

# POSTSECONDARY EDUCATION

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## Undergraduate Profiles

### Profile of Undergraduates in U.S. Postsecondary Education Institutions: 1999–2000

— *Laura Horn, Katharin Peter, and Kathryn Rooney*

***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).***

Postsecondary education in the United States encompasses a wide array of educational opportunities and programs. U.S. undergraduates attend postsecondary institutions that range from 4-year colleges and universities offering programs leading to baccalaureate and higher degrees to private for-profit vocational institutions offering occupational

training of less than 1 year. This report provides a detailed statistical overview of the approximately 16.5 million undergraduates enrolled in all U.S. postsecondary institutions in 1999–2000. Preceding the detailed statistical tables is a discussion of the undergraduate population's diversity and the possible impact of this diversity on persistence in postsecondary education.

This report is based on data from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), a survey representing all students enrolled in postsecondary education in 1999–2000.

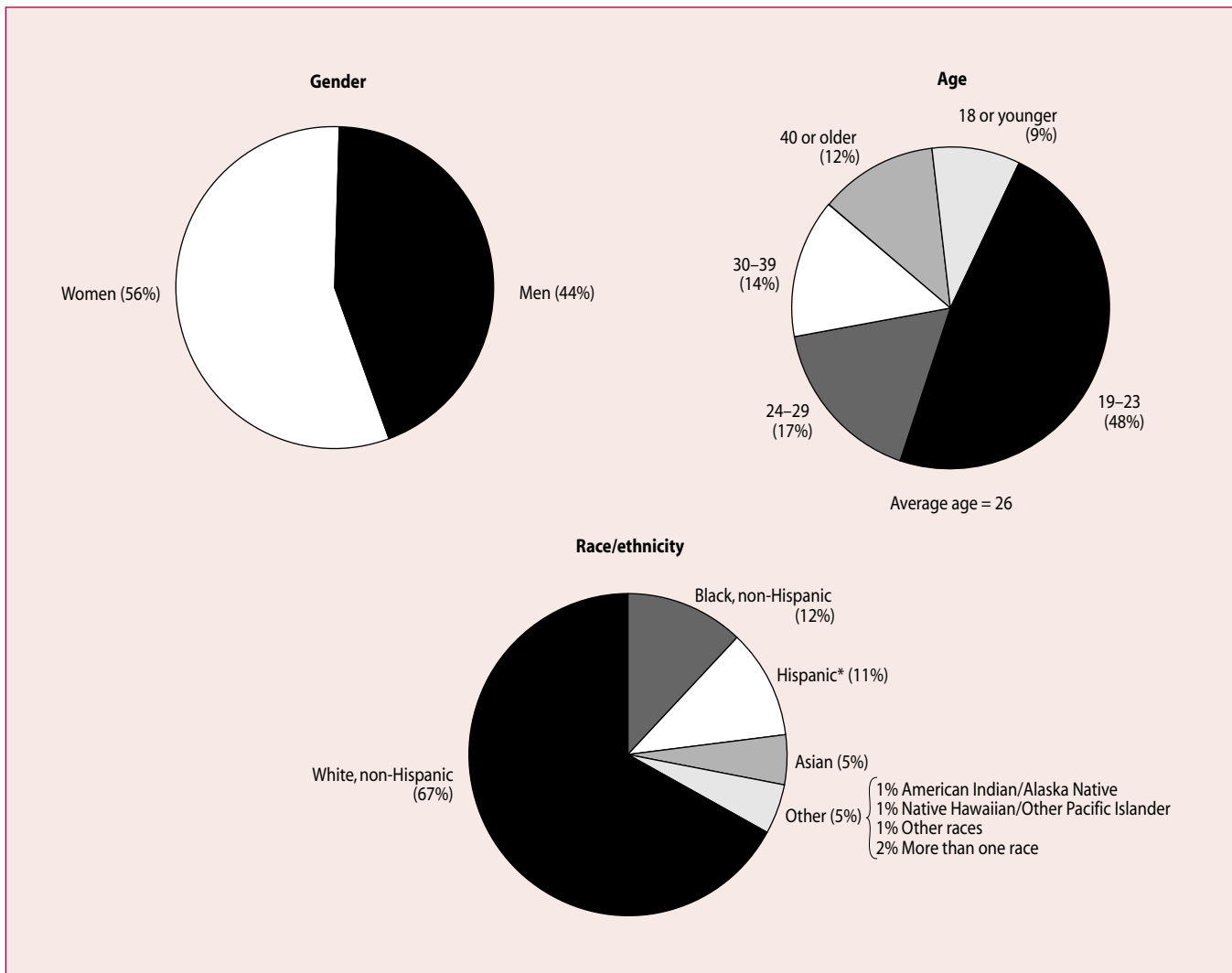
### Who Were 1999–2000 Undergraduates?

Taking into account enrollments at all U.S. postsecondary institutions, women comprised 56 percent of undergraduates in 1999–2000 (figure A). Minority students represented

about one-third of the total undergraduate population, including 12 percent Black, 11 percent Hispanic, and 5 percent Asian.<sup>1</sup> Roughly 2 percent of undergraduates were either American Indian/Alaska Natives (0.9 percent) or Native Hawaiian/Other Pacific Islanders (0.8 percent). And

<sup>1</sup>Census categories for race and ethnicity were used in the NPSAS survey, which included the terms “Black or African American” and “Hispanic or Latino.” By convention, the terms Black and Hispanic are used in the text. Unless otherwise noted, when discussing race, Black and White estimates do not include individuals of Hispanic ethnicity.

Figure A.—Percentage distributions of 1999–2000 undergraduates, by gender, age, and race/ethnicity



\*Priority was given to Hispanic ethnicity regardless of race chosen.

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

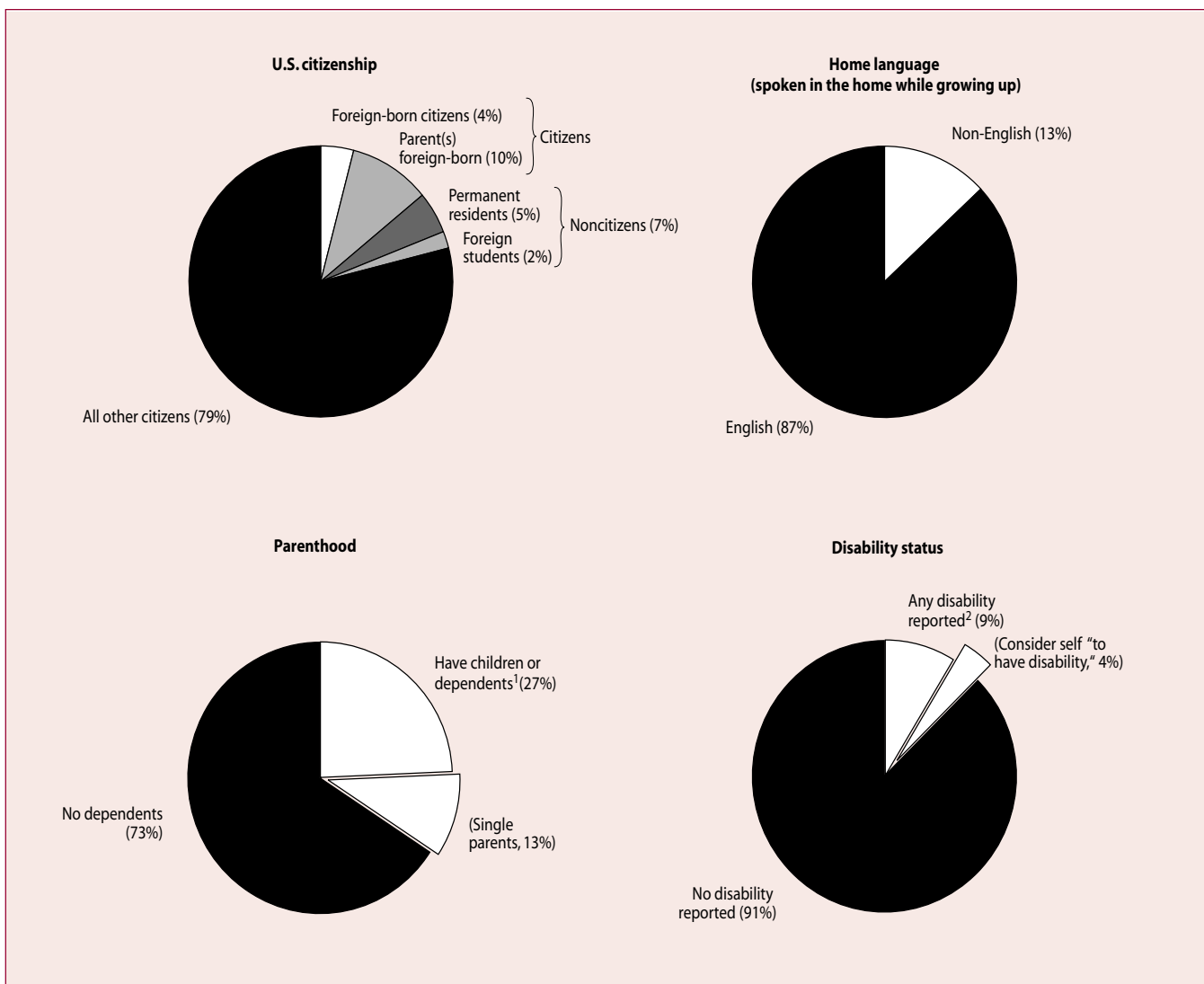
about 2 percent indicated that they were of more than one race.

Among Hispanic undergraduates, Mexican, Mexican American, or Chicano students made up the largest group (55 percent vs. 4 to 27 percent for other Hispanic groups). Among Asian undergraduates, Chinese students made up the largest group (25 percent vs. 3 to 13 percent for other Asian groups).

While a majority of undergraduates were younger than 24, about one in four were 30 or older. The average age of undergraduates was 26 and the median age was 22.

About 7 percent of undergraduates were not U.S. citizens. Of these noncitizens, 5 percent were permanent residents, and 2 percent were foreign students. Undergraduates who were born in another country, immigrated to the United States, and became citizens comprised 4 percent of undergraduates (figure B). One in ten undergraduates were born

**Figure B.—Percentage distributions of 1999–2000 undergraduates, by citizenship, home language, parenthood, and disability status**



<sup>1</sup>Dependents do not include spouse.

<sup>2</sup>Includes students who reported having a “long-lasting” condition such as blindness, deafness, or a severe vision or hearing impairment; who reported having a condition that limits “one or more of the basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying”; or who reported having any other physical, mental, or emotional condition that lasted 6 or more months and difficulty doing one of the following five activities: getting to school, getting around campus, learning, dressing, or working at a job. Does not include an additional 2 percent who responded “yes” to the questions about conditions lasting 6 or more months, but did not report a specific difficulty with one of the five listed activities.

NOTE: Detail may not sum to totals because of rounding. Estimates include a small percentage of students in Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

in the United States but had at least one foreign-born parent. In addition, 13 percent of undergraduates spoke a language other than English in the home while growing up.

Students who were parents made up 27 percent of undergraduates,<sup>2</sup> including 13 percent who were single parents.<sup>3</sup> While women were more likely to be single parents (16 percent), 9 percent of unmarried men also reported having dependents.

<sup>2</sup>This is the percentage of financially independent undergraduates who reported having dependents other than a spouse. Therefore, it includes a small number of students having dependents other than children (3.7 percent), such as elderly parents or relatives whom they support.

<sup>3</sup>Identified as financially independent students who were not married (including divorced or separated students) and who reported having dependents other than a spouse.

When asked to report on a series of disabling conditions or difficulties with basic physical activities, 9 percent of undergraduates reported having some such condition or difficulty.<sup>4</sup> However, when asked specifically, “Do you consider yourself to have a disability?” the proportion who responded “yes” was considerably lower (4 percent).

### Where Undergraduates Enroll and What They Study

In 1999–2000, where undergraduates were enrolled and how much time they spent in the classroom was related to their age and life circumstances (table A). Older

<sup>4</sup>Includes students who reported having a “long-lasting” condition such as blindness, deafness, or a severe vision or hearing impairment; who reported having a condition that limits “one or more of the basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying”; or who reported having any other physical, mental, or emotional condition that lasted 6 or more months and difficulty doing one of the following five activities: getting to school, getting around campus, learning, dressing, or working at a job.

**Table A.—Percentage of 1999–2000 undergraduates attending selected types of institutions, and percentage distribution of undergraduates attending full time and part time**

Student characteristics	Institution attended			Attendance status		
	4-year public and private not-for-profit	Public 2-year	Private for-profit	Exclusively full time	Mixed full time and part time	Exclusively part time
Total	45.4	42.1	4.9	49.3	16.3	34.5
Gender						
Male	46.4	42.1	4.5	50.1	15.9	34.0
Female	44.6	42.2	5.2	48.6	16.6	34.9
Race/ethnicity						
White, non-Hispanic	47.5	41.3	3.8	49.5	16.2	34.4
Black, non-Hispanic	39.3	44.4	7.8	49.6	15.1	35.3
Hispanic*	39.9	44.7	8.5	47.0	16.2	36.8
Asian	48.3	39.0	4.3	51.4	19.3	29.3
American Indian/Alaska Native	35.1	53.4	2.9	44.2	18.6	37.3
Native Hawaiian/Other Pacific Islander	39.6	46.9	5.6	46.3	17.3	36.4
Other	42.1	40.4	4.5	53.7	17.8	28.5
Age						
18 or younger	52.0	38.0	3.5	72.0	11.1	16.9
19–23 years	55.4	32.3	3.8	63.0	18.1	18.9
24–29 years	38.9	45.8	8.1	38.0	18.0	44.1
30–39 years	30.6	56.1	6.3	26.9	15.8	57.3
40 years or older	26.3	63.4	4.1	18.3	11.4	70.4
Dependent family income in 1998						
Less than \$20,000	49.3	36.1	6.1	68.4	14.5	17.1
\$20,000–39,999	53.5	34.4	3.4	64.6	17.0	18.5
\$40,000–59,999	56.6	33.6	2.3	65.6	17.1	17.3
\$60,000–79,999	59.0	31.1	2.1	67.0	17.5	15.5
\$80,000–99,999	63.5	25.8	1.7	66.7	18.8	14.5
\$100,000 or more	67.3	23.2	1.0	70.5	15.5	14.0

\*Priority was given to Hispanic ethnicity regardless of race chosen.

NOTE: Percentages for institution attended do not add to 100 because students in other institution types and those attending more than one institution are not shown. Attendance status detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

undergraduates, who are more likely to have family and work responsibilities, were concentrated in public 2-year colleges (often called “community colleges”) and they were very likely to attend on a part-time basis. Younger undergraduates were more likely to be enrolled in 4-year institutions and to attend full time. For example, 56 percent of undergraduates in their thirties and 63 percent of those 40 or older attended community colleges, while 55 percent of those ages 19 to 23 were enrolled in 4-year institutions. Moreover, 57 percent of undergraduates in their thirties and 70 percent of those 40 or older attended exclusively part time, while 63 percent of those ages 19 to 23 attended exclusively full time.

While women attended postsecondary education in greater numbers than men, no overall differences by gender were detected in the level of institution attended or in part-time or full-time attendance status. For example, 45 percent of women and 46 percent of men attended 4-year institutions (public and private not-for-profit institutions combined).<sup>5</sup> Across all postsecondary institutions, 50 percent of men and 49 percent of women attended exclusively full time.

Some differences in patterns of enrollment at different types of institutions were found relative to racial/ethnic groups. For example, 39 percent of Black undergraduates attended 4-year institutions, compared with 48 percent of White students.<sup>6</sup> Black and Hispanic undergraduates were more likely than White undergraduates to attend private for-profit institutions, though the proportions were relatively small (8 percent of Black and 9 percent of Hispanic students, compared with 4 percent of White students).

Where undergraduates enrolled differed by income level. Among dependent undergraduates,<sup>7</sup> for example, the rate of attending 4-year institutions rose with each successive level of family income. The opposite pattern occurred for public 2-year institutions: as family income levels rose, the rate of dependent undergraduates who attended public 2-year institutions declined.

### Degree program

The patterns of participation in degree programs paralleled the level of institution undergraduates attended. In particu-

<sup>5</sup>Men were slightly more likely than women to attend public 4-year institutions, however (33 percent vs. 31 percent).

<sup>6</sup>While it may also appear that Hispanic undergraduates are less likely than White undergraduates to attend 4-year institutions (40 percent vs. 48 percent), there was not enough statistical evidence to draw this conclusion.

<sup>7</sup>Dependent undergraduates are those who are under 24 years old and who are financially dependent on their parents.

lar, those who attended either public 2-year institutions or private for-profit vocational institutions tended to be enrolled in either associate’s degree or vocational certificate programs, while those enrolled in 4-year institutions were enrolled almost exclusively in baccalaureate programs.

About 44 percent of undergraduates were in baccalaureate programs, and 38 percent were in associate’s degree programs (table B). In addition, 12 percent were working toward a vocational certificate, while 7 percent were not working toward any postsecondary credential.

Older students, who were more concentrated in community colleges, were more likely than their younger counterparts to be working toward an associate’s degree. This was particularly true for students in their thirties, among whom 45 percent were in associate’s degree programs, compared with 33 percent of students ages 19 to 23. Undergraduates in the oldest age group (40 or older) were more likely than undergraduates overall to be taking courses that were not leading to any degree or certificate (16 percent vs. 7 percent).

The relatively short time frame of vocational certificate programs may attract students with limited time. This may have been the case for undergraduates with children (including single parents), 20 percent of whom were enrolled in vocational certificate programs, compared with 12 percent of undergraduates overall.

### Field of study

Among undergraduates with a declared major (90 percent had declared a major), the largest proportions majored either in business-related fields (19 percent) or arts and humanities (18 percent). Eight to 10 percent majored in each of the following: social and behavioral sciences, computer science, education, health, and other technical or professional fields. No more than 6 percent majored in any other field.

Historically, women have outnumbered men in education and health, while men have outnumbered women in computer science and engineering. The same patterns were found among 1999–2000 undergraduates: 2 percent of women versus 11 percent of men majored in engineering, and 6 percent of women versus 13 percent of men majored in computer and information sciences. In contrast, 11 percent of women versus 4 percent of men majored in education, and 15 percent of women versus 4 percent of men majored in health. In the likelihood of majoring in

**Table B.—Percentage distribution of 1999–2000 undergraduates, by undergraduate degree program**

Student characteristics	Certificate	Associate's degree	Bachelor's degree	No undergraduate degree
Total	12.1	37.5	43.8	6.6
Gender				
Male	12.3	36.4	44.5	6.7
Female	12.0	38.4	43.2	6.5
Race/ethnicity				
White, non-Hispanic	10.4	36.7	46.2	6.7
Black, non-Hispanic	18.2	39.8	37.2	4.8
Hispanic*	16.5	41.0	36.3	6.3
Asian	9.6	32.1	49.2	9.1
American Indian/Alaska Native	12.8	48.6	28.5	10.2
Native Hawaiian/Other Pacific Islander	14.6	39.8	38.0	7.6
Other	11.8	38.3	44.2	5.6
Age				
18 or younger	7.8	36.8	49.5	5.9
19–23 years	7.2	33.2	55.7	3.9
24–29 years	14.4	42.1	36.6	6.9
30–39 years	20.1	44.9	26.9	8.1
40 years or older	22.9	40.2	21.4	15.5
Dependents other than spouse				
None	9.2	34.7	50.1	6.0
One or more	20.1	45.3	26.5	8.1
Single parent				
No	10.9	36.2	46.4	6.5
Yes	20.1	46.0	26.7	7.2

\*Priority was given to Hispanic ethnicity regardless of race chosen.

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

business, however, no differences were detected between men and women or among racial/ethnic groups.

Age was also related to field of study. Undergraduates who were 30 or older were more likely than those 23 or younger to major in computer science fields and less likely to major in social and behavioral sciences.

### Undergraduate Diversity and the Risk of Leaving Postsecondary Education

The 1999–2000 undergraduates were examined with respect to seven risk factors previously found to be negatively associated with persistence and degree attainment (Horn and Premo 1995). The risk factors include delaying enrollment by a year or more, attending part time, being financially independent (for purposes of determining eligibility for financial aid), having children, being a single parent, working full time while enrolled, and being a high school dropout or a GED recipient. These risk factors involve enrollment patterns, family and financial status, and high school graduation status. From this perspective, the risk

factors are highly related to characteristics of a diverse undergraduate population as described in this study, and some (such as parenthood) are one and the same.

In 1999–2000, three-quarters of all undergraduates reported at least one risk factor (table C). Overall, the average number of risk factors reported by all undergraduates was 2.2. More risk factors were reported by Black students (2.7), American Indian/Alaska Native students (2.8), and Hispanic students (2.4). The same was found for students with disabilities, who averaged 2.6 risk factors.

Based on their risk profile, parents are at greater risk than other undergraduates (i.e., they are financially independent, have children, and may be single parents). Undergraduates with children or other dependents averaged 4.3 risk factors, and single parents averaged 4.7 risk factors.

Because female undergraduates were more likely than male undergraduates to be parents, they averaged more risk factors (2.3 vs. 2.1). However, because men were more

**Table C.—Percentage of 1999–2000 undergraduates with various risk factors, and the average number of risk factors**

Student characteristics	Any risk factors	Delayed enrollment	Part-time attendance	Financially independent	Have dependents or children	Single parent	No high school diploma	Work full time while enrolled	Average number of risk factors
Total	75.0	45.5	49.1	50.9	26.9	13.3	7.8	37.8	2.2
Gender									
Male	74.8	46.4	48.3	47.5	21.5	9.1	7.5	40.7	2.1
Female	75.2	44.8	49.8	53.5	31.0	16.5	8.1	35.7	2.3
Race/ethnicity									
White, non-Hispanic	72.7	42.8	48.7	48.3	23.7	10.0	6.1	37.2	2.0
Black, non-Hispanic	81.5	53.1	49.3	62.4	42.8	28.9	9.7	42.8	2.7
Hispanic*	81.4	50.9	52.2	54.3	32.4	17.3	12.3	41.4	2.4
Asian	73.5	49.7	45.6	47.7	18.5	9.7	14.1	24.9	1.9
American Indian/Alaska Native	83.9	57.9	56.6	65.9	37.5	21.1	13.2	46.7	2.8
Native Hawaiian/Other Pacific Islander	79.1	53.4	53.4	48.2	20.1	9.6	11.4	30.7	2.1
Other	71.5	35.2	45.6	43.5	18.4	8.0	8.0	34.4	1.9
Age									
18 or younger	40.8	9.6	26.3	6.9	5.6	5.2	5.3	16.1	0.7
19–23 years	59.4	31.2	34.0	15.6	11.1	8.8	4.4	24.2	1.2
24–29 years	100.0	62.5	61.6	100.0	35.4	19.4	10.1	52.1	3.2
30–39 years	100.0	72.9	73.1	100.0	61.0	23.0	14.4	60.8	3.8
40 years or older	100.0	74.7	82.0	100.0	55.0	17.4	12.9	62.7	3.8
Respondent has dependents									
None	65.9	37.5	42.8	32.8	0.0	0.0	5.8	30.5	1.4
One or more	100.0	67.6	66.3	100.0	100.0	49.4	13.4	57.0	4.3
Single parent									
No	71.2	42.1	47.6	43.4	15.7	0.0	6.6	35.7	1.8
Yes	100.0	68.0	59.2	100.0	100.0	100.0	15.9	54.2	4.7
Disability or difficulty status									
No disability reported	71.5	35.6	47.1	47.8	26.7	11.3	6.4	39.7	2.1
Some disability reported	82.9	47.1	51.7	63.3	34.8	16.6	12.1	33.8	2.6

\*Priority was given to Hispanic ethnicity regardless of race chosen.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

likely to work full time, no differences were detected between men and women in their overall likelihood of having at least one risk factor (75 percent).

