathy Statham (cathy.statham@ed.gov).

To obtain the complete report (NCES 2005-160), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Estimating Enrollment

Estimating Undergraduate Enrollment in Postsecondary Education Using National Center for Education Statistics Data

David Hurst and Lisa Hudson

This article was originally published as the Executive Summary of the Research and Development Report of the same name. The sample survey data are from the National Postsecondary Student Aid Study (NPSAS), the National Household Education Surveys Program (NHES), and the U.S. Census Bureau's October Current Population Survey (CPS). The universe data are from the Integrated Postsecondary Education Data System (IPEDS).

The Research and Development (R&D) series of reports at the National Center for Education Statistics (NCES) has been initiated to

- share studies and research that are developmental in nature. The results of such studies may be revised as the work continues and additional data become available.
- share the results of studies that are, to some extent, on the "cutting edge" of methodological developments. Emerging analytical approaches and new computer software development often permit new and sometimes controversial analyses to be done. By participating in "frontier research," we hope to contribute to the resolution of issues and improved analysis.
- participate in discussions of emerging issues of interest to education researchers, statisticians, and the federal statistical community in general. Such reports may document workshops and symposia sponsored by NCES that address methodological and analytical issues or may share and discuss issues regarding NCES practices, procedures, and standards.

The common theme in all three goals is that these reports present results or discussions that do not reach definitive conclusions at this point in time, either because the data are tentative, the methodology is new and developing, or the topic is one on which there are divergent views. Therefore, the techniques and inferences made from the data are tentative and subject to revision.

Introduction

A number of NCES surveys can be used to estimate enrollment levels in postsecondary education. Generating consistent enrollment estimates across surveys, however, is complicated by differences in surveys that lead to different enrollment counts. This R&D report describes the process of generating comparable estimates of undergraduate enrollment in postsecondary institutions across four NCES datasets—the National Postsecondary Student Aid Study (NPSAS), a sample survey of postsecondary students; the Integrated Postsecondary Education Data System (IPEDS), a universe survey of postsecondary institutions; the National Household Education Surveys Program (NHES) Adult Education Survey, a sample survey of adults in households; and the October school enrollment supplement to the Current Population Survey (CPS), a sample survey of adults in households. The purpose of the report is to highlight differences across surveys that may affect postsecondary enrollment estimates and to describe how largely comparable estimates can be derived, given these differences.

For each dataset, the analysis estimated the number of individuals enrolled in postsecondary education in the 1989–90, 1995–96, and 1999–2000 school years, or the closest available time period to those dates. Enrollment counts were estimated for the traditional college age group, ages 18 to 24, as well as for those individuals ages 18 to 64. Each estimate was placed over the relevant population age group to obtain an estimate of the percentage of the population enrolled in postsecondary education, using resident population counts (for April 1990, 1996, and 2000) provided by the U.S. Census Bureau.

Preliminary estimates for undergraduate and graduate students combined, with minimal corrections for survey differences, revealed inconsistencies in enrollment levels within years and in trends across years from one survey to another. Survey differences that may contribute to these inconsistencies include the following:

- Sources of information: Whether a student, postsecondary institution, or household member provided enrollment information, and whether proxy respondents are allowed. For example, CPS and NHES collect information from household members, NPSAS collects information from students, and IPEDS collects information from postsecondary institutions. In CPS surveys, an adult member of each household serves as a proxy respondent, providing information for all members of the household.
- Reference period: Whether the survey asked about enrollment at one point in time or over an entire

school year or calendar year. For example, while NHES collects full-year enrollments, CPS collects fall-only enrollments.

- Definition of enrollment: Differences in the types of enrollment counted in the survey, such as whether students had to be in for-credit courses (e.g., NPSAS) or courses leading to a degree (e.g., NHES). Also, differences in the target population (e.g., whether military personnel are included in the population).
- Definition of postsecondary institution: Which postsecondary institutions were included in the survey and how eligible institutions were defined. Some surveys set specific criteria in defining postsecondary institutions (e.g., IPEDS), whereas others rely primarily on respondent perception (e.g., CPS).
- Variations in survey administration: These differences are assumed to be largely corrected by sample weights, and include factors such as telephone-based sampling, time of year of administration, and differences in response rates.