According to a study of persistence in postsecondary education (Berkner, Cuccaro-Alamin, and McCormick 1996), 64 percent of beginning students with one risk factor persisted in their postsecondary program or completed a degree or vocational certificate within 5 years, compared with 43 percent of those with three or more risk factors. Thus, among 1999–2000 undergraduate students with three or more risk factors, at least half might be expected to leave postsecondary education without completing a degree or certificate.<sup>8</sup>

<sup>8</sup>The time frame of the persistence survey was 5 years, so it is possible that some students could return after 5 years.

## Conclusions

This profile of 1999–2000 undergraduates suggests that the postsecondary education system in the United States offers opportunities to a diverse group of individuals. Indeed, the admissions policies of most community colleges and some 4-year colleges—combined with federal, state, and institutional financial aid—have provided access to postsecondary education for individuals of widely varying backgrounds and resources. Despite such enrollment opportunities, however, gaining access to postsecondary education does not necessarily lead to obtaining a degree or certificate. In fact, as the diversity of the undergraduate population broadens, it is possible that the rate of leaving postsecondary education without a degree will increase. Accommodating an undergraduate population that carries a substantial risk of attrition will be a continuing challenge to postsecondary education institutions.

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**Data source:** The NCES 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

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

Horn, L., Peter, K., and Rooney, K. (2002). *Profile of Undergraduates in U.S. Postsecondary Education Institutions: 1999–2000* (NCES 2002–168).

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# Undergraduate Financing

## Student Financing of Undergraduate Education: 1999–2000

Lutz Berkner, Ali Berker, Kathryn Rooney, and Katharin Peter

*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 NCES National Postsecondary Student Aid Study (NPSAS).*

During the 1999–2000 academic year, about 16.5 million\* undergraduates were enrolled in postsecondary institutions for all or part of the year, as full- or part-time students. More than one-half (55 percent) of them received some type of financial aid from federal, state, institutional, or other sources to meet their educational expenses, receiving, on average, \$6,200 (figure A). This report describes the financing of undergraduate education by students who were enrolled in U.S. postsecondary institutions during the 1999–2000 academic year. It is based on data from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), the fifth in a series of surveys conducted by the National Center for Education Statistics (NCES), U.S. Department of Education. Each NPSAS survey is a comprehensive nationwide study to determine how students and their families pay for postsecondary education.

The two major types of financial aid awarded to students are grants and loans. In 1999–2000, 44 percent of all undergraduates received grants, for an average of \$3,500. Twenty-nine percent of all undergraduates received student loans, averaging \$5,100. In addition, 5 percent of all undergraduates held work-study jobs, earning an average of \$1,700, and 7 percent received other types of aid, including veteran's benefits, job training and vocational rehabilitation funds, and federal PLUS loans to parents.

Many undergraduates received more than one type of financial aid in their aid "package." As shown in figure A, for 7 percent of all undergraduates, student loans were the only type of financial aid received; 22 percent took out loans but were also awarded grants or other aid; and 27 percent had aid packages that included grants, work-study, or other aid, but no loans. Those who had aid packages consisting of loans and other aid averaged \$10,600 in total aid, compared with \$5,200 for those with loans only and \$2,900 for those without loans.

Thirty-nine percent of all undergraduates were enrolled full time for a full academic year in 1999–2000, but the proportion varied by type of institution, from more than one-half of the undergraduates at 4-year institutions to about one-

fifth at public 2-year institutions. Figure B shows that among full-time, full-year undergraduates, about three-fourths (73 percent) relied on some type of financial aid to help pay for their postsecondary education, receiving an average of \$8,500.

### Tuition and the Total Price of Attendance

Within an institution, full-time, full-year students usually have the highest educational expenses because they are charged the full tuition price and incur other education-related expenses for a full academic year. As shown in figure C, the tuition and fees for full-time, full-year undergraduates in 1999–2000 averaged about \$1,600 at public 2-year institutions, \$4,300 at public 4-year institutions, \$8,900 at private for-profit institutions, and \$15,000 at private not-for-profit 4-year institutions. The tuition and fees at any particular institution within these sectors may vary considerably from these averages.

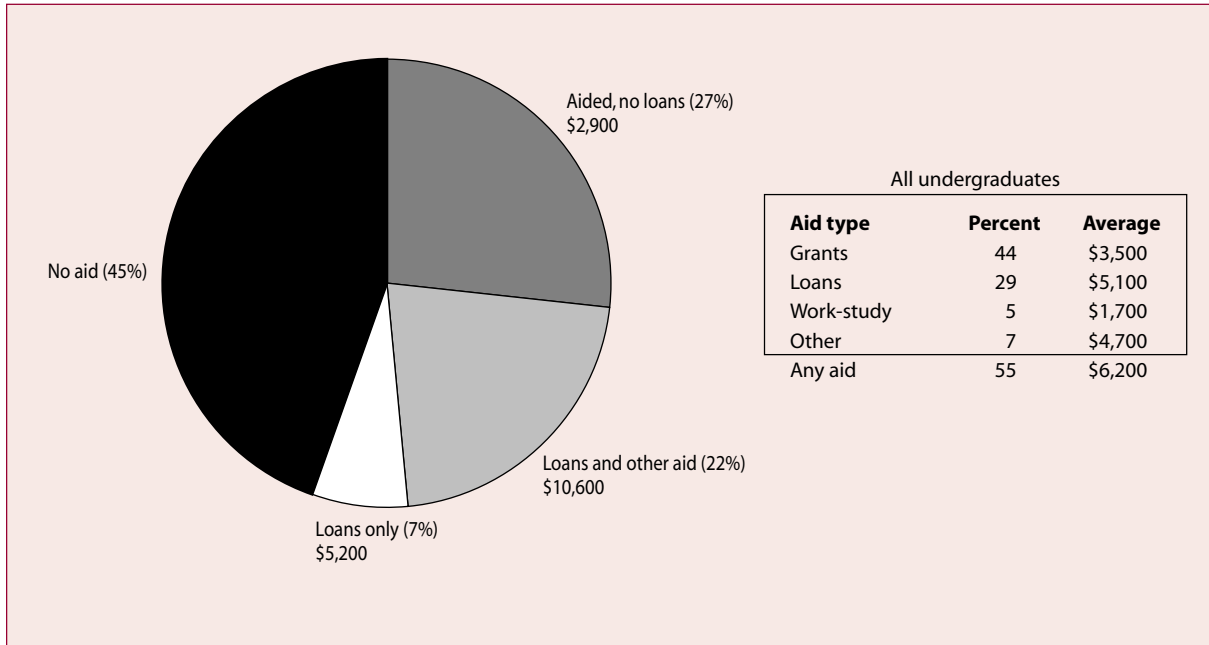
The total price of attendance is the sum of tuition and fees and estimated nontuition expenses such as room and board, books and supplies, transportation, and personal expenses while enrolled. For full-time, full-year undergraduates, the average total price of attendance in 1999–2000 was \$9,100 at public 2-year institutions, \$12,600 at public 4-year institutions, \$18,400 at private for-profit institutions, and \$23,600 at private not-for-profit 4-year institutions. Tuition and fees and nontuition expenses for the 62 percent of undergraduates enrolled part time or part year are much lower than these amounts.

### Financial Aid, Price of Attendance, and Income

The percentage of undergraduates receiving financial aid increased as the price of attendance rose, while the percentage receiving aid decreased as family income rose. These two patterns reflect the need analysis formula used to award financial aid. With the exception of some merit-based scholarships and some loan programs (notably, federal unsubsidized Stafford and PLUS loans), most financial aid programs are need based. Low-income students who have limited resources will usually qualify for need-based aid at any price of attendance; high-income students will only qualify for need-based aid if they are attending institutions

\*Data not shown. This estimate is for undergraduates enrolled at any time in 1999–2000, and is therefore higher than the total fall enrollment.

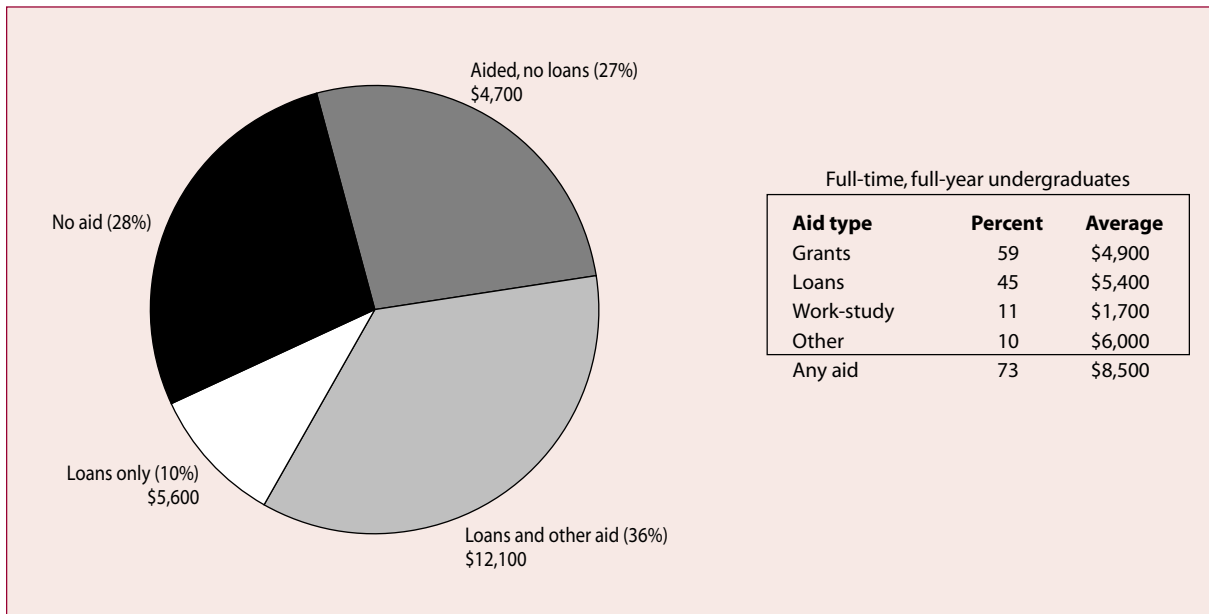
**Figure A.—Percentage distribution of all undergraduates according to aid package, percentage receiving different types of aid, and average amount of aid for aided students: 1999–2000**



NOTE: "Loans" only include loans to students. Parent PLUS loans are categorized as "other aid." Percentage distribution may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

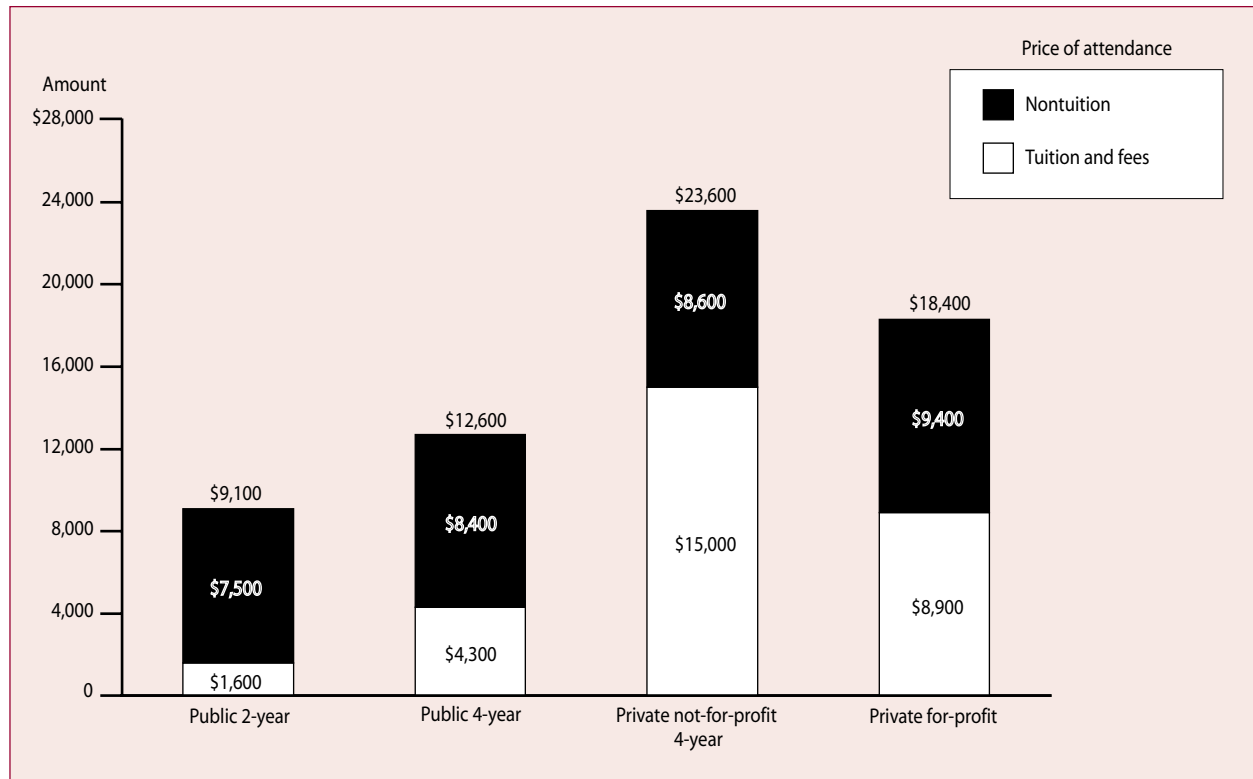
**Figure B.—Percentage distribution of full-time, full-year undergraduates according to aid package, percentage receiving different types of aid, and average amount of aid for aided students: 1999–2000**



NOTE: "Loans" only include loans to students. Parent PLUS loans are categorized as "other aid." Percentage distribution may not sum to 100 because of rounding. Full-time, full-year students represent 39 percent of all undergraduates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

**Figure C.—Average tuition and fees, nontuition expenses, and total price of attendance for full-time, full-year undergraduates, by type of institution attended: 1999–2000**



NOTE: Nontuition expenses are based on institutional student budget estimates and include room and board, books and supplies, transportation, and personal expenses while enrolled. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

with a high price of attendance. About three-fourths of all low-income dependent undergraduates (those with a family income of less than \$30,000) received financial aid in 1999–2000, compared with about one-half (48 percent) of high-income dependent undergraduates (those with a family income of more than \$80,000).

### Financial Aid by Type of Institution Attended

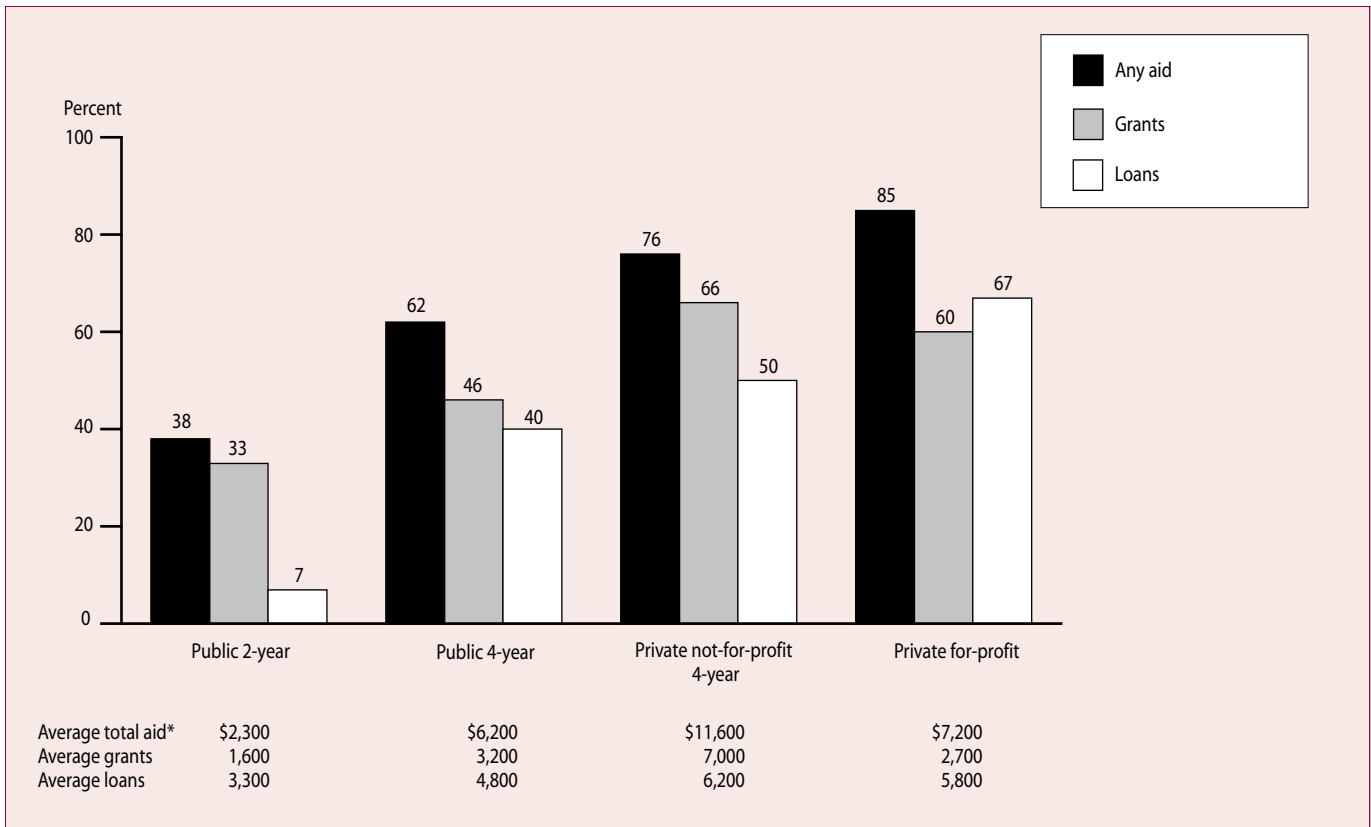
The percentage of undergraduates receiving financial aid, the types of aid received, and the average amounts varied by the type of institution attended, as shown in figure D. At public 2-year institutions, 38 percent of all undergraduates received financial aid in 1999–2000, with an average award of \$2,300. One-third (33 percent) of the public 2-year students received a grant (averaging \$1,600), and 7 percent took out a student loan (averaging \$3,300). These percentages and average amounts were lower than those in any other sectors, reflecting the lower tuition and the high percentage of part-time and part-year students (81 percent) at public 2-year institutions.

At public 4-year institutions, 62 percent of all undergraduates received financial aid, with an average award of \$6,200. The percentage awarded grants was higher than the percentage taking out student loans (46 vs. 40 percent), but the average grant amount was lower than the average loan amount (\$3,200 vs. \$4,800).

At private not-for-profit 4-year institutions, 76 percent of all undergraduates received financial aid, and the average amount was \$11,600. About two-thirds of undergraduates (66 percent) had grants, and one-half took out student loans. The average grant amount was higher than the average loan amount (\$7,000 vs. \$6,200).

At private for-profit institutions, 85 percent of undergraduates received financial aid, including 67 percent with loans and 60 percent with grants. Students enrolled at private for-profit institutions were more likely to be low income than those at the other types of institutions.

**Figure D.—Percentage of all undergraduates receiving any aid, grants, or loans and average amounts received by aided students, by type of institution attended: 1999–2000**



\*Includes types of aid other than grants and loans.

NOTE: “Loans” only include loans to students. Parent PLUS loans are categorized as “other aid.”

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

### The Sources of Financial Aid

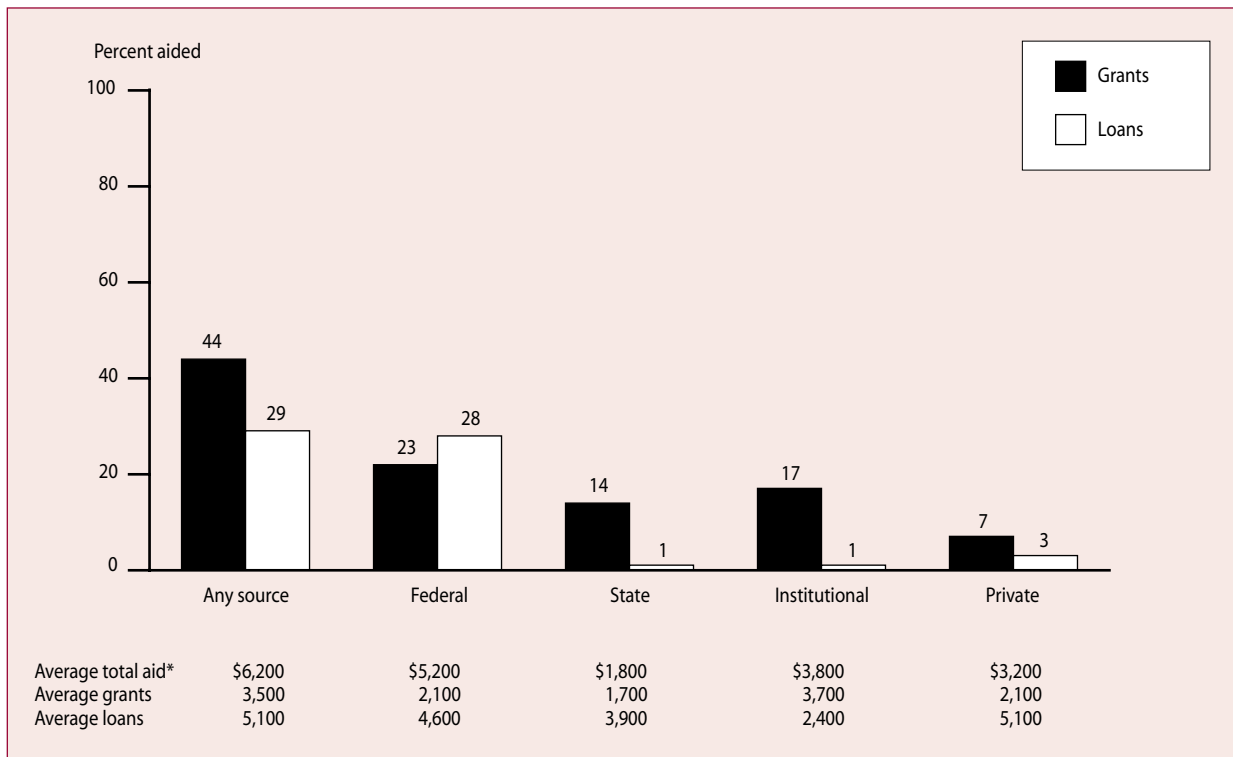
As shown in figure E, undergraduates with loans were most likely to receive them from the federal government: in 1999–2000, the percentage of undergraduates taking out federal loans (28 percent) was much higher than the percentages borrowing through state (1 percent), institutional (1 percent), and private commercial or nonprofit sources (3 percent).

Undergraduates with grants, on the other hand, were more likely to receive them from a variety of sources. More undergraduates were awarded grants from the federal government (23 percent) than from any other source, but 17 percent received grants from institutional sources, 14 percent from state sources, and 7 percent from private sources. Low-income dependent undergraduates were more likely to receive grants from the federal government than from any other source. Middle-income dependent undergraduates were more likely to receive grants from state and

institutional sources than from federal or private sources. High-income dependent undergraduates were more likely to receive grants from state, institutional, and private sources than from federal sources. Both low-income and middle-income independent undergraduates were more likely to receive grants from the federal government than from any other source.

Among all undergraduates, federal grants were awarded to 17 percent of those at public 2-year institutions, about one-quarter of those at public and private not-for-profit 4-year institutions, and 53 percent of those at private for-profit institutions. At private not-for-profit 4-year institutions, 46 percent of all undergraduates received institutional grants, a higher percentage than at any other type of institution. Undergraduates at these institutions also received a larger average institutional grant award (\$6,600) than those at any other type of institution.

**Figure E.—Percentage of all undergraduates receiving grants or loans and average amounts received by aided students, by source of funds: 1999–2000**



\*Includes types of aid other than grants and loans.

NOTE: "Loans" only include loans to students. Parent PLUS loans are categorized as "other aid." Employer tuition reimbursements are not shown separately, but are included in total grants.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

## Student Loans

Among undergraduates who borrowed in 1999–2000, nearly all (97 percent) took out federal student loans; 13 percent took out nonfederal loans, usually in combination with federal loans. The average federal student loan was \$4,600.

The largest source of federal student loans is the Stafford loan program, which offers students two types of loans, subsidized and unsubsidized. Subsidized Stafford loans are awarded on the basis of need and are interest free to students while they are enrolled. Unsubsidized Stafford loans require no need test, but charge interest while students are enrolled. Depending on their financial need, students may receive subsidized loans, unsubsidized loans, or both types. Stafford loans have annual loan limits that vary by students' class level and dependency status. Students may borrow more at higher class levels, and independent students may borrow about double the amount available to dependent students at the same class level.

About one-half (48 percent) of Stafford borrowers took out need-based subsidized loans only, 17 percent took out unsubsidized loans only, and 36 percent took out both. Independent undergraduates were more likely than dependent undergraduates to take out a combination of subsidized and unsubsidized loans (58 percent vs. 21 percent), and the average Stafford loan was higher for independent than for dependent undergraduates (\$5,500 vs. \$3,800). Among dependent Stafford borrowers, 69 percent borrowed the maximum annual amount. Among independent borrowers, whose annual loan limits were about double those for dependent borrowers, 27 percent borrowed the maximum.

## Student Borrowing at Different Types of Institutions

The student loans that undergraduates took out to pay for educational expenses in 1999–2000 may represent only a portion of the cumulative amount that they had borrowed for their undergraduate education. Among all undergraduates enrolled in postsecondary education, 42 percent had

borrowed through the federal student loan programs at some time, either in that academic year or in prior years, with an average cumulative amount of \$9,900. Among the seniors who received a bachelor's degree at any 4-year institution in 1999–2000, 62 percent had taken out a federal student loan at some time, and for those students, the average cumulative amount was \$16,900.

While only 7 percent of all public 2-year undergraduates took out a federal student loan in 1999–2000 (borrowing an average of \$3,100), 23 percent had taken out a federal student loan at some time, either in the 1999–2000 academic year or earlier, borrowing a cumulative amount of \$6,300, on average. Many students had already repaid their federal loans, probably because they had borrowed only in prior years and had spells in which they were not enrolled; 17 percent still had outstanding federal loan debts.

About one-half (52 percent) of all undergraduates attending public 4-year institutions in 1999–2000 had borrowed through the federal student loan programs at some time, averaging a cumulative amount of \$11,000 in federal loans. Sixty percent of those who attained a bachelor's degree at a public 4-year institution in 1999–2000 had taken out a federal student loan at some time as an undergraduate, with a cumulative average of \$16,100 in federal loans.

At private not-for-profit 4-year institutions, 61 percent of undergraduates had received a federal student loan at some time, with a cumulative average of \$12,000. About two-thirds (66 percent) of the graduating seniors at private not-for-profit 4-year institutions had borrowed through the federal student loan programs as undergraduates, having received \$18,000, on average, by the completion of their bachelor's degrees.

## Summary

Financial aid played a major role in the financing of undergraduate postsecondary education in 1999–2000. More than one-half of all undergraduates received some type of financial aid. More undergraduates received grants than loans to help pay for their education, but the average grant amount was less than the average amount borrowed. The average amounts of financial aid, however, varied considerably by the type of institution and price of attendance, as well as the attendance status and family income of

the student. At public 2-year institutions, where students had a lower average price of attendance, most of the aided students did not take out student loans. At private not-for-profit 4-year institutions, where students had a higher average price of attendance, about one-half of undergraduates took out student loans, but most of them also received a substantial amount of grant aid.

More undergraduates received grants from the federal financial aid programs than from any other single source, but states, postsecondary institutions, and private organizations were also important sources of grant aid to undergraduates. Low-income dependent undergraduates were more likely to receive federal grants; middle-income dependent undergraduates were more likely to receive grants from state and institutional sources than from federal sources. High-income dependent undergraduates were more likely to receive grants from state, institutional, and private sources than from federal sources. Nearly all of the undergraduates who borrowed, however, took out loans through the federal student loan programs. On average, undergraduates borrowed about \$5,100 to pay for educational expenses in 1999–2000. The cumulative federal loan amounts that undergraduates had ever borrowed were about twice this amount. Two-fifths of all undergraduates enrolled in 1999–2000 had borrowed through the federal student loan programs at some time, and their average cumulative federal loan was almost \$10,000. Three-fifths of all the graduating seniors at 4-year institutions in 1999–2000 had borrowed through the federal student loan programs at some time, and their average cumulative federal loan was almost \$17,000.

**Data source:** The NCES 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

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

Berkner, L., Berker, A., Rooney, K., and Peter, K. (2002). *Student Financing of Undergraduate Education: 1999–2000* (NCES 2002–167).

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# Graduate Student Financing

## Student Financing of Graduate and First-Professional Education: 1999–2000

Susan P. Choy and Sonya Geis

*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 NCES National Postsecondary Student Aid Study (NPSAS).*

In 1999–2000, approximately 2.7 million students were enrolled in graduate and first-professional programs in colleges and universities in the United States. Using data from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), this report profiles students in various degree programs and examines how they paid for their education, with particular attention to their use of teaching and research assistantships. In addition, the report contains a compendium of tables providing detailed data on four topics: student and enrollment characteristics, types of financial aid, sources of financial aid, and employment. For each topic, highlights of major findings are also included.

### Profile of Graduate and First-Professional Students

In 1999–2000, more than one-half (58 percent) of all graduate and first-professional students were enrolled at the master's level, with the majority of them enrolled less than full time, full year (figure A). Another 13 percent were enrolled in doctoral programs and an additional 12 percent in first-professional programs;\* the latter were more likely than the former to attend full time, full year. The remaining 16 percent were enrolled in other graduate programs, including postbaccalaureate certificate programs and nondegree programs. Most of these students were enrolled less than full time, full year.

#### Master's degree students

At the master's degree level, approximately one-half of all students were working on either a master's degree in business administration (M.B.A.) (20 percent) or a master's degree in education (28 percent). The latter could include a Master of Arts in Teaching (M.A.T.), Master of Education (M.Ed.), or Master of Arts (M.A.) or Science (M.S.) with a major in education. The rest were working on an M.A. or M.S. degree in a field other than education (31 percent) or on a different master's degree such as a Master of Social Work (M.S.W.), Master of Public Administration (M.P.A.), or Master of Fine Arts (M.F.A.) (21 percent).

M.B.A. students were predominantly male (60 percent), and about two-thirds waited 3 or more years after earning their bachelor's degree before enrolling in the M.B.A. program. Most worked while enrolled (87 percent), and 75 percent of those who worked did so full time.

Master's students in education were primarily female. Some (17 percent) enrolled immediately after earning their bachelor's degree, but 83 percent waited at least a year, and 33 percent waited 7 years or more. Like M.B.A. students, most education master's students (91 percent) were combining school and work.

Noneducation M.A. and M.S. students were more traditional in their enrollment patterns. For example, they were more likely than M.B.A. or education students to enroll immediately after earning a bachelor's degree (about 26 percent vs. 12 and 17 percent, respectively), and they were more likely than education students to enroll full time, full year (about 31 percent vs. 16 percent).

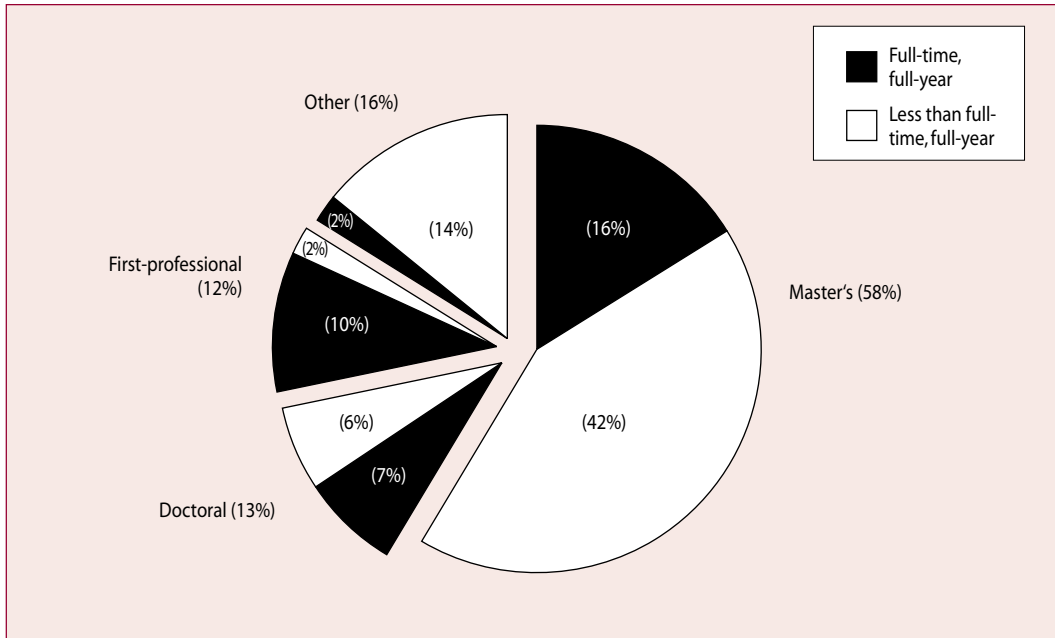
#### Doctoral degree students

At the doctoral level, about 18 percent of all students were enrolled in education doctoral programs (either an Ed.D. or a Ph.D. with a major in education); 62 percent were enrolled in Ph.D. programs in fields other than education; and 21 percent were in other doctoral programs such as a Doctor of Business Administration (D.B.A.), Doctor of Public Administration (D.P.A.), or Doctor of Fine Arts (D.F.A.). Compared with master's students, doctoral students were more likely to enroll full time, full year (54 percent vs. 27 percent), and more likely to enroll right after earning their bachelor's degree (25 percent vs. 20 percent).

As was the case at the master's level, doctoral students in education differed from others at their level. For example, compared with Ph.D. students in other fields, doctoral students in education were more likely to be female (71 percent vs. 46 percent), be older (42 vs. 32 years, on average), delay enrollment after earning a bachelor's degree (89 percent vs. 72 percent), and, if they worked while enrolled, to work full time (74 percent vs. 27 percent).

\*First-professional degree programs include the following: medicine (M.D.), chiropractic (D.C. or D.C.M.), dentistry (D.D.S. or D.M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Pharm.), podiatry (Pod.D. or D.P.M.), veterinary medicine (D.V.M.), law (L.L.B. or J.D.), and theology (M.Div., M.H.L., or B.D.).

**Figure A.—Percentage distribution of graduate and first-professional students according to type of degree and attendance pattern: 1999–2000**



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

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

### First-professional students

Among students at the first-professional level, 38 percent were in law; 27 percent were in medicine (M.D.); and 29 percent were in other health fields (chiropractic, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, and veterinary medicine). The remaining 6 percent were in theology programs.

Students in first-professional degree programs were younger on average (28 years) than students in master's or doctoral degree programs (33 and 34 years, respectively). They were also more likely to enroll full time, full year (77 percent vs. 27 percent of master's students and 54 percent of doctoral students). Medical students were less likely than law students to work while enrolled (19 percent vs. 59 percent).

### Paying for Graduate and First-Professional Education

In 1999–2000, 60 percent of all graduate and first-professional students and 82 percent of those enrolled full time, full year received some type of financial aid, including grants, loans, assistantships, or work-study (table A). The average amount of aid received by aided full-time, full-year students was about \$19,500.

The percentages of students with financial aid and average amounts received varied by the level of the degree program. Among full-time, full-year students, 88 percent each of students at the doctoral and first-professional levels received aid, compared with 79 percent of students at the master's level. Among full-time, full-year students with grants, doctoral students received larger average amounts of grant aid (about \$13,400) than did master's (\$7,600) or first-professional (\$6,900) students. However, full-time, full-year first-professional students took out larger loans, on average, than did their counterparts at the other two levels (\$20,100 vs. \$14,800 for master's students and \$14,100 for doctoral students).

### Assistantships

Assistantships benefit both students and their institutions. They provide students with a stipend to help cover their expenses and an opportunity to learn skills that help prepare them for their future careers. At the same time, they provide institutions with a source of labor for teaching and research projects. Twenty percent of all graduate and first-professional students and 32 percent of full-time, full-year students received an assistantship in 1999–2000. However, variation existed across degree program levels and fields of



**Table A.—Percentage of full-time, full-year graduate and first-professional students who received any financial aid, grants, or loans and, for aided students, average amount, by type of degree and institution: 1999–2000**

Type of degree and institution	Any aid		Grants		Loans	
	Percent	Amount	Percent	Amount	Percent	Amount
Total	82.2	\$19,521	48.6	\$8,930	53.7	\$16,728
Master's degree	79.2	16,431	46.7	7,606	50.2	14,791
Public	78.5	14,036	46.4	6,579	44.4	11,585
Private not-for-profit	80.6	19,758	48.2	9,065	57.7	17,903
Doctoral degree	88.0	22,663	62.4	13,372	29.3	14,085
Public	89.4	19,047	62.1	9,842	26.2	10,628
Private not-for-profit	87.3	28,634	64.1	18,691	34.4	18,179
First-professional degree	88.1	22,803	45.2	6,942	80.4	20,141
Public	88.6	18,832	46.0	4,863	81.8	16,738
Private not-for-profit	88.4	26,043	44.9	8,673	79.9	22,961

NOTE: Total includes students in other types of graduate programs and at private for-profit institutions. Any aid includes assistantships and work-study as well as grants and loans.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

study. Doctoral students received assistantships more frequently (47 percent) than did master's (16 percent) or first-professional (11 percent) students. In addition, at the doctoral level, students in science and in engineering were more likely than students in the humanities/social sciences to have assistantships (figure B). At the master's level, M.A./M.S. students in science were more likely than those in other fields to have assistantships.

Assistantships are a common form of aid for foreign students, who are not eligible for federal grant and loan programs. In 1999–2000, 54 percent of foreign students received an assistantship, compared with 17 percent of U.S. citizens and resident aliens. This high percentage reflects the fact that about 40 percent of foreign students were studying science or engineering as well as their need to have an alternative to federal aid.

The average amount received by full-time, full-year graduate and first-professional students with assistantships was \$9,800. Ph.D. students in the sciences who attended full time, full year received an average of \$15,000 in assistantships, and those in engineering received an average of \$13,500.

Students with assistantships often receive benefits in addition to a stipend. About two-thirds of those with teaching and research assistantships (64 and 67 percent, respectively) received tuition discounts or waivers in

conjunction with their assistantship. Various types of insurance are also sometimes provided: 36 percent of teaching assistants and 42 percent of research assistants received insurance (such as health or life) that was at least partially paid for by their institutions.

One way of examining the contribution of assistantships is to compare them to the price of attending and to the amounts borrowed. For full-time, full-year graduate or first-professional students, the average price of attending (including tuition, books and supplies, and living expenses) was about \$26,300. The average amount received for assistantships and the average amount borrowed were negatively related. For example, students with assistantships paying less than \$5,000 borrowed an average of \$7,700, while those with assistantships of \$15,000 or more borrowed an average of \$2,200.

### Responsibilities of Teaching Assistants

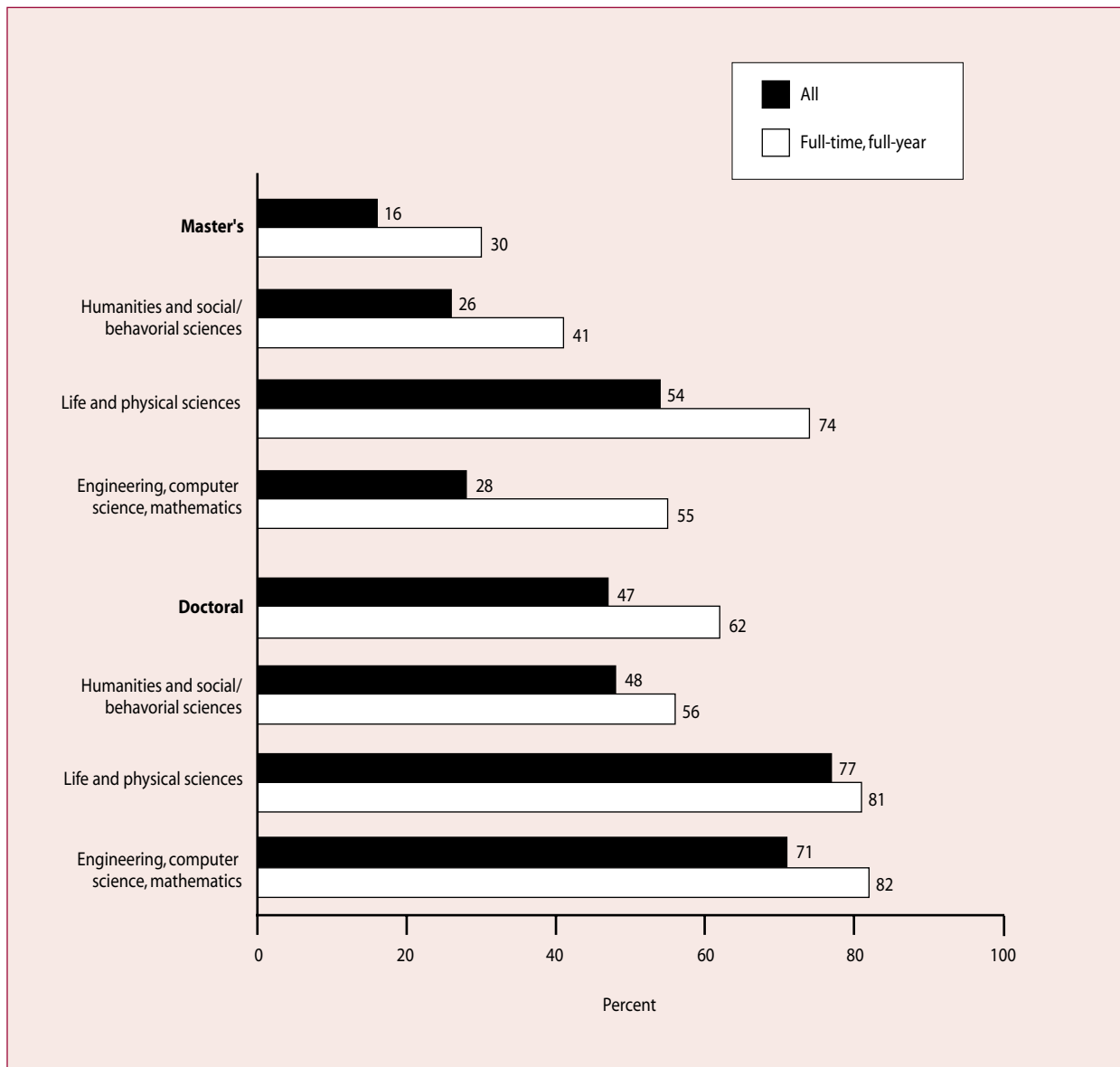
Teaching assistants were asked whether they had various responsibilities. They typically had multiple responsibilities. Almost one-half (46 percent) reported that they had full teaching responsibility for one or more courses during the 1999–2000 academic year. Forty-six percent led discussion sections for such courses, and 37 percent supervised lab sections for faculty-taught courses. The majority of teaching assistants held office hours (71 percent) and assisted faculty with grading or other instruction-related activities (70 percent).

Teaching assistants averaged a total of 15 hours per week in contact hours with students, office hours, or assisting faculty with grading or other instruction-related activities. Not included in this total are hours spent preparing for classes. Thus, the total time that teaching assistants devote to fulfilling their responsibilities is likely to be higher, especially for those individuals who have full responsibility for a course.

### Summary

Graduate and first-professional students form a diverse group. In 1999–2000, some notable differences in student characteristics, enrollment patterns, and methods of paying for postbaccalaureate education existed across the major program levels (master’s, doctoral, and first-professional), but differences existed within levels as well.

**Figure B.—Percentage of all master’s and doctoral degree students and of full-time, full-year students who received assistantships, by selected fields of study: 1999–2000**



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

About one in five graduate and first-professional students had a teaching or research assistantship in 1999–2000, but assistantships were more common at the doctoral than at the master's or first-professional levels. Assistantships were also concentrated by field. About three-quarters of doctoral students in science and in engineering received assistantships, and they received larger amounts on average than those in the humanities/social sciences. Teaching assistants spent an average of 15 hours per week working with students in the classroom or lab, holding office hours, or assisting faculty with grading or other instruction-related tasks.

**Data source:** The NCES 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

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

Choy, S.P., and Geis, S. (2002). *Student Financing of Graduate and First-Professional Education: 1999–2000* (NCES 2002–166).