Adjustments to Datasets

The remainder of the report focuses on undergraduate enrollments only. The following adjustments were made to the datasets to obtain undergraduate enrollment estimates that are as comparable as possible.

NPSAS

To make NPSAS estimates comparable across time, the three waves of NPSAS data were restricted to Title IV eligible institutions (i.e., institutions eligible to participate in the federal student financial aid program) and excluded institutions in Puerto Rico. Because of inconsistencies in the inclusion of students in less-than-2-year institutions in the IPEDS and CPS datasets, students enrolled in less-than-2-year institutions were excluded as well. In cases where student age was missing, these data were imputed.

IPEDS

Because IPEDS generally does not collect enrollment by age categories from less-than-2-year institutions, these schools were excluded from the analysis, as were institutions in areas other than the 50 states and the District of Columbia. IPEDS provides both full-year and fall-only enrollment counts; however, because IPEDS full-year enrollment data are not disaggregated by age, this analysis used IPEDS fall-only enrollments. Age was imputed when missing.

NHES

The 1991 administration of NHES was not used to examine undergraduate enrollments because in the 1991 survey these enrollments could not be separated from graduate enrollments. In the remaining years, data were restricted to adults working on either an associate's or a bachelor's degree; cases in which adults indicated they were working on "another degree" were individually examined and recoded into these degree categories as necessary.

CPS

CPS includes separate questions about enrollments at a "regular" school and enrollments in "business, vocational, technical, secretarial, trade, or correspondence courses." Because the second question potentially includes a wide range of courses outside of postsecondary education, only responses to the first question were used in this analysis, effectively restricting the estimates to those enrolled in 2- or 4-year institutions. No other adjustments were made to the CPS estimates.

After making these adjustments, levels of enrollment were generally not significantly different for those surveys with similar reference periods (i.e., full-year NPSAS and NHES vs. fall-only IPEDS and CPS). As one would expect, full-year enrollments were often higher than fall-only enrollments. The remaining differences across surveys can be reasonably attributed to factors such as the population surveyed, the survey methodology, and the time of year in which the survey was administered.

Conclusion

Because of the potential effects of survey differences on postsecondary enrollment estimates, it is important that the analyst examining participation in postsecondary education note the reference period, levels of degrees, and institution types covered by the analysis, and the effects of this coverage related to other possible analyses and/or data sources. Which data sources to use, and which adjustments to make, will depend in large part on the questions the analyst wishes to answer.

Data sources: The NCES 1991, 1995, and 1999 Adult Education Surveys of the National Household Education Surveys Program (AE-NHES:1991, AE-NHES:1995, AE-NHES:1999); 1989–90, 1995–96, and 1999–2000 National Postsecondary Student Aid Study (NPSAS:90, NPSAS:96, NPSAS:2000); Integrated Postsecondary Education Data System (IPEDS), Fall 1989, Fall 1995, and Fall 1999; and U.S. Bureau of the Census, School Enrollment Supplement to the Current Population Survey (CPS), October 1989, October 1995, and October 1999.

For technical information, see the complete report:

Hurst, D., and Hudson, L. (2005). *Estimating Undergraduate Enrollment in Postsecondary Education Using National Center for Education Statistics Data* (NCES 2005-063).

Author affiliations: D. Hurst, Education Statistics Services Institute; L. Hudson, NCES.

For questions about content, contact Lisa Hudson (lisa.hudson@ed.gov).

To obtain the complete report (NCES 2005-063), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Data Products, Other Publications, and Funding Opportunities

Data Products

Other Publications

Training and Funding Opportunities

Data Products

Data File: CCD School District Finance Survey: FY 1997 Final

The Common Core of Data (CCD) "School District Finance Survey (Form F-33)" provides finance data for all local education agencies (LEAs) that provide free public elementary and secondary education in the United States. The 1996–97 "School District Finance Survey" contains 15,679 records representing the public elementary and secondary education agencies in the 50 states and the District of Columbia.

For each state or jurisdiction, the data file includes revenues by source, expenditures by function, indebtedness, assets, student membership counts, and identification variables.