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**To obtain the complete report (NCES 2002–166),** visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

# Teaching With Technology

## Teaching With Technology: Use of Telecommunications Technology by Postsecondary Instructional Faculty and Staff in Fall 1998

Edward C. Warburton, Xianglei Chen, and Ellen M. Bradburn

*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 NCES National Study of Postsecondary Faculty (NSOPF).*

This report examines postsecondary instructional faculty and staff's access to and use of electronic mail (e-mail) and the Internet. Though these telecommunications technologies are rapidly becoming core components of the instructional experience of students in the United States, little descriptive information exists at the national level to address basic questions about technology use and teaching in postsecondary education. The purpose of this study is to respond to this need by answering the following questions: Who has access to telecommunications technologies (in particular, the Internet)? How much and in what ways do they use these technologies for instructional purposes? How does technology use relate to workload and contact with students? The findings of this report are based on a nationally representative sample of instructional faculty and staff who taught one or more classes for credit in fall 1998. These data originate from the 1999 National Study of Postsecondary Faculty (NSOPF:99).<sup>1</sup>

### Access to the Internet, Quality of Computing Resources, and Use of Telecommunications Technologies

#### Access to the Internet

In fall 1998, 97 percent of full-time instructional faculty and staff who taught classes for credit at degree-granting institutions had access to the Internet, including 98 percent of those at 4-year doctoral institutions, 97 percent of those at 4-year nondoctoral institutions, and 94 percent of those at 2-year institutions (figure A). Though part-time instructional faculty and staff were less likely to have access to the Internet compared with their full-time counterparts, a large majority of part-time instructional faculty and staff had access to the Internet (88 percent), including 92 percent of those at 4-year doctoral institutions, 88 percent of those at

4-year nondoctoral institutions, and 85 percent of those at 2-year institutions. Both full- and part-time instructional faculty and staff were more likely to have access both at home and at work than only at work or only at home.

#### Quality of computing resources

About 46 percent of full-time faculty and 41 percent of part-time faculty who taught classes for credit at doctoral-granting institutions rated their institution's quality of computing resources as good,<sup>2</sup> with an additional one-third of full-time faculty (32 percent) and one-quarter of part-time faculty (25 percent) rating the quality of computing resources as excellent. Both full- and part-time faculty at 4-year doctoral institutions were less likely than those at 4-year nondoctoral and 2-year institutions to rate the quality of their institution's computing resources as poor.

#### Use of Telecommunications Technologies

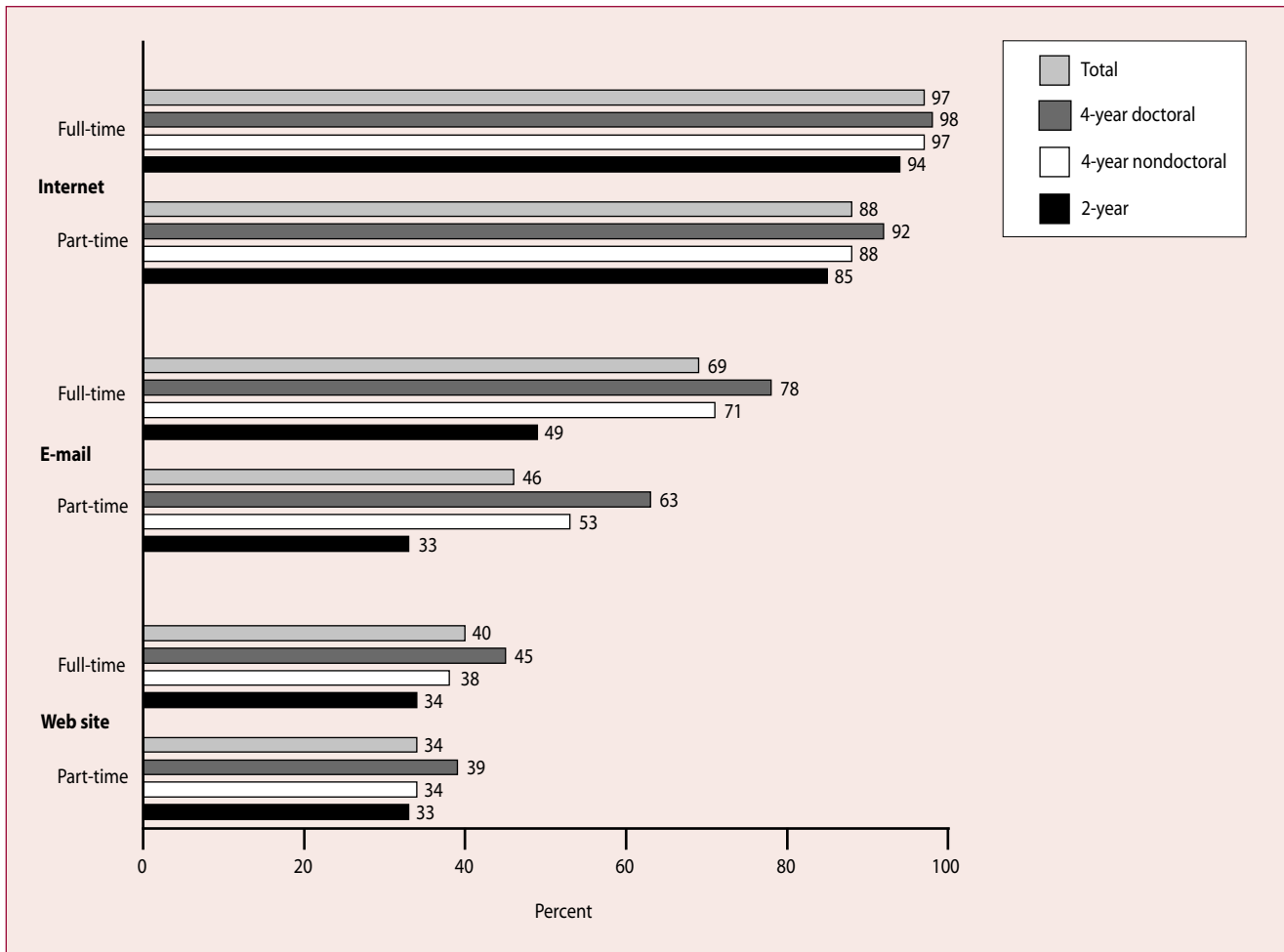
Although access to the Internet was widespread for postsecondary instructional faculty and staff in fall 1998 (figure A), the use of e-mail to communicate with students in classes was relatively lower both for full-time faculty (69 percent) and for part-time faculty (46 percent). The use of course-specific web sites for classes was also lower—40 percent for full-time faculty and 34 percent for part-time faculty. Overall, full-time faculty were more likely than their part-time counterparts to use e-mail and course-specific web sites. The use of e-mail and course-specific web sites also varied by type of institution: overall, faculty at 4-year doctoral institutions were more likely than those at 4-year nondoctoral and 2-year institutions to use e-mail to communicate with students and were also more likely to use course-specific web sites.

Instructional faculty and staff's use of e-mail to communicate with students in their classes was related to the level of students taught as well as to the age and principal field of teaching of faculty and staff. For example, as the age of full- and part-time instructional faculty and staff increased, their use of e-mail decreased. On average, faculty who taught

<sup>1</sup>Sponsored by the U.S. Department of Education's National Center for Education Statistics (NCES), NSOPF:99 was conducted in 1999 and asked a nationally representative sample of faculty and instructional staff about their employment and work activities in fall 1998. According to NSOPF:99, there were approximately 1.1 million faculty and instructional staff employed by public and private not-for-profit 2-year and above postsecondary institutions in fall 1998. Of these, about 976,000 reported having some instructional responsibilities for credit, including teaching classes for credit or advising students about academic activities for credit. Among these individuals, approximately 90 percent, or 882,000 (501,000 full-time and 381,000 part-time), reported teaching one or more classes for credit in fall 1998. These individuals become the core sample of this report. In the interest of brevity, these individuals are referred to as "instructional faculty and staff," "instructional faculty," or simply "faculty" throughout this report, although they are a subset of faculty and instructional staff included in NSOPF:99.

<sup>2</sup>Quality of computing resources reflects the average of respondents' ratings of their institution's personal computers and local networks, centralized (main frame) computer facilities, Internet connections, and technical support for computer-related activities.

**Figure A.—Percentage of postsecondary instructional faculty and staff who had access to the Internet, and who used e-mail and course-specific web sites, by employment status and institution type: Fall 1998**



NOTE: This figure includes only instructional faculty and staff who taught one or more classes for credit. E-mail use was only for communicating with students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99).

both undergraduate and graduate students were more likely to use e-mail to communicate with students in their classes (81 percent of full-time and 65 percent of part-time faculty), compared with those who taught only undergraduates (66 percent of full-time and 44 percent of part-time faculty). Principal field of teaching also made a difference. For example, 82 percent of full-time and 65 percent of part-time engineering/computer science faculty used e-mail to communicate with students, while about one-half of full-time and 30 percent of part-time health sciences faculty used e-mail to communicate with students.

#### **Relationship of Internet access and quality of computing resources to instructional use of technology**

Full- and part-time instructional faculty and staff who rated their institution's computing resources as either good or

excellent were much more likely to use e-mail to communicate with students in their classes than were those who rated their institution's computing resources as poor. In addition, instructional faculty and staff's use of e-mail to communicate with students in their classes and use of course-specific web sites was associated with their level of access to the Internet. Those who had access both at home and at work were more likely to use e-mail and course-specific web sites than those who had access only at work, had access only at home, or had no access. However, of those who had access to the Internet both at home and at work, full-time instructional faculty and staff were more likely to use e-mail to communicate with students in their classes (78 percent) than were their part-time counterparts (64 percent).

When taking into consideration the quality of computing resources, Internet access, and other academic and demographic characteristics of faculty, these variables accounted for 24 percent of the variance in faculty use of e-mail and 6 percent of the variance in faculty use of course-specific web sites.<sup>3</sup> When multivariate models were used to control for interrelationships among variables, postsecondary instructional faculty and staff who had access to the Internet both at home and at work were still more likely to use e-mail and course-specific web sites than were those who had access only at home or only at work. Postsecondary instructional faculty and staff at 4-year doctoral institutions were also more likely to use e-mail and course-specific web sites than were those at 4-year nondoctoral or 2-year institutions even when availability and quality of resources and other academic and demographic characteristics were taken into account.

Instructional faculty's principal field of teaching was also related to use of telecommunications technologies, while controlling for the covariation among variables. With the exception of four teaching fields (business, education, humanities, and social sciences), instructional faculty and staff who taught in the field of engineering/computer sciences were more likely to use e-mail than those who taught in other disciplines. Faculty who taught in engineering/computer sciences were also more likely than those who taught in other disciplines (except for business and vocational education) to use course-specific web sites.

When taking the interrelationships among other variables into account, instructional faculty and staff who rated their institution's computing resources as good or excellent were more likely to use course-specific web sites than were those who rated the computing resources as poor. The likelihood of using e-mail and course-specific web sites was also higher for instructional faculty and staff who taught both undergraduate and graduate students than for those who taught only undergraduates.

### Teaching and Technology Use

Instructional faculty and staff at degree-granting institutions reported on the volume of e-mail use and how they used course-specific web sites in fall 1998. Both full- and part-

time instructional faculty and staff reported spending an average of 2.7 hours per week responding to students' e-mail communications. Instructional faculty and staff who used course-specific web sites were more likely to use these web sites to post general class information and links to other information than for any of the other purposes examined (i.e., posting homework, practice exams/exercises, or exams/exam results) (figure B).

There was an association between type of institution and telecommunications technology use. Among full-time instructional faculty and staff who used e-mail to communicate with students in fall 1998, those at 4-year doctoral institutions reported that an average of 39 percent of their students e-mailed them, compared with 29 percent of students at 4-year nondoctoral institutions and 22 percent of students at 2-year institutions. Similarly, among part-time instructional faculty and staff who used e-mail, those at 2-year institutions reported that an average of 23 percent of their students e-mailed them, compared with 40 percent of students at 4-year doctoral institutions and 34 percent of students at 4-year nondoctoral institutions. At 4-year doctoral institutions, 85 percent of full-time and 84 percent of part-time instructional faculty used course-specific web sites for the purpose of posting general class information, compared with 75 percent of both full- and part-time faculty at 2-year institutions.

### Workload and Technology Use

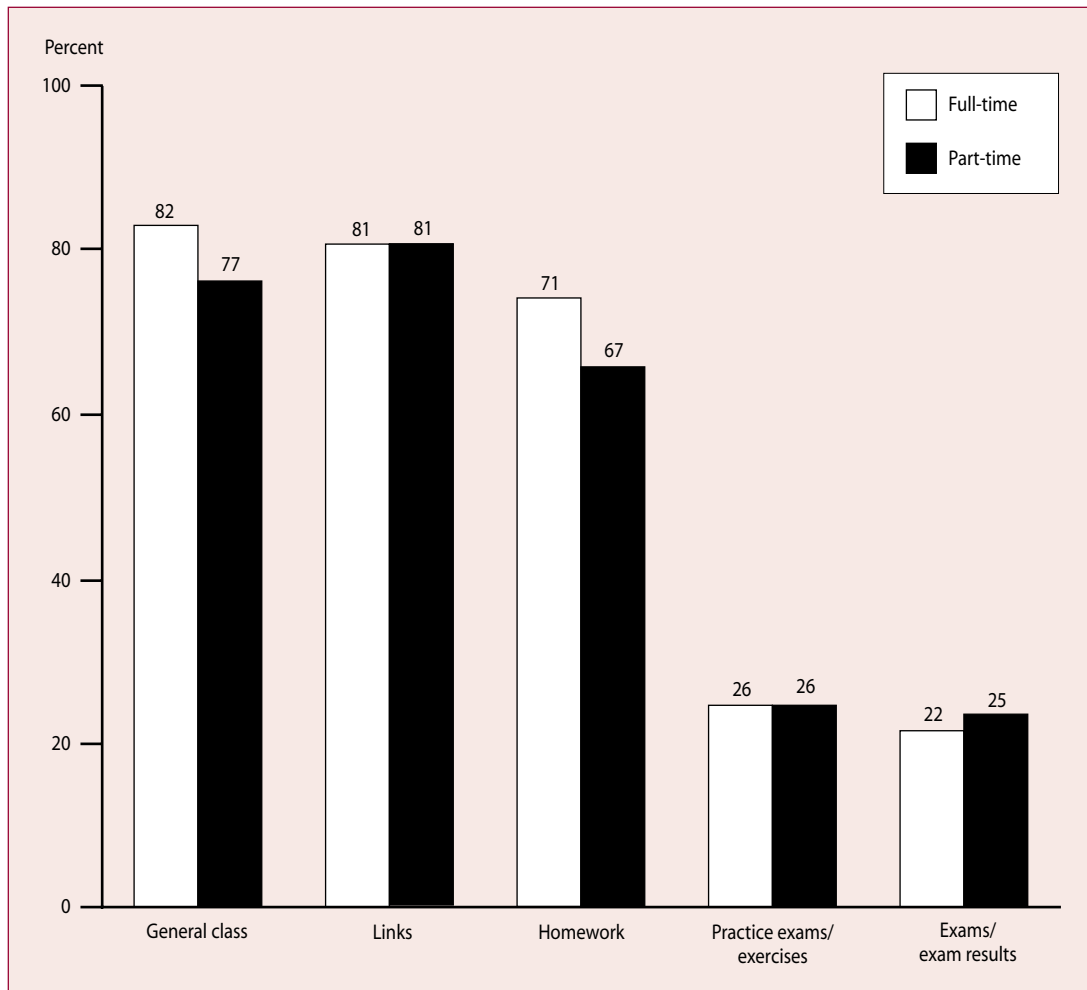
Compared with those who did not use telecommunications technologies, full- and part-time instructional faculty and staff who used e-mail or course-specific web sites generally reported working more hours per week on average, spending more time on research activities, and spending less time on teaching activities and office hours.

#### Hours worked

In fall 1998, full-time instructional faculty and staff worked an average of 53 hours per week, and part-time instructional faculty and staff worked an average of 37 hours per week. Full-time instructional faculty and staff who used either e-mail or course-specific web sites worked more hours per week on average (55 hours) compared with those who did not use e-mail (50 hours) or did not use course-specific web sites (52 hours). Among part-time instructional faculty and staff, those who used e-mail worked an average of 39 hours per week, compared with 36 hours per week for those who did not use e-mail. Part-time faculty who used course-specific web sites worked 43 hours per week, compared with 34 hours per week for those who did

<sup>3</sup>Bivariate correlations showed that the effect sizes of the independent variables on use of e-mail were small to moderate, with correlations ranging in absolute value from .001 to .295. The most important factor in accounting for the variance in e-mail use was Internet access, with a correlation of .290 between having Internet access both at home and at work and e-mail use, and a correlation of -.295 between having no Internet access and e-mail use. The correlations of the independent variables to use of web sites all represented small effect sizes, ranging in absolute value from .001 to .130 (having Internet access both at home and at work).

**Figure B.—Among postsecondary instructional faculty and staff who used course-specific web sites, percentage using web sites for various teaching purposes, by employment status: Fall 1998**



NOTE: This figure includes only instructional faculty and staff who taught one or more classes for credit and who also used course-specific web sites.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99).

not use course-specific web sites. This relationship between hours worked per week and use or nonuse of e-mail and course-specific web sites was generally found in all types of institutions with the following exceptions: no difference was found in work hours between full-time faculty who used course-specific web sites and those who did not use them at 4-year doctoral institutions, and between part-time faculty who used e-mail and those who did not use it at 4-year nondoctoral and 2-year institutions.

### Work activities

In fall 1998, full-time instructional faculty and staff spent an average of 60 percent of their time on teaching activities, 14 percent on research activities, 13 percent on administrative duties, and 13 percent on other activities. Part-time

instructional faculty and staff spent an average of 63 percent of their time on teaching activities, 5 percent on research activities, 3 percent on administrative duties, and 29 percent on other activities. Compared with those at 4-year nondoctoral and 2-year institutions, both full- and part-time instructional faculty and staff at 4-year doctoral institutions spent less of their time on teaching activities and more of their time on research. Overall, postsecondary instructional faculty and staff who used e-mail or course-specific web sites reported spending more time on research activities; those who did not use these resources reported spending a larger percentage of their time on teaching activities. However, this pattern was not generally found when taking into account type of institution. Full-time instructional faculty and staff at 4-year doctoral institutions who used

e-mail reported spending more of their time on teaching activities (51 percent) compared with those who did not use e-mail (48 percent). They also spent more of their time on research activities (23 percent) compared with those who did not use e-mail (20 percent).

### Classroom contact hours and office hours

Full-time instructional faculty had an average of 321 student classroom contact hours per week,<sup>4</sup> and part-time instructional faculty had about 176 student classroom contact hours per week. Full-time instructional faculty who used e-mail to communicate with students reported fewer average classroom contact hours (306 hours per week) than their colleagues who did not do so (353 hours per week). The average number of office hours per week was 6.5 hours for full-time instructional faculty and 2 hours for part-time faculty. The average number of office hours for full-time faculty who used e-mail (6.3 hours) was slightly lower than for those who did not use e-mail (7 hours).

### Conclusion

In fall 1998, access to the Internet was common for postsecondary instructional faculty and staff. In addition, 69 percent of full-time faculty and 46 percent of part-time faculty used e-mail to communicate with students in their classes, and about one-third of both full- and part-time faculty used course-specific web sites.

While the overall findings in this report indicate increasing integration of telecommunications technologies in postsecondary settings, there are three caveats. First, this study showed wide differences between full- and part-time faculty in access to and use of telecommunications technologies. Without exception, full-time faculty reported

more access to the Internet and more use of e-mail and course-specific web sites than did part-time faculty.

Second, Internet access and the quality of computing resources were important factors in the use of telecommunications technologies. Postsecondary instructional faculty and staff who had access to the Internet both at home and at work were significantly more likely to use e-mail and course-specific web sites than those who had access only at home or only at work. Clearly, the amount of Internet access was a main indicator of use for both e-mail and course-specific web sites, and it remained important after controlling for other variables. After controlling for other variables, the quality of computing resources also remained a significant factor in the likelihood of using course-specific web sites: overall, instructional faculty and staff who rated their institution's computing resources as good or excellent were more likely to use course-specific web sites than were those who rated the computing resources as poor.

Finally, the type of institution was shown repeatedly to be a key factor. In particular, postsecondary instructional faculty and staff at 4-year doctoral institutions were significantly more likely to use e-mail and course-specific web sites than those at 4-year nondoctoral or 2-year institutions.

**Data source:** The NCES 1999 National Study of Postsecondary Faculty (NSOPF:99).

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

Warburton, E.C., Chen, X., and Bradburn, E.M. (2002). *Teaching With Technology: Use of Telecommunications Technology by Postsecondary Instructional Faculty and Staff in Fall 1998* (NCES 2002-161).

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**To obtain the complete report (NCES 2002-161),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

<sup>4</sup>Total student contact hours were calculated as follows: For each for-credit class taught (a maximum of five classes could be reported by respondents), the number of hours per week spent teaching the class was multiplied by the number of students in the class. The products were then summed to obtain the total number of student classroom contact hours.



# Teaching Undergraduates

## Teaching Undergraduates in U.S. Postsecondary Institutions: Fall 1998

Xianglei Chen

*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 NCES National Study of Postsecondary Faculty (NSOPF).*

### Introduction

For some years now, the quality of undergraduate education has been one of the major concerns of public and private postsecondary institutions, state legislatures, the business community, parents, and students (Kerr 1994; Winston 1994). At the heart of this concern lies the issue of “who teaches undergraduates in postsecondary institutions” (Boyer Commission 1998). Although some research has been conducted to address this issue (Chen 2000; Middaugh 1999; Townsend 2000), current descriptive information regarding who teaches undergraduates at postsecondary institutions in the United States is limited. Using the most current national survey of faculty, the 1999 National Study of Postsecondary Faculty (NSOPF:99),<sup>1</sup> this report supplies such information by addressing the following three questions: 1) Who teaches undergraduates in postsecondary institutions?<sup>2</sup> 2) How much do they teach? and 3) What teaching practices do they use for their undergraduate teaching? The findings, which are summarized below, are based on a nationally representative sample of postsecondary faculty and instructional staff who reported having some instructional responsibilities for credit in fall 1998.

### Who Teaches Undergraduates?

In fall 1998, U.S. colleges and universities employed about 1.1 million faculty and instructional staff. Of these, about 976,000 (91 percent) were identified as instructional faculty and staff who had some for-credit instructional responsibilities, including teaching classes for credit or advising or supervising students about academic activities for credit. These individuals were the core sample for this report. Throughout this report, faculty and staff who had some for-credit instructional responsibilities are called “instructional faculty and staff” or simply “faculty.”

<sup>1</sup>Sponsored by the U.S. Department of Education's National Center for Education Statistics (NCES), NSOPF:99 was conducted in 1999 and asked a nationally representative sample of faculty and instructional staff about their employment and work activities in fall 1998.

<sup>2</sup>Using teaching assistants for undergraduate instruction has become increasingly common in many postsecondary institutions and has recently received much attention from the media (Robin 1999). However, there is little information available concerning the extent to which teaching assistants are being used. Although NSOPF:99 is a survey of faculty (i.e., it did not include teaching assistants in its sample), it did ask several questions about teaching assistants (e.g., whether faculty had teaching assistants in their classes; what percentage of undergraduate student credit hours were assigned to teaching assistants). These questions allowed some analysis of teaching assistants in this report.

### Overall pattern

In fall 1998, a majority of instructional faculty and staff were involved in undergraduate teaching: 85 percent reported being engaged in some kinds of undergraduate teaching activities,<sup>3</sup> and 83 percent reported providing at least one type of instruction to undergraduates, which could include for-credit classroom instruction, individual instruction,<sup>4</sup> and academic committee work<sup>5</sup> (figure A).

While there were different ways of delivering instruction to undergraduates, classroom teaching was the most common: in fall 1998, 77 percent of instructional faculty and staff reported teaching at least one undergraduate class for credit,<sup>6</sup> compared with 42 percent who provided individual instruction and 18 percent who served on academic committees. This pattern held true for both full- and part-time faculty<sup>7</sup> (figure A).

### Variation across types of institutions

Overall, instructional faculty and staff at 4-year doctoral institutions were less likely to provide instruction to undergraduates than were their colleagues at 4-year nondoctoral and 2-year institutions. Two-thirds (67 percent) of full-time faculty at 4-year doctoral institutions reported providing at least one type of instruction to undergraduates, compared with 90 percent of their counterparts at 4-year nondoctoral institutions and 98 percent of those at 2-year institutions. Among full-time faculty who taught classes at any level, 69 percent of those at 4-year doctoral institutions reported teaching at least one undergraduate class and 44 percent reported teaching such classes exclusively, again lower than the percentages for their

<sup>3</sup>“Undergraduate teaching activities” were defined broadly and included teaching classes, grading papers, preparing courses, developing new curricula, advising or supervising students, supervising student teachers and interns, and working with student organizations or intramural athletics.

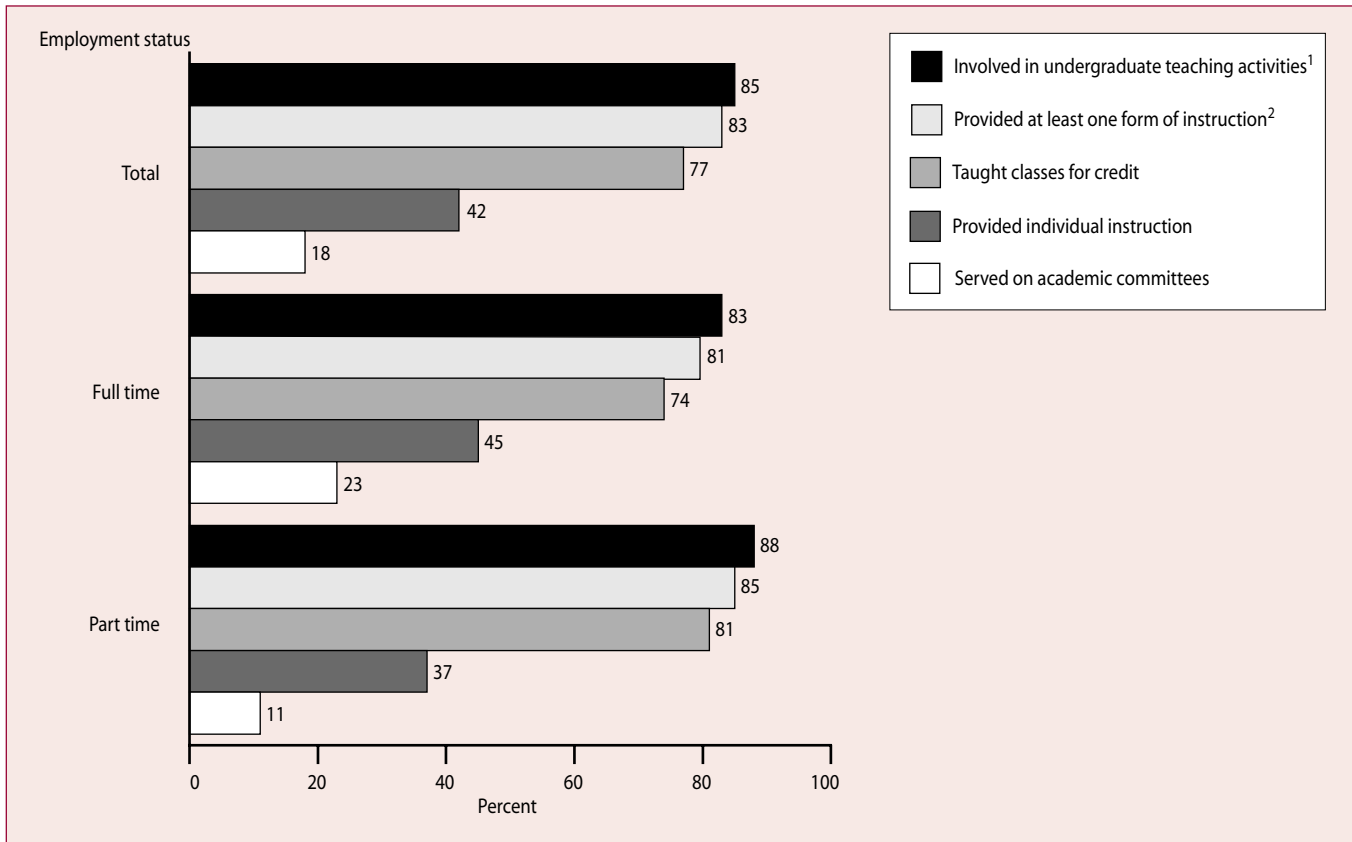
<sup>4</sup>Examples of individual instruction include independent study, supervising student teachers or interns, or one-on-one instruction, such as working with individual students in a clinical or research setting.

<sup>5</sup>Examples of undergraduate academic committees include thesis honors committees, comprehensive exams or orals committees, and examination/certification committees.

<sup>6</sup>The term “for credit” may be omitted for brevity throughout this report, but all classes examined are for credit.

<sup>7</sup>The terms “full time” and “part time” in this report refer to the employment status of the person at the sampled institution rather than the amount of time devoted to instruction.

**Figure A.—Percentage of instructional faculty and staff in postsecondary institutions who were involved in undergraduate instruction, by type of instruction and employment status: Fall 1998**



<sup>1</sup>“Undergraduate teaching activities” were defined broadly in the survey and included teaching classes, grading papers, preparing courses, developing new curricula, advising or supervising students, supervising student teachers and interns, and working with student organizations or intramural athletics.

<sup>2</sup>Including classroom instruction, individual instruction, and academic committee work.

NOTE: This figure includes all instructional faculty and staff at Title IV degree-granting institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), “Faculty Survey.”

counterparts at 4-year nondoctoral institutions (90 percent and 74 percent, respectively).

**Use of part-time faculty and teaching assistants**

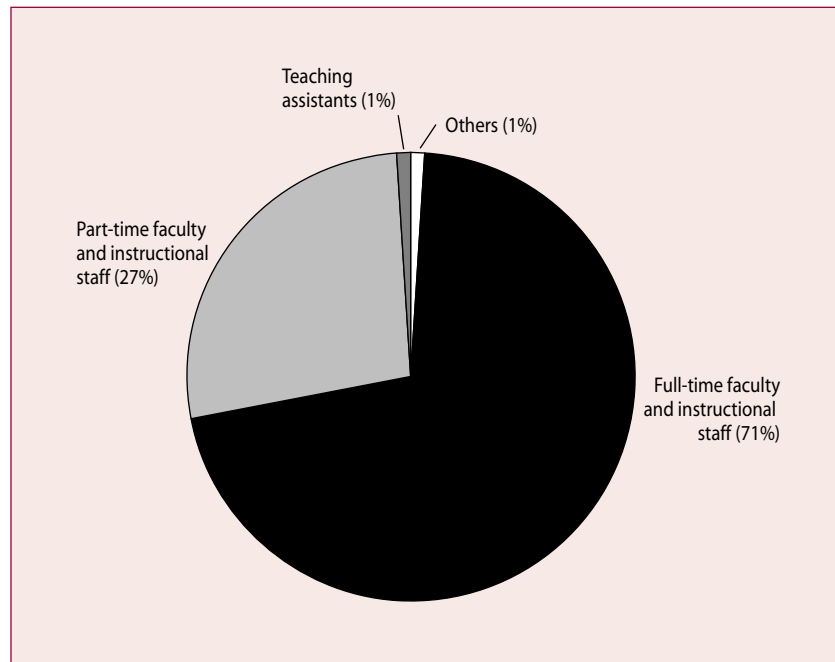
One issue of great concern to students, parents, administrators, state legislators, and the general public is the use of part-time faculty and teaching assistants to teach undergraduate courses (Cox 2000). Figure B presents NSOPF:99 data collected from institutions regarding the percentage distribution of undergraduate student credit hours assigned to various types of faculty and staff.<sup>8</sup> In fall 1998, about 71 percent of undergraduate credit hours across all types of institutions were assigned to full-time faculty and instructional staff, a considerably higher percentage than that

assigned to part-time faculty (27 percent) and teaching assistants and other staff (1 percent for each group).

Furthermore, analysis of the data reported by faculty did not find that part-time faculty had a higher likelihood of teaching undergraduate students than their full-time colleagues. For example, at 4-year doctoral institutions, there was no difference found between the percentages of part- and full-time faculty who reported being engaged in undergraduate teaching activities (69 percent and 70 percent, respectively) or teaching at least one undergraduate class (58 percent and 57 percent, respectively). At 4-year nondoctoral institutions, part-time faculty were even less likely than full-time faculty to report providing at least one type of instruction to undergraduates (85 percent vs. 90 percent, respectively) and, in particular, teaching undergraduate classes (80 percent vs. 86 percent, respectively).

<sup>8</sup>Note that this percentage distribution represents the institutions’ estimates concerning undergraduate credit hours assigned to various groups of faculty and staff rather than those of faculty members who reported actually teaching undergraduate classes in fall 1998.

**Figure B.—Percentage distribution of undergraduate student credit hours assigned to various types of faculty and staff: Fall 1998**



NOTE: This figure includes all Title IV degree-granting institutions. The percentage distribution represents institutions' estimates of undergraduate credit hours assigned to various groups of faculty and staff rather than those of faculty members who reported actually teaching undergraduate classes in fall 1998.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Institution Survey."

### **Involvement of senior faculty in teaching undergraduate classes**

One indicator that might be of interest to researchers, students, and parents is the proportion of senior faculty members (i.e., full professors and tenured faculty), particularly those at research and doctoral institutions, who teach undergraduates. Figure C presents this information for 4-year doctoral institutions. Among full-time instructional faculty and staff who taught one or more classes at 4-year doctoral institutions in fall 1998, 63 percent of full professors reported teaching at least one undergraduate class and 37 percent of them reported teaching such classes exclusively. About 69 percent of full-time tenured faculty at 4-year doctoral institutions reported teaching at least one undergraduate class and 41 percent of them reported that all of their classes were at the undergraduate level.

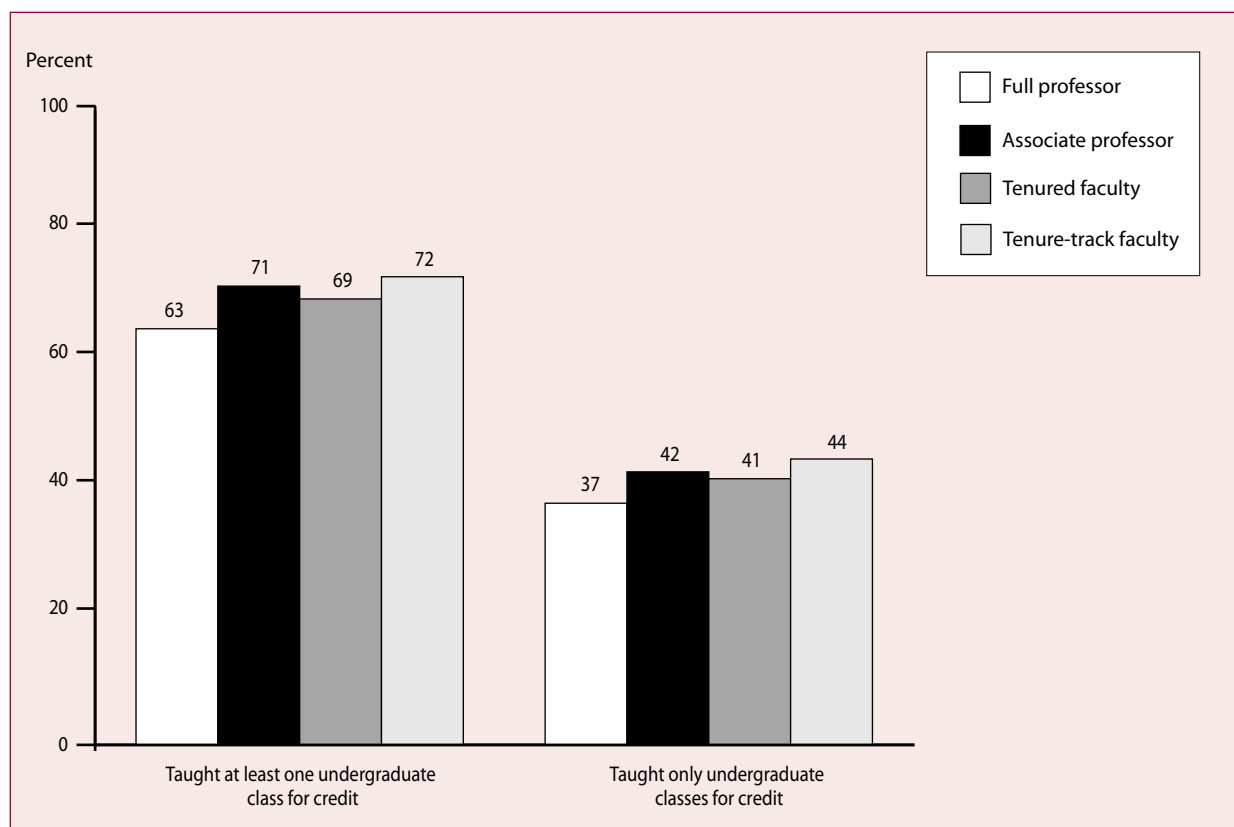
### **Characteristics of faculty who taught undergraduate classes**

There was considerable variation among postsecondary instructional faculty and staff regarding the extent to which they taught undergraduates. For example, among both part-

and full-time instructional faculty and staff who taught classes at 4-year doctoral institutions, instructors/lecturers were more likely than assistant, associate, or full professors to teach undergraduate classes, and to teach such classes exclusively (table A). Faculty with a lower degree (e.g., a bachelor's or lower degree) were generally more likely than those with a doctoral or first-professional degree to teach undergraduate classes and to teach them exclusively.

At 4-year doctoral institutions, part-time faculty were more likely than full-time faculty to indicate that all of their classes were at the undergraduate level, although no difference was found between the two groups regarding teaching at least one undergraduate class. In addition, at 4-year doctoral institutions, non-tenure-track faculty were more likely than tenured faculty to report teaching undergraduate classes exclusively. There was also variation across teaching fields. At 4-year doctoral institutions, both full- and part-time faculty in the humanities were more likely than average to report teaching undergraduate classes and teaching such classes exclusively, whereas those in the health sciences were less likely to do so.

**Figure C.—Of full-time instructional faculty and staff who taught classes for credit at 4-year doctoral institutions, percentage who taught at least one undergraduate class for credit and percentage who taught only undergraduate classes for credit, by academic rank and tenure status: Fall 1998**



NOTE: This figure includes only full-time instructional faculty and staff who taught one or more classes for credit at 4-year doctoral institutions. Detailed information about classes could be reported for a maximum of five classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Faculty Survey."

### Independent relationship of specific variables to teaching undergraduate classes

Most relationships described above remained after taking into consideration various academic and demographic characteristics of instructional faculty and staff. Specifically, after controlling for principal field of teaching, employment status, academic rank, highest degree, gender, race/ethnicity, and age, faculty at 4-year doctoral institutions were still less likely to teach undergraduate classes and to teach such classes exclusively than were their colleagues at 4-year nondoctoral institutions.<sup>9</sup> In addition, when other faculty characteristics were held constant, full professors were less likely to teach undergraduate classes or teach such classes exclusively than were instructors/lecturers. Faculty with a

<sup>9</sup>When taking into consideration a number of academic and demographic variables, these variables accounted for 18 percent of the variance in faculty teaching at least one undergraduate class and 21 percent of the variance in faculty teaching undergraduate classes exclusively. Bivariate correlations showed that the effect sizes of the independent variables on faculty teaching at least one undergraduate class or teaching undergraduate classes exclusively were small to moderate, with correlations ranging in absolute value from .004 to .285. The most important factor in accounting for the variance was type of institution, with a correlation of  $-.230$  with faculty teaching at least one undergraduate class and  $-.285$  with faculty teaching undergraduate classes exclusively.

doctoral or first-professional degree were also less likely to do so than those with only a bachelor's or master's degree.

### How Much Do Faculty Teach?

#### Time allocated to undergraduate teaching activities

The analysis of faculty time allocation indicated that undergraduate teaching remained the primary focus of postsecondary instructional faculty and staff. In fall 1998, instructional faculty and staff across all types of institutions devoted nearly one-half of their work time (48 percent) to undergraduate teaching activities, a higher percentage than that devoted to graduate teaching activities (11 percent), research (11 percent), administrative tasks (10 percent), and all other tasks (21 percent) (figure D). Similar patterns were observed among full- and part-time faculty.

However, faculty with a higher academic rank spent more of their time on research and graduate teaching activities and less of their time on undergraduate teaching activities than their junior colleagues. For example, at 4-year doctoral institutions, full-time full professors spent 48 percent of

**Table A.—Of instructional faculty and staff who taught classes for credit at 4-year doctoral institutions, percentage who taught at least one undergraduate class for credit and percentage who taught only undergraduate classes for credit, by employment status and academic characteristics of instructional faculty and staff: Fall 1998**

Academic characteristics of instructional faculty and staff	Taught at least one undergraduate class for credit		Taught only undergraduate classes for credit	
	Part time	Full time	Part time	Full time
Total	69.6	68.6	59.5	43.9
Academic rank*				
Full professor	48.5	63.3	34.2	37.1
Associate professor	59.7	70.9	41.3	42.0
Assistant professor	46.7	68.6	34.0	44.0
Instructor or lecturer	79.7	83.1	70.6	71.0
Tenure status				
Tenured	59.9	68.7	50.6	40.9
On tenure track	(#)	71.6	(#)	43.7
Not on tenure track	71.4	66.7	61.7	54.1
No tenure system	54.7	49.6	41.8	24.6
Highest degree obtained				
Doctoral/first-professional degree	55.5	65.6	42.9	39.7
Master's	81.7	85.5	74.0	68.0
Bachelor's or less	88.0	81.0	80.5	68.1
Principal field of teaching				
Agriculture and home economics	(#)	87.4	(#)	65.7
Business	74.0	78.8	67.8	47.6
Education	65.2	65.7	46.3	29.3
Engineering	62.7	77.7	50.9	45.3
Fine arts	93.5	89.3	84.9	58.8
Health sciences	37.8	37.2	25.6	19.6
Humanities	94.2	92.4	91.4	67.1
Natural sciences	88.1	68.1	74.8	45.0
Social sciences	73.7	79.2	62.3	53.1
All other programs	57.4	60.4	47.9	39.0

#Too small to report.

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

NOTE: This table includes only instructional faculty and staff who taught classes for credit at 4-year doctoral institutions. Detailed information about classes could be reported for a maximum of five classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Faculty Survey."

their work time on research and graduate teaching activities, a higher percentage than that spent by full-time instructors/lecturers (22 percent) (figure E). Conversely, full-time instructors/lecturers spent one-half of their work time on undergraduate teaching activities, compared with the 21 percent spent by full-time full professors.

### Undergraduate teaching loads

In fall 1998, full-time postsecondary faculty who taught at least one undergraduate class taught an average of three undergraduate classes (worth approximately 10 credit hours), with a total of 86 undergraduate students in these classes (table B). They spent about 11 hours each week

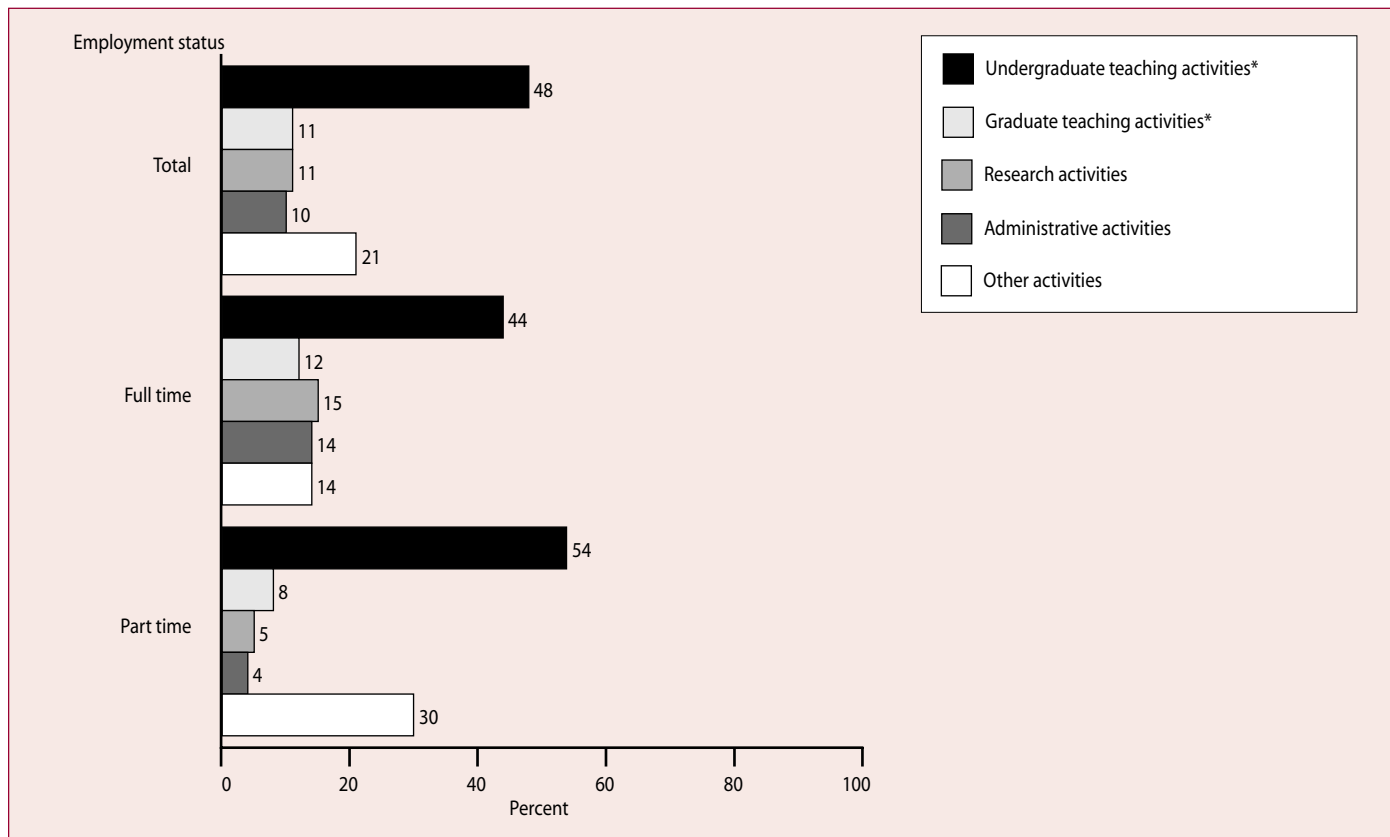
teaching undergraduates in class and generated a total of 309 undergraduate student classroom contact hours.<sup>10</sup> Most of these faculty members (77 percent) lacked a teaching assistant for their undergraduate classes.