The data can be downloaded from the NCES Electronic Catalog either as a SAS file or as a flat file. Documentation is provided in separate files.

For questions about this data product, contact Frank H. Johnson (frank.johnson@ed.gov).

To obtain this data product (NCES 2005-355), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Data File: CCD School District Finance Survey: FY 2003 Preliminary

The Common Core of Data (CCD) "School District Finance Survey (Form F-33)" provides finance data for all local education agencies (LEAs) that provide free public elementary and secondary education in the United States. The 2002–03 "School District Finance Survey" contains 16,342 records representing public elementary and secondary education agencies in the 50 states and the District of Columbia.

For each state or jurisdiction, the data file includes revenues, current operation expenditures, capital outlay expenditures, other expenditures by LEA, state payments on behalf of the LEA, debt, cash and investments held at the end of the fiscal year, fall membership as of October 2002, and special processing items.

The data can be downloaded from the NCES Electronic Catalog either as a SAS file or as a flat file. Documentation is provided in separate files.

For questions about this data product, contact Frank H. Johnson (frank.johnson@ed.gov).

To obtain this data product (NCES 2005-357), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Data File: CCD National Public Education Financial Survey: FY 2003 Preliminary

The Common Core of Data (CCD) "National Public Education Financial Survey" (NPEFS) provides detailed state-level data on public elementary and secondary education finances. These data are based on information from state education agencies (SEAs) for fiscal year 2003 (school year 2002–03). The dataset contains one record for each of the 50 states, the District of Columbia, and four of the other jurisdictions (American Samoa, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). A record for Guam is also included, although this jurisdiction did not report any data.

Revenue data are reported by source, and expenditure data by function and object. Data on average daily attendance are also provided.

The data file can be downloaded from the NCES Electronic Catalog either as an Excel file or as a flat file that can be used with statistical processing programs such as SPSS or SAS. Documentation is provided in separate files.

For questions about this data product, contact Frank H. Johnson (frank.johnson@ed.gov).

To obtain this data product (NCES 2005-358), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

2003–04 National Postsecondary Student Aid Study (NPSAS:04): Undergraduate Data Analysis System

The NPSAS:04 Undergraduate Data Analysis System (DAS) contains data on a sample of about 80,000 undergraduates who were enrolled at any time between July 1, 2003, and June 30, 2004, in about 1,400 postsecondary institutions. It represents all undergraduate students enrolled in postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico eligible to participate in the federal financial aid programs in Title IV of the Higher Education Act. The survey focuses on how they and their families pay for postsecondary education and includes general demographics and other characteristics of these students, types of aid and amounts received, and the cost of attending college.

The DAS is a software application that allows users to produce tables and correlation matrices from NCES datasets, mainly postsecondary data. There is a separate

DAS for each dataset, but all have a consistent interface and command structure.

For questions about this data product, contact Aurora D'Amico (aurora.d'amico@ed.gov).

To obtain this data product (NCES 2005-164), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

2003–04 National Postsecondary Student Aid Study (NPSAS:04): Graduate Data Analysis System

The NPSAS:04 Graduate Data Analysis System (DAS) contains data on a sample of about 11,000 graduate students who were enrolled at any time between July 1, 2003, and June 30, 2004, in about 1,400 postsecondary institutions. It represents all graduate students enrolled in postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico eligible to participate in the federal financial aid programs in Title IV of the Higher Education Act. The survey focuses on how students pay for postsecondary education and includes general demographics and other characteristics of these students, types of aid and amounts received, and the cost of attending college.

The DAS is a software application that allows users to produce tables and correlation matrices from NCES datasets, mainly postsecondary data. There is a separate DAS for each dataset, but all have a consistent interface and command structure.

For questions about this data product, contact Aurora D'Amico (aurora.d'amico@ed.gov).

To obtain this data product (NCES 2005-165), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Data File, Public-Use: Public Libraries Survey: Fiscal Year 2002

The Public Libraries Survey (PLS) is conducted annually by NCES through the Federal-State Cooperative System (FSCS) for Public Library Data. The data are collected by a network of state data coordinators appointed by the Chief Officers of State Library Agencies (COSLA). For fiscal year 2002, the PLS includes data from 9,141 public libraries in the 50 states, the District of Columbia, and the other jurisdictions of Guam, the Northern Mariana Islands, Palau, and the U.S. Virgin Islands.