### Teaching loads varied among those who did some undergraduate teaching

In general, instructional faculty and staff at 4-year doctoral institutions had lighter teaching loads than those at 4-year

<sup>10</sup>Undergraduate student classroom contact hours were calculated as follows: For each undergraduate class taught (a maximum of five classes could be reported by respondents), the number of hours per week spent teaching the class was multiplied by the number of students in the class. The products were then summed to obtain the total number of undergraduate student classroom contact hours.

**Figure D.—Percentage distribution of time spent on various work activities by instructional faculty and staff, by employment status: Fall 1998**



\*"Teaching activities" were defined broadly in the survey and included teaching classes, grading papers, preparing courses, developing new curricula, advising or supervising students, supervising student teachers and interns, and working with student organizations or intramural athletics.

NOTE: This figure includes all instructional faculty and staff at Title IV degree-granting institutions. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Faculty Survey."

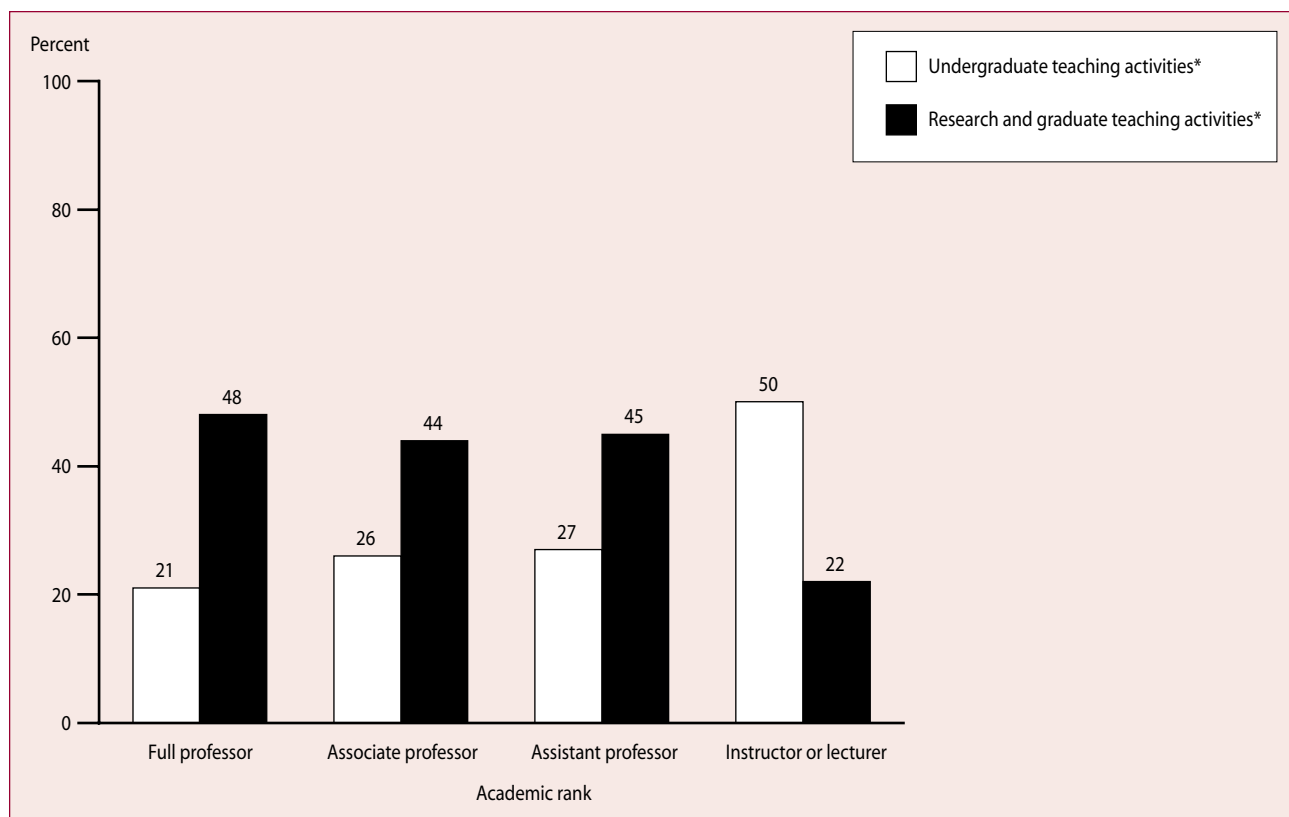
nondoctoral institutions, who in turn had lighter loads than those at 2-year institutions. At the same time, instructional faculty and staff at 4-year doctoral institutions were more likely than their colleagues at 4-year nondoctoral and 2-year institutions to have teaching assistants in some or all of their undergraduate classes.

With some exceptions, undergraduate teaching loads at 4-year institutions were inversely related to faculty's academic rank and tenure status. Instructional faculty and staff with higher academic ranks or tenure status (e.g., full professors or tenured faculty) generally had lighter teaching loads than those with lower academic ranks and tenure status (e.g., instructors/lecturers or non-tenure-track faculty). This relationship was more apparent at 4-year doctoral institutions than at 4-year nondoctoral institutions.

### What Kinds of Teaching Practices Do Faculty Use in Their Undergraduate Classes?

Instructional faculty and staff with classroom teaching duties were asked about their use of various methods—lecture/discussion, seminar, lab/clinic, and apprenticeship/fieldwork—as primary teaching methods in their classes. According to their responses, the predominant teaching method for undergraduate classes was lecture/discussion. In fall 1998, 83 percent of instructional faculty and staff who taught undergraduate classes reported using lecture/discussion in at least one of their undergraduate classes (table C). Compared with lecture/discussion, faculty less frequently relied on other teaching methods as primary methods in at least one of their undergraduate classes: 21 percent of faculty used labs or clinics, 11 percent used seminars, and only 5 percent used fieldwork, such as internships and apprenticeships. This pattern held true among both full- and part-time faculty.

**Figure E.—Percentage of time spent by full-time instructional faculty and staff at 4-year doctoral institutions on undergraduate teaching activities and on research and graduate teaching activities, by academic rank: Fall 1998**



\*"Teaching activities" were defined broadly in the survey and included teaching classes, grading papers, preparing courses, developing new curricula, advising or supervising students, supervising student teachers and interns, and working with student organizations or intramural athletics.

NOTE: This figure includes only full-time instructional faculty and staff at 4-year doctoral institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Faculty Survey."

Instructional faculty and staff also used a variety of methods to make assignments, assess students, and grade students' performance. In fall 1998, 60 percent of instructional faculty and staff who taught at least one undergraduate class indicated that they assigned term/research papers in some or all of their undergraduate classes; 44 percent asked students to evaluate each other's work; and 40 percent asked students to submit multiple drafts of written work. To assess students, 62 percent used short-answer midterm or final exams in some or all of their undergraduate classes; 60 percent used essay exams; and 58 percent used multiple-choice exams. To grade students' performance in some or all of their undergraduate classes, instructional faculty and staff were more likely to report using competency-based grading than grading on a curve (61 percent vs. 30 percent).

While lecture/discussion was popular, faculty's use of other instructional methods was related to their teaching disciplines. For example, at 4-year doctoral institutions, full-

time faculty in the fine arts (32 percent) and health sciences (30 percent) were more likely than average (16 percent) to use labs/clinics as their primary instructional method in one or more of their undergraduate classes, while their colleagues in the humanities (4 percent), business (7 percent), and social sciences (7 percent) were less likely to do so. Full-time faculty in the health sciences (11 percent) were more likely than their colleagues in business, humanities, natural sciences, and social sciences (1 to 2 percent) to use apprenticeship/fieldwork as the primary method of teaching.

## Conclusions

This report indicates that a majority of instructional faculty and staff were involved in some kinds of undergraduate teaching activities in fall 1998 and that most provided direct instruction to undergraduates. This finding held true in all types of institutions examined in this report. Furthermore,

**Table B.—Undergraduate teaching loads of full-time instructional faculty and staff who taught at least one undergraduate class for credit, by type of institution, academic rank, and tenure status: Fall 1998**

Type of institution, academic rank, and tenure status	Number of undergraduate classes taught for credit	Number of undergraduate classroom credit hours	Hours per week spent in the classroom teaching undergraduates	Number of undergraduates taught in the classroom	Number of undergraduate classroom contact hours <sup>1</sup>	Percentage who had teaching assistants in some/all undergraduate classes
Total	3.0	10.4	10.9	86.0	309.0	22.7
4-year doctoral	2.1	7.5	7.1	83.3	268.6	38.2
Academic rank <sup>2</sup>						
Full professor	1.9	6.2	5.9	83.9	256.7	43.8
Associate professor	2.1	6.9	6.9	75.5	233.0	35.0
Assistant professor	2.1	7.1	7.3	74.0	254.5	35.6
Instructor or lecturer	3.0	13.4	10.9	122.7	418.7	35.4
Tenure status						
Tenured	2.0	6.5	6.3	81.3	249.4	40.7
On tenure track	2.1	6.8	7.1	71.4	234.9	37.7
Not on tenure track	2.6	10.9	9.4	102.4	362.7	32.7
No tenure system	(#)	(#)	(#)	(#)	(#)	(#)
4-year nondoctoral	3.1	9.8	10.5	78.9	277.4	16.0
Academic rank <sup>2</sup>						
Full professor	2.9	9.1	9.8	75.9	259.8	18.0
Associate professor	3.1	10.0	10.5	81.0	287.2	13.9
Assistant professor	3.3	10.4	11.6	82.3	285.0	15.7
Instructor or lecturer	3.0	9.9	10.5	80.0	303.3	15.7
Tenure status						
Tenured	3.0	9.6	10.1	81.3	274.3	16.4
On tenure track	3.2	9.8	10.8	76.7	262.0	15.3
Not on tenure track	2.9	8.9	9.8	74.9	253.9	15.1
No tenure system	3.3	12.3	13.0	78.0	365.0	16.8
2-year	4.0	15.5	17.0	102.3	418.6	12.0
Academic rank <sup>2</sup>						
Full professor	4.0	14.6	15.7	108.5	415.5	12.5
Associate professor	3.8	14.2	15.2	101.9	399.4	12.1
Assistant professor	4.1	13.9	15.7	108.3	419.1	13.5
Instructor or lecturer	4.2	17.6	20.0	99.4	453.8	12.1
Tenure status						
Tenured	4.0	16.2	17.0	109.8	439.2	12.5
On tenure track	4.1	14.6	15.9	104.0	391.9	11.5
Not on tenure track	3.3	12.9	13.7	79.2	335.0	16.3
No tenure system	4.0	15.2	18.5	93.0	415.0	10.2

#Too small to report.

<sup>1</sup>For each for-credit undergraduate class taught (a maximum of five classes could be reported by respondents), the number of hours per week spent teaching the class was multiplied by the number of students in the class. The products were then summed to obtain the total number of undergraduate student classroom contact hours.

<sup>2</sup>Included in the total but not shown separately were those with other or no academic rank.

NOTE: This table includes only instructional faculty and staff who taught at least one undergraduate class for credit. Detailed information about classes could be reported for a maximum of five classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Faculty Survey."



**Table C.—Of instructional faculty and staff who taught undergraduate classes for credit, percentage who used various teaching practices in at least one of their undergraduate classes, by employment status: Fall 1998**

Instructional method	Total	Full time	Part time
Primary instructional method*			
Lecture/discussion	83.1	87.0	78.2
Seminar	11.2	13.4	8.5
Lab/clinic	21.4	23.5	18.9
Apprenticeship/fieldwork	4.7	5.4	3.8
Assignment method			
Student evaluations	44.2	44.8	43.5
Term/research papers	60.4	64.6	55.2
Multiple written drafts	39.5	42.7	35.5
Assessment method			
Multiple-choice exams	57.9	56.7	59.4
Short-answer exams	62.2	64.1	59.8
Essay exams	59.8	63.1	55.7
Grading methods			
Grading on a curve	29.7	31.8	27.2
Competency-based grading	60.6	59.8	61.6

\*A maximum of five classes could be reported by respondents regarding the primary instructional method used in their classes.

NOTE: This table includes only instructional faculty and staff who taught undergraduate classes for credit.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99), "Faculty Survey."

according to institution reports, part-time faculty and teaching assistants were assigned a relatively small share of undergraduate credit hours (27 percent for part-time faculty and 1 percent for teaching assistants). Full-time faculty, with 71 percent of undergraduate credit hours, still constituted the major group in undergraduate teaching in fall 1998.

This report also reveals that a majority of full-time senior faculty members (i.e., full professors or tenured faculty), including those at 4-year doctoral institutions, taught at least one undergraduate class in fall 1998. About 40 percent of full-time senior faculty who had classroom instruction responsibilities at 4-year doctoral institutions reported teaching undergraduate classes exclusively.

There were, however, variations regarding those who taught undergraduates and how much they taught. First, whether or not faculty taught undergraduates was related to the role and mission of the institution. Instructional faculty and staff at 4-year doctoral institutions were less likely than their colleagues at 4-year nondoctoral and 2-year institutions to teach undergraduates and also had lighter teaching loads if they did teach. Second, within institutions, especially 4-year

doctoral institutions, undergraduate teaching behaviors were somewhat related to faculty's seniority. Compared with junior faculty, senior faculty were less likely to teach undergraduates, and if they did, they typically had lighter teaching loads and also were more likely to have teaching assistants.

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**Data source:** 1999 National Study of Postsecondary Faculty (NSOPF:99).

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

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## The Gender and Racial/Ethnic Composition of Postsecondary Instructional Faculty and Staff: 1992–98

—Denise Glover and Basmat Parsad

*This article was originally published as the Summary and Compendium Tables of the E.D. Tabs report of the same name. The sample survey data are from the NCES National Study of Postsecondary Faculty (NSOPF).*

The literature examining gender and race/ethnicity issues for faculty in postsecondary education has relied largely on data from two national studies conducted by the U.S. Department of Education, National Center for Education Statistics (NCES): the 1988 and 1993 National Study of Postsecondary Faculty (NSOPF:88 and NSOPF:93), and the Integrated Postsecondary Education Data System “Fall Staff Survey” (IPEDS-S). These studies have consistently shown that the vast majority of full- and part-time faculty were White, non-Hispanic males (Kirshstein, Matheson, and Jing 1997; Roey and Rak-Skinner 1998; Nettles, Perna, and Bradburn 2000).

The purpose of this E.D. Tabs report is to describe how the gender and racial/ethnic composition of full- and part-time instructional faculty and staff has changed between the fall of 1992 and the fall of 1998. The report uses data from NSOPF:93 and NSOPF:99. In addition to this more focused report, two new NCES publications use data from NSOPF:99 to explore gender and racial/ethnic differences among faculty by several outcome variables such as salary, tenure status, and academic rank: *Gender and Racial/Ethnic Differences in Salary and Other Characteristics of Postsecondary Faculty: Fall 1998* (Bradburn and Sikora 2002) and *Tenure Status of Postsecondary Instructional Faculty and Staff: 1992–98* (Parsad and Glover 2002).

The data for this report are analyzed by institution level, type and control, and academic program.<sup>1</sup> The analyses are based on instructional faculty and staff; that is, faculty and staff with some for-credit teaching responsibilities. The first part of this summary focuses on changes in the gender composition of instructional faculty and staff, and the second part discusses changes in the racial/ethnic composition of instructional faculty and staff.<sup>2</sup>

<sup>1</sup>Institution types are based on the Carnegie classification and whether the institution is public or private not-for-profit. To improve readability, the phrase “not-for-profit” may be excluded when referring to “private not-for-profit” institutions. Private for-profit institutions are not part of the population for NSOPF.

<sup>2</sup>American Indian/Alaska Native respondents made up only 0.8 percent of the overall sample. Because the group is so small, analyses involving the comparison of this group to others, particularly if subdivided further, are inadvisable because the resulting standard errors are very large and very few apparent differences would achieve statistical significance. For this reason, this report excludes the American Indian/Alaska Native category from analysis, though estimates for this group are shown in the tables.

### Changes in the Composition of Faculty by Gender

Data from NSOPF:99 indicate that some changes occurred in the gender composition of both full- and part-time instructional faculty and staff between the fall of 1992 and the fall of 1998. Among full-time faculty over the 6-year period, the percentage who were female increased by 3 percent (from 33 percent to 36 percent) across all institutions (table 1A). Similar changes in the gender composition of part-time faculty occurred between the fall of 1992 and the fall of 1998 (table 1B). Across all institutions, there was an increase in the percentage of part-time faculty who were female (from 45 to 48 percent).

#### Gender changes by level of institution

**Full-time faculty.** Similar to the overall percentage of full-time instructional faculty who were female, the percentage of female full-time instructional faculty in 4-year institutions increased by 3 percent over the 6-year period, and the percentage in 2-year institutions increased by 5 percent (table 1A). In spite of this gain, the gender gap persisted among full-time faculty in 4-year institutions in the fall of 1998 (67 percent male vs. 33 percent female), as it did across all types of postsecondary institutions (64 percent male vs. 36 percent female). In 2-year institutions in the fall of 1998, there was no significant difference between the proportion of male and female full-time instructional faculty (50 percent each); whereas in the fall of 1992, full-time instructional faculty were more likely to be male than female (54 percent male vs. 46 percent female).

**Part-time faculty.** Several changes occurred in the gender composition of part-time instructional faculty over the 6-year period (table 1B). Across institutions, there was an increase in the percentage who were female (from 45 to 48 percent). The percentage of female part-time faculty who taught in 2-year institutions increased 5 percent (from 44 percent in 1992 to 49 percent in 1998). Mirroring the pattern that existed among male and female full-time faculty in 2-year institutions, the gender gap that existed between male and female part-time faculty in the fall of 1992 (56 percent male vs. 44 percent female) was no longer significant by the fall of 1998 (51 percent male vs. 49 percent female; table 1B).

### Gender changes by type and control of institution

**Full-time faculty.** The analysis of the gender composition of faculty between the fall of 1992 and the fall of 1998 by type and control of institution revealed that most, but not all, of the changes occurred in public institutions. The proportion of females among full-time faculty increased in public institutions (from 34 percent in 1992 to 37 percent in 1998; table 1A). The percentage of female faculty who taught full-time in public research, public comprehensive, public 2-year, and private doctoral institutions increased between the fall of 1992 and the fall of 1998 (table 2A). Over the 6-year period, the increase in the percentage of female faculty was larger for those teaching in private doctoral institutions than for female faculty teaching in either public comprehensive or public 2-year institutions.

**Part-time faculty.** Among part-time instructional faculty, the only gender changes that occurred over the 6-year period were an increase in the proportion of female faculty overall (from 45 to 48 percent) and an increase in the proportion of female faculty who taught in public 2-year institutions (from 43 to 48 percent; table 2B).

### Gender changes by program area in 4-year institutions

**Full-time faculty.** Between the fall of 1992 and the fall of 1998, the percentage of female full-time faculty teaching in 4-year institutions across all program areas increased by 3 percent (from 30 to 33 percent; table 3A). For example, over this 6-year period, there was an increase in the percentage of female faculty teaching in the social sciences (from 26 to 30 percent). Although in the fall of 1998, male full-time faculty were more likely than female full-time faculty in 4-year institutions to teach in the natural sciences (79 percent vs. 21 percent), the proportion of female full-time faculty teaching in this area increased over the 6-year period.<sup>3</sup> In the fall of 1992, education was the only area in which there were no significant differences between male and female faculty. By the fall of 1998, female faculty outnumbered male faculty in this area.

**Part-time faculty.** Across all program areas, there were no significant changes in the proportion of male and female part-time faculty teaching at 4-year institutions between 1992 and 1998 (table 3B). In specific program areas, however, some gender changes did occur, with the proportion of female faculty increasing in some areas and decreasing in others. For example, in the fall of 1992, part-time male faculty were more likely than their female counter-

parts to teach in the fine arts. By the fall of 1998, no differences were detected between male and female faculty teaching in this program area. Conversely, in the fall of 1992, no differences were detected in the proportion of male and female faculty teaching in the social sciences. However, in the fall of 1998, part-time male faculty were more likely than their female counterparts to teach in the social sciences. The differences in the proportions of male and female part-time faculty teaching in the health sciences in both the fall of 1992 and the fall of 1998 were not significant.

### Gender changes by program area in 2-year institutions

**Full-time faculty.** Consistent with the findings for 4-year institutions, the proportion of female faculty teaching full time in 2-year institutions increased in the natural sciences (from 33 to 42 percent), the social sciences (from 34 to 46 percent), and education (from 68 to 81 percent) between the fall of 1992 and the fall of 1998 (table 4A). While male faculty dominated most remaining areas in both years, female faculty were more likely than their male counterparts to teach in the areas of education and the health sciences in both 1992 and 1998.

**Part-time faculty.** Among part-time faculty teaching business in 2-year institutions, the percentage of female faculty increased between the fall of 1992 and the fall of 1998 (35 to 49 percent; table 4B). However, the percentage of female part-time faculty who taught engineering in 2-year institutions declined over the 6-year period (from 13 to 2 percent). There were more male than female part-time faculty teaching business and the social sciences in 2-year institutions in the fall of 1992. However, by the fall of 1998, no differences were detected between male and female part-time faculty teaching in these areas. Conversely, there were more female part-time faculty in 2-year institutions than male part-time faculty teaching in the humanities in the fall of 1992, but by the fall of 1998, there were no significant differences between male and female part-time faculty teaching in the humanities.

### Changes in the Composition of Faculty by Race/Ethnicity

White, non-Hispanic faculty continued to hold the vast majority of full-time positions in postsecondary institutions (87 percent in 1992 and 85 percent in 1998; table 5A). The only identifiable change overall was in the percentage of Hispanic full-time faculty across all institutions, which increased between the fall of 1992 and the fall of 1998.

<sup>3</sup>The apparent change in the proportion of female faculty teaching in the field of engineering between the fall of 1992 and the fall of 1998 is not statistically significant.

### Race/ethnicity changes by level of institution

Examining changes by institution level shows that there was an increase in the percentage of Hispanic full-time faculty teaching in 4-year institutions between the fall of 1992 and the fall of 1998 (table 5A). The percentage of White, non-Hispanic full-time faculty teaching in 4-year institutions declined between the fall of 1992 and the fall of 1998 (from 87 to 85 percent).

There were no changes in minority and White, non-Hispanic full-time faculty teaching in 2-year institutions between the fall of 1992 and the fall of 1998.

### Race/ethnicity changes by type and control of institution

Examining changes by type and control of institution shows that there was an increase in the percentage of Hispanic full-time faculty teaching in public institutions over the 6-year period. There was a decline in the percentage of White, non-Hispanic full-time faculty teaching at public research institutions over the 6-year period (from 88 to 85 percent; table 6A). There were no significant differences between minority and White, non-Hispanic part-time faculty by type or control of institution (tables 5B and 6B).

### Race/ethnicity changes by program area in 4-year institutions

**Full-time faculty.** In individual program areas, several changes occurred in the racial/ethnic composition of instructional faculty and staff in 4-year institutions. The percentage of Asian/Pacific Islander full-time faculty teaching in the social sciences increased between the fall of 1992 and the fall of 1998 (from 3 to 6 percent; table 7A). The percentage of Hispanic full-time faculty declined from 3 to 1 percent among those teaching in the fine arts, while Hispanic faculty increased from 4 to 6 percent among those teaching in the humanities. Over the 6-year period, there was a decline in the percentage of White, non-Hispanic full-time faculty who taught in the humanities and social sciences.

**Part-time faculty.** There were also several changes in individual program areas among part-time minority and White, non-Hispanic faculty and staff who taught in 4-year institutions. The percentage of Black, non-Hispanic part-time faculty decreased in two program areas—education and the fine arts—and increased in the social sciences (table 7B). The percentage of Hispanic part-time faculty in 4-year institutions who taught in “all other fields” (i.e., other than agriculture/home economics, business, education, engineering, fine arts, health sciences, humanities, natural sciences,

and social sciences) increased during the 6-year period (from 2 to 5 percent), as did the percentage of White, non-Hispanic part-time faculty teaching in the fine arts (from 90 to 94 percent).

### Race/ethnicity by program area in 2-year institutions

There were no significant differences between minority and White, non-Hispanic faculty who taught part time or full time in 2-year institutions between the fall of 1992 and the fall of 1998 (tables 8A and 8B).<sup>4</sup>

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**Data source:** The NCES 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

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

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<sup>4</sup>Compared to 4-year institutions, estimates for 2-year institutions were based on small sample sizes and generally had larger standard errors. Thus, some differences that appear large for 2-year institutions were less likely to be statistically significant.

**Table 1A.—Percentage distribution of full-time instructional faculty and staff, by gender and by level and control of institution: Fall 1992 and fall 1998**

Level and control of institution	Gender			
	Male		Female	
	1992	1998	1992	1998
All institutions*	66.8	63.7	33.2	36.3
All 4-year institutions	70.2	67.0	29.8	33.0
All 2-year institutions	54.4	49.6	45.6	50.4
All public institutions	66.5	62.8	33.5	37.2
All private not-for-profit institutions	67.5	65.9	32.5	34.1

\*All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 1B.—Percentage distribution of part-time instructional faculty and staff, by gender and by level and control of institution: Fall 1992 and fall 1998**

Level and control of institution	Gender			
	Male		Female	
	1992	1998	1992	1998
All institutions*	55.4	52.2	44.6	47.9
All 4-year institutions	55.0	53.1	45.0	46.9
All 2-year institutions	55.9	50.9	44.2	49.1
All public institutions	55.3	51.0	44.7	49.0
All private not-for-profit institutions	55.8	54.7	44.2	45.3

\*All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 2A.—Percentage distribution of full-time instructional faculty and staff, by gender and by type and control of institution: Fall 1992 and fall 1998**

Type and control of institution	Gender			
	Male		Female	
	1992	1998	1992	1998
All institutions <sup>1</sup>	66.8	63.7	33.2	36.3
Public research	76.7	70.5	23.3	29.5
Private not-for-profit research	69.1	73.9	30.9	26.2
Public doctoral <sup>2</sup>	69.9	66.7	30.1	33.3
Private not-for-profit doctoral <sup>2</sup>	76.4	63.6	23.6	36.4
Public comprehensive	66.1	61.7	33.9	38.3
Private not-for-profit comprehensive	64.9	63.3	35.1	36.7
Private not-for-profit liberal arts	61.1	62.2	38.9	37.9
Public 2-year	54.7	50.1	45.3	49.9
Other <sup>3</sup>	70.5	67.9	29.5	32.1

<sup>1</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

<sup>2</sup>Includes institutions classified by the Carnegie Foundation as specialized medical schools and medical centers.

<sup>3</sup>Public liberal arts, private not-for-profit 2-year, and other specialized institutions, except medical schools and medical centers.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 2B.—Percentage distribution of part-time instructional faculty and staff, by gender and by type and control of institution: Fall 1992 and fall 1998**

Type and control of institution	Gender			
	Male		Female	
	1992	1998	1992	1998
All institutions <sup>1</sup>	55.4	52.2	44.6	47.9
Public research	56.7	55.2	43.3	44.8
Private not-for-profit research	58.7	60.3	41.3	39.8
Public doctoral <sup>2</sup>	55.4	49.6	44.6	50.4
Private not-for-profit doctoral <sup>2</sup>	63.1	58.6	36.9	41.4
Public comprehensive	49.0	46.5	51.0	53.5
Private not-for-profit comprehensive	56.4	59.1	43.6	40.9
Private not-for-profit liberal arts	46.6	44.0	53.4	56.1
Public 2-year	56.6	51.8	43.4	48.2
Other <sup>3</sup>	56.0	54.3	44.0	45.8

<sup>1</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

<sup>2</sup>Includes institutions classified by the Carnegie Foundation as specialized medical schools and medical centers.

<sup>3</sup>Public liberal arts, private not-for-profit 2-year, and other specialized institutions, except medical schools and medical centers.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 3A.—Percentage distribution of full-time instructional faculty and staff in 4-year institutions, by gender and by program area: Fall 1992 and fall 1998**

Program area	Gender			
	Male		Female	
	1992	1998	1992	1998
All program areas in 4-year institutions	70.2	67.0	29.8	33.0
Agriculture/home economics	77.3	81.8	22.7	18.2
Business	76.4	73.2	23.6	26.9
Education	52.7	45.9	47.3	54.1
Engineering	94.2	90.8	5.8	9.2
Fine arts	67.3	68.4	32.7	31.6
Health sciences	58.5	57.5	41.5	42.5
Humanities	62.2	58.8	37.8	41.2
Natural sciences	83.3	79.2	16.7	20.8
Social sciences	73.9	69.7	26.1	30.3
All other fields	68.4	66.6	31.6	33.4

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 3B.—Percentage distribution of part-time instructional faculty and staff in 4-year institutions, by gender and by program area: Fall 1992 and fall 1998**

Program area	Gender			
	Male		Female	
	1992	1998	1992	1998
All program areas in 4-year institutions	55.0	53.1	45.0	46.9
Agriculture/home economics	(#)	(#)	(#)	(#)
Business	75.0	70.3	25.0	29.7
Education	35.6	33.0	64.4	67.0
Engineering	95.9	94.8	4.1	5.2
Fine arts	55.0	47.5	45.0	52.5
Health sciences	51.3	48.0	48.7	52.0
Humanities	40.8	41.3	59.2	58.7
Natural sciences	68.7	64.4	31.3	35.6
Social sciences	53.7	59.7	46.3	40.3
All other fields	56.8	59.8	43.2	40.3

#Too small to report.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).



**Table 4A.—Percentage distribution of full-time instructional faculty and staff in 2-year institutions, by gender and by program area: Fall 1992 and fall 1998**

Program area	Gender			
	Male		Female	
	1992	1998	1992	1998
All program areas in 2-year institutions	54.4	49.6	45.6	50.4
Agriculture/home economics	63.8	73.9	36.2	26.1
Business	49.1	43.1	50.9	56.9
Education	32.4	19.5	67.6	80.5
Engineering	92.6	90.3	7.4	9.7
Fine arts	65.4	69.1	34.6	30.9
Health sciences	15.0	10.1	85.0	89.9
Humanities	48.8	45.7	51.2	54.3
Natural sciences	67.4	58.3	32.6	41.7
Social sciences	65.7	54.5	34.3	45.5
Vocational training	86.6	84.1	13.4	15.9
All other fields	55.7	51.4	44.3	48.6

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 4B.—Percentage distribution of part-time instructional faculty and staff in 2-year institutions, by gender and by program area: Fall 1992 and fall 1998**

Program area	Gender			
	Male		Female	
	1992	1998	1992	1998
All program areas in 2-year institutions	55.9	50.9	44.2	49.1
Agriculture/home economics	(#)	(#)	(#)	(#)
Business	65.3	50.6	34.7	49.4
Education	26.7	16.0	73.3	84.0
Engineering	87.1	97.6	12.9	2.4
Fine arts	46.3	50.6	53.7	49.4
Health sciences	27.5	28.6	72.5	71.4
Humanities	41.2	47.5	58.8	52.5
Natural sciences	67.3	61.6	32.7	38.4
Social sciences	61.8	48.4	38.2	51.6
Vocational training	87.1	85.5	12.9	14.5
All other fields	58.1	48.1	41.9	51.9

#Too small to report.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 5A.—Percentage distribution of full-time instructional faculty and staff, by race/ethnicity and by level and control of institution: Fall 1992 and fall 1998**

Level and control of institution and year	Race/ethnicity <sup>1</sup>				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All institutions <sup>2</sup>	0.7	5.8	5.1	3.3	85.1
All 4-year institutions	0.7	6.4	4.9	3.0	85.0
All 2-year institutions	0.7	3.4	5.8	4.5	85.6
All public institutions	0.7	6.2	5.1	3.7	84.4
All private not-for-profit institutions	0.7	4.9	5.0	2.5	86.9
<b>1992</b>					
All institutions <sup>2</sup>	0.5	5.2	5.2	2.6	86.5
All 4-year institutions	0.3	5.8	4.9	2.2	86.8
All 2-year institutions	1.0	3.4	6.2	4.0	85.4
All public institutions	0.6	5.3	5.4	2.9	85.9
All private not-for-profit institutions	0.3	5.2	4.7	2.0	87.8

<sup>1</sup>In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

<sup>2</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 5B.—Percentage distribution of part-time instructional faculty and staff, by race/ethnicity and by level and control of institution: Fall 1992 and fall 1998**

Level and control of institution and year	Race/ethnicity <sup>1</sup>				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All institutions <sup>2</sup>	1.0	3.2	4.5	3.7	87.6
All 4-year institutions	0.9	3.8	4.0	3.0	88.2
All 2-year institutions	1.0	2.3	5.3	4.7	86.7
All public institutions	1.2	3.1	4.7	4.2	86.7
All private not-for-profit institutions	0.3	3.2	4.2	2.6	89.7
<b>1992</b>					
All institutions <sup>2</sup>	0.6	3.2	4.8	3.0	88.4
All 4-year institutions	0.4	3.7	5.1	2.3	88.6
All 2-year institutions	0.9	2.7	4.5	3.8	88.1
All public institutions	0.6	3.5	4.7	3.5	87.6
All private not-for-profit institutions	0.5	2.6	5.1	1.7	90.1

<sup>1</sup>In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

<sup>2</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 6A.—Percentage distribution of full-time instructional faculty and staff, by race/ethnicity and by type and control of institution: Fall 1992 and fall 1998**

Type and control of institution and year	Race/ethnicity <sup>1</sup>				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All institutions <sup>2</sup>	0.7	5.8	5.1	3.3	85.1
Public research	0.5	8.5	3.2	3.4	84.5
Private not-for-profit research	0.2	7.0	3.7	3.5	85.6
Public doctoral <sup>3</sup>	1.3	6.0	3.9	3.0	85.8
Private not-for-profit doctoral <sup>3</sup>	0.7	9.2	4.4	3.9	81.8
Public comprehensive	0.5	5.9	7.4	3.6	82.6
Private not-for-profit comprehensive	1.2	3.7	4.5	2.7	87.8
Private not-for-profit liberal arts	1.1	2.9	6.4	1.6	88.1
Public 2-year	0.8	3.4	6.0	4.6	85.3
Other <sup>4</sup>	0.6	4.6	7.1	1.3	86.4
<b>1992</b>					
All institutions <sup>2</sup>	0.5	5.2	5.2	2.6	86.5
Public research	0.1	6.9	2.8	2.2	88.0
Private not-for-profit research	0.2	9.0	5.0	2.1	83.7
Public doctoral <sup>3</sup>	0.8	6.1	3.1	2.5	87.6
Private not-for-profit doctoral <sup>3</sup>	0.2	7.1	4.9	3.7	84.1
Public comprehensive	0.5	5.1	9.1	2.6	82.7
Private not-for-profit comprehensive	0.2	3.3	3.5	1.6	91.3
Private not-for-profit liberal arts	0.5	2.8	5.4	1.3	90.0
Public 2-year	1.0	3.3	6.2	4.1	85.5
Other <sup>4</sup>	0.5	5.2	3.7	1.4	89.2

<sup>1</sup>In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

<sup>2</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

<sup>3</sup>Includes institutions classified by the Carnegie Foundation as specialized medical schools and medical centers.

<sup>4</sup>Public liberal arts, private not-for-profit 2-year, and other specialized institutions, except medical schools and medical centers.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 6B.—Percentage distribution of part-time instructional faculty and staff, by race/ethnicity and by type and control of institution: Fall 1992 and fall 1998**

Type and control of institution and year	Race/ethnicity <sup>1</sup>				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All institutions <sup>2</sup>	1.0	3.2	4.5	3.7	87.6
Public research	1.9	4.6	2.9	3.5	87.1
Private not-for-profit research	(#)	2.5	3.3	4.3	89.9
Public doctoral <sup>3</sup>	2.3	3.1	3.6	3.1	87.9
Private not-for-profit doctoral <sup>3</sup>	0.4	7.1	3.4	2.3	86.8
Public comprehensive	1.2	5.5	4.1	3.8	85.5
Private not-for-profit comprehensive	0.5	1.7	2.7	2.0	93.1
Private not-for-profit liberal arts	0.2	3.2	6.9	3.1	86.7
Public 2-year	1.0	2.3	5.3	4.8	86.6
Other <sup>4</sup>	0.2	2.9	4.6	2.0	90.3
<b>1992</b>					
All institutions <sup>2</sup>	0.6	3.2	4.8	3.0	88.4
Public research	(#)	6.6	2.5	3.2	87.8
Private not-for-profit research	0.4	3.0	4.4	2.7	89.5
Public doctoral <sup>3</sup>	0.4	3.3	3.3	1.6	91.4
Private not-for-profit doctoral <sup>3</sup>	0.2	3.5	7.2	1.5	87.7
Public comprehensive	0.7	4.1	7.2	3.0	85.0
Private not-for-profit comprehensive	0.5	2.5	5.0	1.1	90.9
Private not-for-profit liberal arts	0.1	1.6	5.8	2.9	89.6
Public 2-year	0.8	2.7	4.6	4.0	88.0
Other <sup>4</sup>	1.1	3.8	3.2	1.1	90.8

#Too small to report.

<sup>1</sup>In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

<sup>2</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

<sup>3</sup>Includes institutions classified by the Carnegie Foundation as specialized medical schools and medical centers.

<sup>4</sup>Public liberal arts, private not-for-profit 2-year, and other specialized institutions, except medical schools and medical centers.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 7A.—Percentage distribution of full-time instructional faculty and staff in 4-year institutions, by race/ethnicity and by program area: Fall 1992 and fall 1998**

Program area and year	Race/ethnicity*				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All program areas in 4-year institutions	0.7	6.4	4.9	3.0	85.0
Agriculture/home economics	1.2	3.5	4.1	1.5	89.8
Business	1.6	6.8	5.7	1.1	84.9
Education	1.0	3.1	8.3	3.1	84.6
Engineering	0.5	16.8	2.5	3.5	76.8
Fine arts	0.5	2.3	7.1	1.2	88.9
Health sciences	0.8	6.9	4.1	3.4	84.8
Humanities	0.3	4.8	4.8	6.2	83.8
Natural sciences	0.3	9.2	2.6	2.3	85.5
Social sciences	1.1	5.5	5.7	2.8	84.9
All other fields	0.9	3.1	6.3	2.2	87.6
<b>1992</b>					
All program areas in 4-year institutions	0.3	5.8	4.9	2.2	86.8
Agriculture/home economics	0.8	2.7	4.1	1.6	90.8
Business	0.6	5.9	3.7	1.4	88.5
Education	0.5	1.2	9.2	2.1	87.1
Engineering	0.2	18.9	3.0	2.5	75.4
Fine arts	0.5	2.6	6.1	2.7	88.2
Health sciences	0.2	6.6	4.6	2.3	86.4
Humanities	0.3	3.4	4.2	3.9	88.2
Natural sciences	0.3	9.1	3.6	1.7	85.3
Social sciences	0.4	3.2	5.5	2.2	88.6
All other fields	0.3	3.4	6.2	1.7	88.4

\*In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 7B.—Percentage distribution of part-time instructional faculty and staff in 4-year institutions, by race/ethnicity and by program area: Fall 1992 and fall 1998**

Program area and year	Race/ethnicity*				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All program areas in 4-year institutions	0.9	3.8	4.0	3.0	88.2
Agriculture/home economics	(#)	(#)	(#)	(#)	(#)
Business	(#)	2.9	3.3	0.6	93.2
Education	2.3	0.3	3.6	2.3	91.5
Engineering	(#)	10.5	7.0	7.9	74.6
Fine arts	0.7	1.0	2.2	1.7	94.4
Health sciences	1.9	5.0	2.1	1.8	89.3
Humanities	1.2	4.4	2.3	4.5	87.7
Natural sciences	(#)	5.5	7.7	1.8	85.0
Social sciences	0.9	1.7	8.6	3.9	84.9
All other fields	0.5	5.6	3.1	4.7	86.1
<b>1992</b>					
All program areas in 4-year institutions	0.4	3.7	5.1	2.3	88.6
Agriculture/home economics	(#)	(#)	(#)	(#)	(#)
Business	0.3	1.9	4.5	2.4	90.9
Education	1.0	1.0	7.0	1.2	89.9
Engineering	(#)	12.2	1.5	2.6	83.6
Fine arts	0.6	2.6	5.3	1.7	89.8
Health sciences	0.2	5.1	6.1	1.5	87.1
Humanities	0.1	2.6	4.1	4.7	88.5
Natural sciences	0.6	7.1	4.0	2.3	86.0
Social sciences	0.5	3.4	6.1	2.4	87.7
All other fields	0.2	2.4	5.7	1.6	90.2

#Too small to report.

\*In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 8A.—Percentage distribution of full-time instructional faculty and staff in 2-year institutions, by race/ethnicity and by program area: Fall 1992 and fall 1998**

Program area and year	Race/ethnicity*				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All program areas in 2-year institutions	0.7	3.4	5.8	4.5	85.6
Agriculture/home economics	(#)	(#)	4.0	0.8	95.3
Business	0.5	0.7	4.3	3.1	91.5
Education	(#)	6.9	10.6	4.4	78.1
Engineering	1.7	10.9	1.4	7.1	78.9
Fine arts	0.8	2.5	4.9	0.9	91.0
Health sciences	0.5	2.3	5.7	2.8	88.8
Humanities	0.5	4.3	3.7	7.5	84.0
Natural sciences	0.2	3.9	5.1	5.3	85.5
Social sciences	2.4	2.4	12.6	4.1	78.4
Vocational training	2.6	0.6	5.8	4.8	86.3
All other fields	0.1	4.6	5.8	2.8	86.6
<b>1992</b>					
All program areas in 2-year institutions	1.0	3.4	6.2	4.0	85.4
Agriculture/home economics	(#)	3.7	2.6	3.3	90.4
Business	2.0	2.0	5.2	2.2	88.6
Education	3.3	3.4	10.2	8.8	74.3
Engineering	2.8	6.1	2.2	5.9	83.0
Fine arts	0.6	3.2	4.1	1.2	90.9
Health sciences	0.3	3.7	9.9	2.3	83.9
Humanities	0.9	2.7	4.2	4.7	87.6
Natural sciences	0.7	5.4	3.6	2.7	87.7
Social sciences	0.6	3.5	9.4	5.4	81.1
Vocational training	0.7	2.0	3.4	4.4	89.6
All other fields	0.5	1.7	8.1	5.3	84.5

#Too small to report.

\*In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table 8B.—Percentage distribution of part-time instructional faculty and staff in 2-year institutions, by race/ethnicity and by program area: Fall 1992 and fall 1998**

Program area and year	Race/ethnicity*				
	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non-Hispanic	Hispanic	White, non-Hispanic
<b>1998</b>					
All program areas in 2-year institutions	1.0	2.3	5.3	4.7	86.7
Agriculture/home economics	(#)	(#)	(#)	(#)	(#)
Business	(#)	1.3	8.2	2.3	88.2
Education	0.8	0.8	8.7	6.3	83.4
Engineering	2.5	3.6	1.0	17.3	75.7
Fine arts	0.6	1.1	4.2	5.9	88.2
Health sciences	0.5	1.4	4.0	2.1	92.1
Humanities	1.5	2.9	3.1	7.2	85.4
Natural sciences	0.9	3.5	4.7	2.9	88.1
Social sciences	0.9	(#)	7.4	6.1	85.6
Vocational training	3.8	1.3	6.2	3.4	85.3
All other fields	(#)	3.1	6.1	3.0	87.8
<b>1992</b>					
All program areas in 2-year institutions	0.9	2.7	4.5	3.8	88.0
Agriculture/home economics	(#)	(#)	(#)	(#)	(#)
Business	0.8	2.3	5.7	2.9	88.3
Education	0.8	2.4	10.1	3.6	83.3
Engineering	4.3	2.0	2.5	1.2	90.1
Fine arts	0.6	1.9	4.8	4.2	88.4
Health sciences	1.2	1.8	4.8	1.8	90.3
Humanities	1.4	2.9	2.6	6.8	86.3
Natural sciences	0.8	4.0	4.2	2.6	88.4
Social sciences	0.6	2.6	7.4	3.0	86.4
Vocational training	0.1	1.3	3.5	6.3	88.8
All other fields	(#)	2.7	3.3	2.7	91.3

#Too small to report.

\*In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected (see the Technical Notes in the complete report for more information).

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Percentages may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).



# Tenure Status

## Tenure Status of Postsecondary Instructional Faculty and Staff: 1992–98

Basmat Parsad and Denise Glover

*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 NCES National Study of Postsecondary Faculty (NSOPF).*

In the recent past, postsecondary education has undergone dramatic changes that have required colleges and universities to examine new ways to efficiently manage their limited resources (Chronister and Baldwin 1999). These changes—including increased enrollments of nontraditional students, reductions in state funding, increased availability of distance education instruction and technologies, and increased use of contingent and contract personnel—have led to a reexamination of key faculty issues such as salary, scholarly productivity, teaching performance, and tenure.