This revised file was previously released in August 2004. It is identical to the previous release except for a net increase of 1,263 web addresses on the Public Library Data File.

The data and related documentation can be downloaded from the NCES Electronic Catalog in Microsoft Access or ASCII (flat file) formats.

For questions about this data product, contact P. Elaine Kroe (patricia.kroe@ed.gov).

To obtain this data product (NCES 2004-327), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Data File, Public-Use: Public Libraries Survey: Fiscal Year 2003

The Public Libraries Survey (PLS) is conducted annually by NCES through the Federal-State Cooperative System (FSCS) for Public Library Data. The data are collected by a network of state data coordinators appointed by the Chief Officers of State Library Agencies (COSLA). For fiscal year 2003, the PLS includes data from 9,214 public libraries in the 50 states, the District of Columbia, and the other jurisdictions of Guam, the Northern Mariana Islands, Palau, and the U.S. Virgin Islands.

The files include data on population of legal service area, service outlets, full-time-equivalent staff, operating revenue and expenditures, capital revenue and expenditures, library collections, public service hours, library visits, reference transactions, total circulation, circulation of children's materials, children's program attendance, interlibrary loans, public-use internet terminals, and users of electronic resources.

The data and related documentation can be downloaded from the NCES Electronic Catalog in Microsoft Access or ASCII (flat file) formats.

For questions about this data product, contact P. Elaine Kroe (patricia.kroe@ed.gov).

To obtain this data product (NCES 2005-362), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Other Publications

The Nation's Report Card: An Introduction to the National Assessment of Educational Progress (NAEP)

U.S. Department of Education, National Center for Education Statistics

This report explains the major features of NAEP. It highlights the history and development of NAEP, data collection, scoring and analysis, and the reporting of results. This introductory guide to NAEP is designed to provide basic information for teachers, parents, and other members of the general public about the nation's premier assessment of what America's elementary and secondary students know and can do.

For questions about this report, contact Sherran T. Osborne (sherran.osborne@ed.gov).

To obtain this report (NCES 2005-454), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

The Condition of Education in Brief 2005

Andrea Livingston and John Wirt (editors)

The 2005 edition of *The Condition of Education*, a congressionally mandated NCES annual report, presents 40 indicators of the status and progress of education in the United States. *The Condition of Education in Brief 2005* is a convenient reference brochure that contains a summary of 19 of the 40 indicators from the full-length report, including both graphics and descriptive text.

Topics covered in *The Condition of Education in Brief 2005* include public and private enrollment in elementary/secondary education, the racial/ethnic distribution of public school students, undergraduate postsecondary enrollments, trends in student achievement in reading and mathematics from the National Assessment of Educational Progress, international comparisons of mathematics literacy, annual earnings of young adults by education and race/ethnicity, status dropout rates, immediate transition to college, postsecondary participation and attainment, availability of advanced courses in high school, inclusion of students with disabilities in regular classrooms, school violence and safety, faculty salary and total compensation, early development of children, expenditures per student in public elementary and secondary education, and the public effort to fund postsecondary education. The data presented are from many sources, both government and private.

Editor affiliations: A. Livingston, MPR Associates, Inc.; J. Wirt, NCES.

For questions about content, contact Patrick Rooney (patrick.rooney@ed.gov).

To obtain this publication (NCES 2005-095), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

To obtain the complete* Condition of Education *(NCES 2005-094), 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).

Directory of Public Elementary and Secondary Agencies 2002–03

Lena M. McDowell and John P. Sietsema

This directory provides a complete listing of agencies responsible for providing free public elementary/secondary instruction or education support services in the 50 states, District of Columbia, five outlying areas, Department of Defense dependents schools, and Bureau of Indian Affairs schools. The agencies are organized by state or jurisdiction and, within each state or jurisdiction, by agency type. Seven types of agencies are listed: regular school districts, supervisory union components, supervisory union administrative centers, regional educational service agencies (RESAs), state-operated agencies, federally operated agencies, and other agencies.

The entry for each listed agency (if complete) includes the following information: agency name, mailing address, and phone number; name of county; metropolitan status code; grade span; total student membership (number of students enrolled); number of regular high school graduates; number of students with Individualized Education Programs (IEPs); number of teachers; and number of schools. The information presented comes primarily from the NCES Common Core Of Data (CCD), "Local Education Agency Universe Survey," 2002–03. Preceding the information on individual agencies are several tables providing summary information, such as numbers and percentages of agencies by type, size, and state.

Author affiliations: L. McDowell and J. Sietsema, NCES.

For questions about content, contact Lena McDowell (lena.mcdowell@ed.gov) or John Sietsema (john.sietsema@ed.gov).

To obtain this publication (NCES 2005-315), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

America's Public School Libraries: 1953–2000

Joan S. Michie and Barbara A. Holton

This booklet presents a history of federal legislation and national standards affecting school library media centers from 1953–54 through 1999–2000. It also describes key characteristics of school libraries over the same period. The booklet is based on the report *Fifty Years of Supporting Children's Learning: A History of Public School Libraries and Federal Legislation From 1953–2000* (NCES 2005-311). The information is drawn from more than 25 sources, primarily federal reports.

For questions about this booklet, contact Barbara Holton (barbara.holton@ed.gov).

To obtain this booklet (NCES 2005-324), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

User's Guide to Developing Student Interest Surveys Under Title IX

U.S. Department of Education, National Center for Education Statistics

This user's guide, prepared by the National Center for Education Statistics (NCES) for the Office for Civil Rights of the U.S. Department of Education, provides guidance for conducting a survey of student interest in order to satisfy Part 3 of the Three-Part Test established in the 1979 Policy Interpretation of the intercollegiate athletic provisions of Title IX of the Higher Education Act of 1972.

The practices that are recommended in this guide do not, in some instances, meet the standards that would govern the collection and analysis of data by a federal statistical agency such as NCES. The goal is to identify and provide guidance on ways to improve practice within the context of compliance with Part 3 of the Three-Part Test.

For questions about this user's guide, contact the NCES webmaster (nceswebmaster@ed.gov).

To obtain this user's guide (NCES 2005-173), visit the NCES Electronic Catalog (http://nces.ed.gov/pubsearch).

Training and Funding Opportunities

Training

NCES is offering a seminar on Using the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) Database for Research and Policy Discussion, January 11–13, 2006:

The National Center for Education Statistics (NCES), Institute of Education Sciences, U.S. Department of Education, will sponsor a 3-day advanced studies seminar on the use of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) database. ECLS-B is designed to support research on a wide range of topics pertaining to young children's cognitive, social, emotional, and physical development and their health status across multiple contexts (e.g., home and child care).

This seminar is open to advanced graduate students and faculty members from colleges and universities nationwide and to researchers, education practitioners, and policy analysts from federal, state, and local education and human services agencies and professional associations.

For general information, contact Beverly Coleman (beverly.coleman@ed.gov).

For more detailed information on this seminar or if you are interested in attending, please visit the conference/training section of the NCES website: http://nces.ed.gov/conferences.

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 datasets, 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

- Sara Goldrick-Rab, University of Wisconsin, Madison—Investigating Path Dependence in Postsecondary Education Transitions
- Brent McBride, University of Illinois, Urbana-Champaign—Father Involvement, Child Learning and Development: A Longitudinal View

Dissertation Grants

- Brenda Arellano Anguiano, University of California, Santa Barbara—The Impact of Parental Involvement in the Achievement of Language Minority Latino Students in Early Elementary School
- Anna Chung, Indiana University—For-Profit Colleges: An Opportunity for Under-Served? Analysis of Educational and Economic Outcomes for Proprietary Students
- Rachel Durham, Pennsylvania State University—Linguistic Assimilation: Social and Cognitive Determinants and its Effects on Early Literacy
- Nevbahar Ertas, Georgia State University—Public School Responses to Charter School Presence
- Carolina Milesi, University of Wisconsin, Madison—Different Paths, Different Destinations: A Life Course Perspective on Educational Transitions
- Stefanie Mollborn, Stanford University—Why Is It So Bad? Teenage Parenthood and the Impact of Norms and Resources
- Takako Nomi, Pennsylvania State University—Educational Stratification in Early Elementary School: The Causal Effect of Ability Grouping on Reading Achievement in Early Elementary School
- Julie Riordan, University of Pennsylvania—The Cumulative Effect of High Quality Teaching on the Cognitive Development of Early Elementary Students
- Letitia Thomas, University at Buffalo, SUNY—Pathways to Success or Failure: Factors Affecting Academic Achievement Among Black Students

For more information, contact Edith McArthur (edith.mcarthur@ed.gov) or visit the AERA Grants Program website (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 midsummer, 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 2005:

- Joseph Meyer, James Madison University—Comparison of Bridging Methods in Analysis of NAEP Trends With New Race and Ethnicity Subgroup Definitions
- Edward Ip, Wake Forest University—Multiscale Visualization of National and State NAEP Data Through Interactive Graphics
- Diane Whitmore, University of Chicago—Advancing Education Improvement by Improving Child Health: An Analysis of NAEP Data
- Kerry Englert, Mid-Continent Research for Education and Learning—State Policy, Multicultural Teacher Education, and Student Learning
- Jaekyung Lee, Research Foundation of the State University of New York—Evaluating State Equity and Adequacy in School Resources in Math Achievement: Multilevel Joint Analyses Linking NAEP to SASS and F-33
- Sarah Lubienski, University of Illinois—A New Look at School Type, Mathematics Achievement and Equity
- Jimmy de la Torre, Rutgers University—NAEP Proficiency and Skill Profile Comparisons at the State Level

For more information, contact Alex Sedlacek (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.

For more information, contact Susan Broyles (susan.broyles@ed.gov) or visit the AIR website (www.airweb.org).

NPEC/AIR Focused Grants

The National Postsecondary Education Cooperative (NPEC) and the Association for Institutional Research (AIR) have developed a focused grant program to 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. For the 2006 grant year, the focus is on improving information for student decisions about postsecondary education. Proposals are due January 15 of each year.

In 2005, NPEC and AIR made nine 1-year grant awards ranging up to $15,000 for dissertation work and up to $30,000 for other activities. Grant recipients will make a presentation of their work at an NPEC national policy panel in 2008. Travel to this meeting will be paid for by NPEC.

Following are grants awarded for fiscal year 2005 in the focus area of student success in postsecondary education:

- Thomas Bailey and Davis Jenkins, Columbia University—Using State Student Record Data to Map Pathways to Success for Underserved Community College Students
- Rachelle L. Brooks and Dennis M. Kivlighan, Jr., University of Maryland-College Park—A Longitudinal Study of Student Success: The Relation Between Academic Major, Student Demographics, and Broad Student Outcomes
- Anna Chung, Indiana University-Bloomington—For-Profit Colleges: An Opportunity for the Under-Served? Analysis of Educational and Economic Outcomes for Proprietary Students
- Lamont A. Flowers, University of Florida—Exploring Racial Differences in the Effects of College on Students' Law School Admission Test Scores
- Sandra Kortesoja, University of Michigan—Factors Influencing Nontraditional Age Student Participation in Postsecondary Education: How Do Student Motivations and Characteristics Relate to Participation in Credential Programs?
- Crystal Gafford Muhammad, North Carolina State University—The Black-Black Educational Attainment Gap: Socio-Cultural and Academic Identity at a Crossroads
- Sarah Rab, University of Wisconsin-Madison—How Complex Postsecondary Educational Transitions Shape Student Success
- Laura Wilson-Gentry, Daniel Martin, Merrill Pritchett, and Daniel Gerlowski, University of Baltimore—Student Success and Web-Based Graduate Education
- Po Yang, Columbia University—A Generation on the Move: Education and Economic Attainment of Four-Year College Transfer Students

For more information, contact Roz Korb (roslyn.korb@ed.gov) or visit the AIR website (www.airweb.org) for more information and instructions for writing and submitting proposals.