The literature examining tenure concerns has relied largely on data from two national studies conducted by the U.S. Department of Education, National Center for Education Statistics (NCES): the National Study of Postsecondary Faculty (NSOPF), conducted in 1988, 1993, and 1999; and the Integrated Postsecondary Education Data System “Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey” (IPEDS-SA), conducted annually since 1987. Using data from NSOPF:93 and NSOPF:99, this report focuses on changes in the tenure status of full-time instructional faculty and staff at 2- and 4-year institutions between the fall of 1992 and the fall of 1998.<sup>1</sup> It analyzes changes in tenure status by level and control of institution, program area, and the faculty’s academic rank, gender, and race/ethnicity. These analyses are based on instructional faculty and staff; that is, faculty and staff with some for-credit teaching responsibilities (e.g., teaching one or more classes for credit, or advising or supervising students’ academic activities).<sup>2</sup>

### Tenure Status of Full-Time Instructional Faculty and Staff

The literature examining issues of tenure status at postsecondary institutions—some of it anecdotal—suggests a slight decline in the proportion of tenured faculty in recent years (Lee 1995; Chronister and Baldwin 1999; Kirshstein, Matheson, and Jing 1997). Data from the first

two cycles of NSOPF, for instance, show that the proportion of full-time instructional faculty and staff with tenure at postsecondary institutions decreased from 58 percent in the fall of 1987 to 54 percent in the fall of 1992 (Kirshstein, Matheson, and Jing 1997).

More recent data from NSOPF:99 indicate that across all postsecondary institutions, 53 percent of full-time instructional faculty and staff were tenured in the fall of 1998 (figure A). Another 19 percent were on tenure track but not tenured. The remaining full-time faculty<sup>3</sup> either were not on a tenure track although the institution had a tenure system (18 percent), or they taught in an institution that did not have a tenure system (10 percent).<sup>4</sup>

Between the fall of 1992 and the fall of 1998, while the proportion of full-time instructional faculty and staff on tenure track decreased from 22 to 19 percent, the total percentage of faculty who either were not on a tenure track or worked at institutions without a tenure system increased from 24 to 28 percent (figure A). Thus, whereas there was no significant difference in the percentage of tenured faculty between 1992 and 1998, the opportunities for future tenure declined during that period.

### Tenure Status by Institutional Type

The tenure status of full-time instructional faculty and staff was examined across 4-year and 2-year institutions, and public and private institutions. In both the fall of 1992 and the fall of 1998, full-time instructional faculty and staff who taught at 4-year institutions were more likely to be on tenure track than were those who taught at 2-year institutions (table A).

Between the fall of 1992 and the fall of 1998, 4-year institutions showed both a decrease in the proportion of full-time instructional faculty and staff who were on tenure

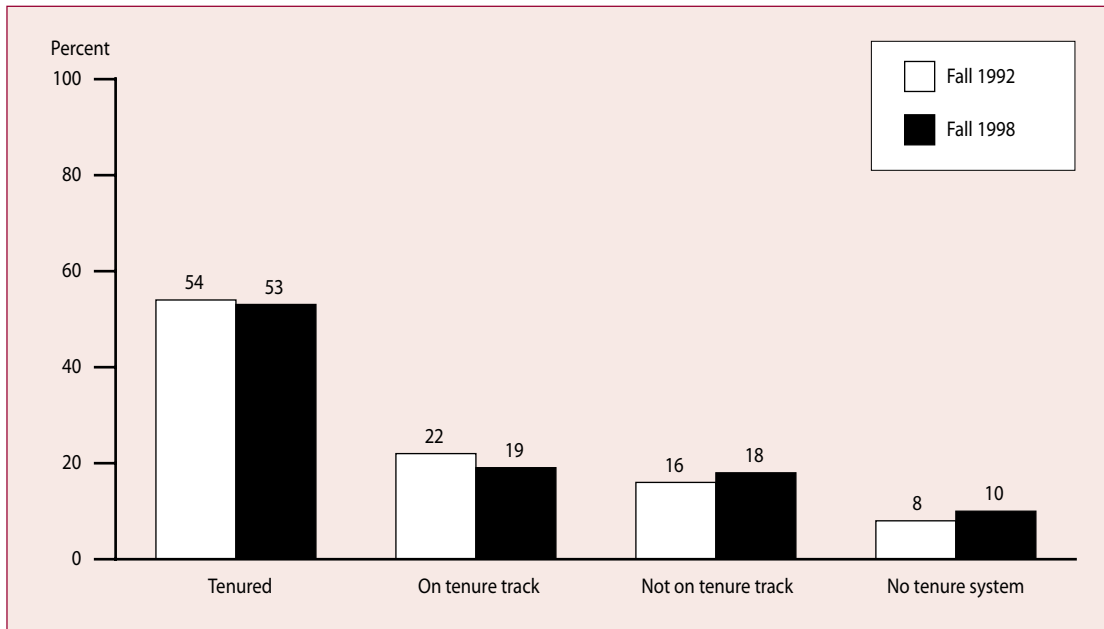
<sup>1</sup>NSOPF:99 was conducted in 1999 and asked faculty and instructional staff about their activities in the fall of 1998. NSOPF:93 was conducted in 1993 and asked faculty and staff about their activities in the fall of 1992.

<sup>2</sup>Instructional faculty and staff represented 88 percent of all postsecondary faculty and instructional staff in the fall of 1992 and 91 percent in the fall of 1998. Fifty-eight percent of instructional faculty and staff were employed full time in the fall of 1992, and 57 percent were employed full time in the fall of 1998.

<sup>3</sup>For brevity, this report sometimes uses the term “faculty” to refer to instructional faculty and staff.

<sup>4</sup>The increase in the percentage of full-time instructional faculty and staff who worked at institutions that did not have a tenure system (from 8 percent in 1992 to 10 percent in 1998) may be due, in part, to an overall increase in the proportion of postsecondary institutions that had no tenure systems in place for their faculty. Data from the “Institution Survey” of NSOPF indicate that 29 percent of postsecondary institutions did not have a tenure system in the fall of 1992 (Kirshstein, Matheson, and Jing 1996), compared with 34 percent in the fall of 1998 (Berger, Kirshstein, and Rowe 2001).

**Figure A.—Percentage distribution of full-time instructional faculty and staff, by tenure status: Fall 1992 and fall 1998**



NOTE: This figure includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

**Table A.—Percentage distribution of full-time instructional faculty and staff, by tenure status and level and control of institution: Fall 1992 and fall 1998**

Level and control of institution, and year	Tenure status			
	Tenured	On tenure track	Not on tenure track	No tenure system
<b>1998</b>				
All institutions*	53.1	18.8	18.1	10.0
All 4-year institutions	53.9	19.7	20.7	5.7
All 2-year institutions	49.8	15.1	7.2	27.9
All public institutions	56.9	18.5	17.2	7.4
All private not-for-profit institutions	44.1	19.7	20.2	16.0
<b>1992</b>				
All institutions*	54.2	21.5	16.0	8.4
All 4-year institutions	55.0	23.4	17.5	4.1
All 2-year institutions	51.2	14.8	10.4	23.6
All public institutions	57.6	20.6	14.5	7.0
All private not-for-profit institutions	45.9	23.7	19.0	11.5

\*All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities). Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

track, and an increase in the total percentage of faculty who either were not on a tenure track or worked at institutions without a tenure system (table A). Thus, while there were no significant differences in the proportion of *tenured* faculty between 1992 and 1998 for either 2- or 4-year institutions, the opportunities for future tenure declined at 4-year institutions.

In both the fall of 1992 and the fall of 1998, full-time instructional faculty and staff employed at public institutions were more likely than those at private institutions to have tenure (table A). Between 1992 and 1998, the proportion of faculty who were not on a tenure track at public institutions increased from 15 to 17 percent. Thus, as in 4-year institutions, the opportunities for future tenure declined at public institutions between 1992 and 1998.

### Tenure Status by Gender

The gender gap in tenure among full-time instructional faculty and staff found in previous studies was also apparent in both 1992 and 1998. Across postsecondary institutions in the fall of 1992, full-time male instructional faculty and

staff were more likely than their female counterparts to report having tenure (61 percent of male faculty vs. 40 percent of female faculty; figure B). In the fall of 1998, 60 percent of male faculty, compared to 42 percent of female faculty, reported that they had tenure.

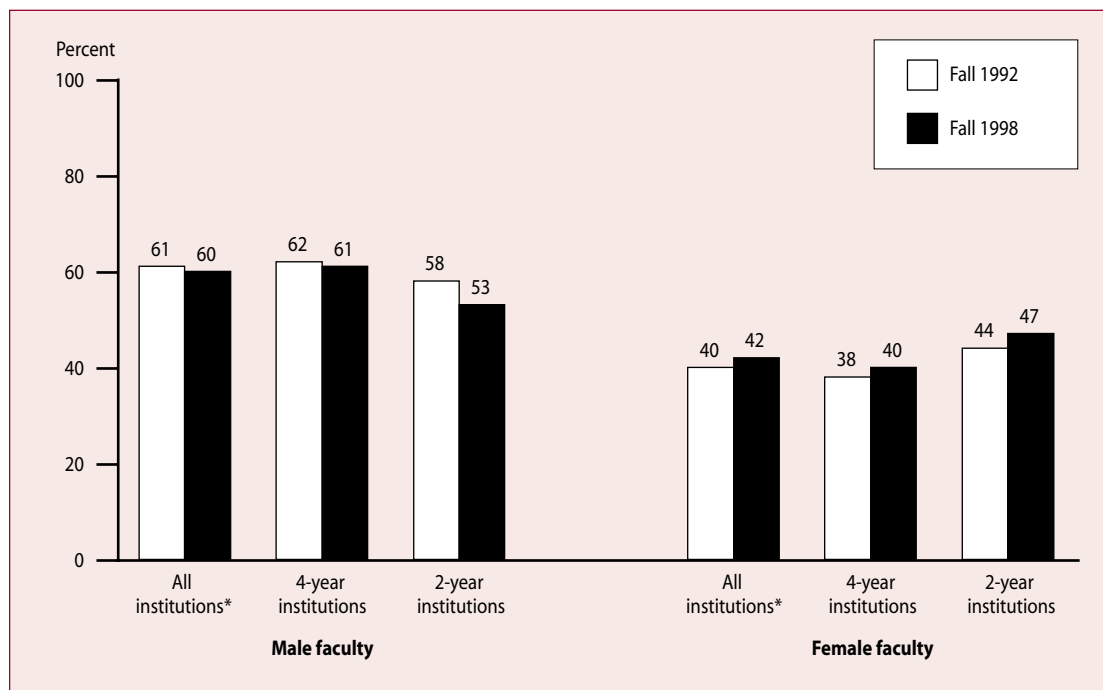
Gender differences in tenure were apparent at both 4-year and 2-year institutions in the fall of 1992 and the fall of 1998. For instance, in the fall of 1998, 61 percent of male faculty compared to 40 percent of female faculty were tenured at 4-year institutions, and 53 percent of male faculty compared to 47 percent of female faculty were tenured at 2-year institutions (figure B).

### Tenure Status by Race/Ethnicity

Like previous studies, NSOPF:99 found racial/ethnic differences in tenure status among full-time instructional faculty and staff. The NSOPF data also indicate some changes between 1992 and 1998.<sup>5</sup>

<sup>5</sup>In 1998, although respondents were allowed to report more than one racial/ethnic category, very few respondents (about 1 percent) reported more than one category.

**Figure B.—Percent of full-time instructional faculty and staff who were tenured, by gender and level of institution: Fall 1992 and fall 1998**



\*All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This figure includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

Among full-time instructional faculty and staff at postsecondary institutions in the fall of 1998, White, non-Hispanics were more likely than Black, non-Hispanics to report having tenure (54 vs. 44 percent; table B).<sup>6</sup> This pattern held for 4-year but not 2-year institutions.<sup>7</sup>

The distribution of tenure by race/ethnicity was somewhat different in the fall of 1998 than in the fall of 1992 (table B). Among full-time instructional faculty and staff in the fall of 1992, Whites were more likely to have tenure than were Asians/Pacific Islanders, Hispanics, and Blacks. By the fall of 1998, White faculty were more likely than Black faculty to have tenure, but not more likely than Asian/Pacific Islander and Hispanic faculty.

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<sup>6</sup>American Indian/Alaska Native respondents made up only 0.8 percent of the overall sample. Because the group is so small, analyses involving the comparison of this group to others, particularly if subdivided further, are inadvisable because the resulting standard errors are very large and very few apparent differences would achieve statistical significance. For this reason, this report excludes the American Indian/Alaska Native category from analysis, though estimates for this group are shown in the tables. For brevity, White, non-Hispanic and Black, non-Hispanic are referred to as White and Black, respectively, throughout the report.

<sup>7</sup>Compared to 4-year institutions, estimates for 2-year institutions were based on small sample sizes and generally had large standard errors. Thus, some differences that appear large for 2-year institutions were less likely to be statistically significant.

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**Data source:** The NCES 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

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

Parsad, B., and Glover, D. (2002). *Tenure Status of Postsecondary Instructional Faculty and Staff: 1992–98* (NCES 2002–210).

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**Table B.—Percent of full-time instructional faculty and staff who were tenured, by level of institution and race/ethnicity: Fall 1992 and fall 1998**

Race/ethnicity <sup>1</sup>	1992			1998		
	All institutions <sup>2</sup>	4-year institutions	2-year institutions	All institutions <sup>2</sup>	4-year institutions	2-year institutions
All full-time instructional faculty and staff	54.2	55.0	51.2	53.1	53.9	49.8
American Indian/Alaska Native	43.0	39.0	47.8	29.4	31.3	(#)
Asian/Pacific Islander	47.1	44.9	60.3	49.1	48.1	57.1
Black, non-Hispanic	43.5	40.4	52.4	43.9	42.9	47.7
Hispanic	44.9	40.7	53.3	48.5	43.7	62.4
White, non-Hispanic	55.6	56.9	50.8	54.3	55.5	49.3

#Too small to report.

<sup>1</sup>In 1998, respondents were allowed to report more than one racial/ethnic category; however, very few respondents (about 1 percent) reported more than one category. Those persons were placed into the largest minority racial/ethnic category they selected.

<sup>2</sup>All public and private not-for-profit Title IV degree-granting institutions in the 50 states and the District of Columbia.

NOTE: This table includes only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students’ academic activities).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 and 1999 National Study of Postsecondary Faculty (NSOPF:93 and NSOPF:99).

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## Public Libraries

### Public Libraries in the United States: Fiscal Year 2000

Adrienne Chute, P. Elaine Kroe, Patricia Garner, Maria Polcari,  
and Cynthia Jo Ramsey

*This article was originally published as the Introduction and Highlights of the E.D. Tabs report of the same name. The universe data are from the NCES Public Libraries Survey (PLS).*

#### Introduction

The tables in this report summarize information about public libraries in the 50 states and the District of Columbia for state fiscal year (FY) 2000. (Data from four outlying areas—Guam, the Commonwealth of the Northern Mariana Islands, the Republic of Palau, and the U.S. Virgin Islands—are also included in the tables, but not in the table totals.) The data were collected through the Public Libraries Survey (PLS), conducted annually by the National Center for Education Statistics (NCES) through the Federal-State Cooperative System (FSCS) for Public Library Data. The FY 2000 survey is the 13th in the series.<sup>1</sup>

This report includes information about service measures such as access to the Internet and 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.<sup>2</sup> Data were imputed for nonresponding libraries.

#### Number of Public Libraries and Population of Legal Service Area

- There were 9,074 public libraries (administrative entities) in the 50 states and the District of Columbia in FY 2000.
- Ninety-seven percent<sup>3</sup> of the total population of the states and the District of Columbia were served by public libraries, either in legally established geographic service areas or in areas under contract.
- Eleven percent of the public libraries served 71 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.

<sup>2</sup>See the glossary in the full report for definitions of the terms used in the report.

<sup>3</sup>This percentage was derived by dividing the total unduplicated population of legal service areas (including areas served under contract) in the United States by the sum of the official state total population estimates as reported by the 50 states and the District of Columbia. Also see *Data File, Public Use: Public Libraries Survey: Fiscal Year 2000* (NCES 2002-341), on the NCES web site.

<sup>1</sup>Trend data from some of the earlier surveys are discussed in *Public Library Trends Analysis: 1992-1996* (Glover 2001), a Statistical Analysis Report released by NCES in the summer of 2001.

## Service Outlets

- In FY 2000, 81 percent of public libraries had one single direct service outlet (an outlet that provides service directly to the public). Nineteen 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 1,501 public libraries (17 percent) had one or more branch library outlets, with a total of 7,383 branch outlets. The total number of central library outlets was 8,915. The total number of stationary outlets (central library outlets and branch library outlets) was 16,298. Eight percent of public libraries had one or more bookmobile outlets, with a total of 884 bookmobiles.

## Legal Basis

- In FY 2000, 55 percent of public libraries were part of a municipal government, 11 percent were part of a county/parish, 10 percent were nonprofit association libraries or agency libraries, 9 percent were separate government units known as library districts, 5 percent had multijurisdictional legal basis under an intergovernmental agreement, 3 percent were part of a school district, and 1 percent were part of a city/county. Six percent reported their legal basis as "other."

## Operating Income and Expenditures

### Operating income

- In FY 2000, 77 percent of public libraries' total operating income of about \$7.7 billion came from local sources, 13 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<sup>4</sup> operating income for public libraries was \$28.96. Of that, \$22.31 was from local sources, \$3.70 from state sources, \$0.21 from federal sources, and \$2.73 from other sources.
- Per capita operating income from local sources was under \$3.00 for 9 percent of public libraries, \$3.00 to \$14.99 for 39 percent of libraries, \$15.00 to \$29.99 for 32 percent of libraries, and \$30.00 or more for 20 percent of libraries.

<sup>4</sup>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.

## Operating expenditures

- Total operating expenditures for public libraries were \$7 billion in FY 2000. Of this, 64 percent was expended for paid staff and 15 percent for the library collection.
- Thirty-two percent of public libraries had operating expenditures of less than \$50,000, 41 percent expended \$50,000 to \$399,999, and 27 percent expended \$400,000 or more.
- Nationwide, the average per capita operating expenditure for public libraries was \$26.42. The highest average per capita operating expenditure was \$47.40, and the lowest was \$12.08.
- 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.

## Staff

- Public libraries had a total of 130,102 paid full-time-equivalent (FTE) staff in FY 2000, or 12.23 paid FTE staff per 25,000 population. Of these, 23 percent, or 2.78 per 25,000 population, were librarians with the ALA-MLS;<sup>5</sup> 10 percent were librarians by title but did not have the ALA-MLS; and 67 percent were in other positions.
- Forty-four percent of all public libraries, or 4,034 libraries, had librarians with the ALA-MLS.

## Collections

- Nationwide, public libraries had 761 million books and serial volumes in their collections in FY 2000, or 2.9 volumes per capita. By state, the number of volumes per capita ranged from 1.8 to 5.1.
- Public libraries nationwide had 32 million audio materials and 22 million video materials in their collections.
- Nationwide, public libraries provided 6.2 materials in electronic format per 1,000 population (e.g., CD-ROMs, magnetic tapes, and magnetic disks).

## Library Services

### Children's services

- Nationwide, circulation of children's materials was 625 million in FY 2000, or 36 percent of total

<sup>5</sup>Librarians with master's degrees from programs of library and information studies accredited by the American Library Association.

circulation. Attendance at children's programs was 49 million.

### Internet access and electronic services

- Nationwide, 95 percent of public libraries had access to the Internet. Eighty-nine percent of all public libraries made the Internet available to patrons directly or through a staff intermediary, 4 percent of public libraries made the Internet available to patrons through a staff intermediary only, and 2 percent of public libraries made the Internet available only to library staff.
- Internet terminals available for public use in public libraries nationwide numbered 99,453, or 1.9 per 5,000 population. The average number of Internet terminals per service outlet<sup>6</sup> available for public use was 5.8.
- Ninety-nine percent<sup>7</sup> of the unduplicated population of legal service areas had access to the Internet through their local public library.
- Nationwide, 85 percent of public libraries provided access to electronic services.<sup>8</sup>

<sup>6</sup>The average was calculated by dividing the total number of Internet terminals available for public use by the total number of service outlets (central, branches, and bookmobiles).

<sup>7</sup>This percentage was derived by summing the unduplicated population of legal service areas for (1) all public libraries in which the Internet was used by patrons through a staff intermediary only and (2) all public libraries in which the Internet was used by patrons either directly or through a staff intermediary, 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 2000* (NCES 2002-341), on the NCES web site.

<sup>8</sup>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, consortial membership or agreement. It includes full-text serial subscriptions and electronic databases received by the library or an organization associated with the library.

### Other services

- Total nationwide circulation of public library materials was 1.7 billion, or 6.4 materials circulated per capita. The highest circulation per capita was 12.8, and the lowest was 1.9.
- Nationwide, 16 million library materials were loaned by public libraries to other libraries.
- Nationwide, reference transactions in public libraries totaled 291 million, or 1.1 reference transactions per capita.
- Nationwide, library visits in public libraries totaled 1.1 billion, or 4.3 library visits per capita.

### Reference

Glover, D. (2001). *Public Library Trends Analysis: Fiscal Years 1992-1996* (NCES 2001-324). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

**Data source:** The NCES Public Libraries Survey (PLS), fiscal year 2000.

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

Chute, A., Kroe, P.E., Garner, P., Polcari, M., and Ramsey, C.J. (2002). *Public Libraries in the United States: Fiscal Year 2000* (NCES 2002-344).

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## The Condition of Education

### The Condition of Education: 2002

*This article was originally published as the Commissioner's Statement in the Compendium of the same name. The universe and sample 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. When the original U.S. Department of Education was created in 1867, the law stated that it should “gather statistics and facts on the condition and progress of education in the United States and Territories.” The National Center for Education Statistics (NCES) currently carries out this mission for the U.S. Department of Education through such work as *The Condition of Education*, a mandated report submitted to Congress on June 1st every year.

Drawing on numerous data sources, this annual report presents indicators of important developments and trends in American education. Recurrent themes underscored by the indicators include participation and persistence in education, student performance and other outcomes, the environment for learning, and societal support for education. In addition, this year's special analyses focus on private elementary and secondary schools and on nontraditional

undergraduates (such as those who are financially independent or attend part time).

#### Participation in Education

Enrollments in the United States are growing at all levels of education, but for different reasons. At the early childhood level, growth is due to higher rates of enrollment; that is, larger percentages of 3- to 5-year-old children are enrolling in preschool, nursery school, or other early childhood education programs. At the elementary and secondary levels, growth is due to demographic changes, which are also making the student body more diverse. At the postsecondary level, high enrollment rates and population growth are combining to swell enrollments.

- Enrollment rates for 3- to 5-year-olds in early childhood education programs were higher in 2001 than in 1991. Black and White children enroll in early childhood education programs at higher rates than Hispanic children.

- Public elementary and secondary enrollment is projected to reach 47.4 million in 2002, and to increase through 2005, before decreasing slowly. The West will experience most of this increase.
- Hispanic students are the fastest growing student group in the nation's elementary and secondary schools (figure A).
- The school-age poverty rate decreased between 1994 and 2001.
- In a change from the enrollment patterns of the 1980s and 1990s, undergraduate enrollment during this decade is projected to increase at a faster rate in 4-year institutions than in 2-year institutions. Women's undergraduate enrollment is expected to continue increasing at a faster rate than men's.

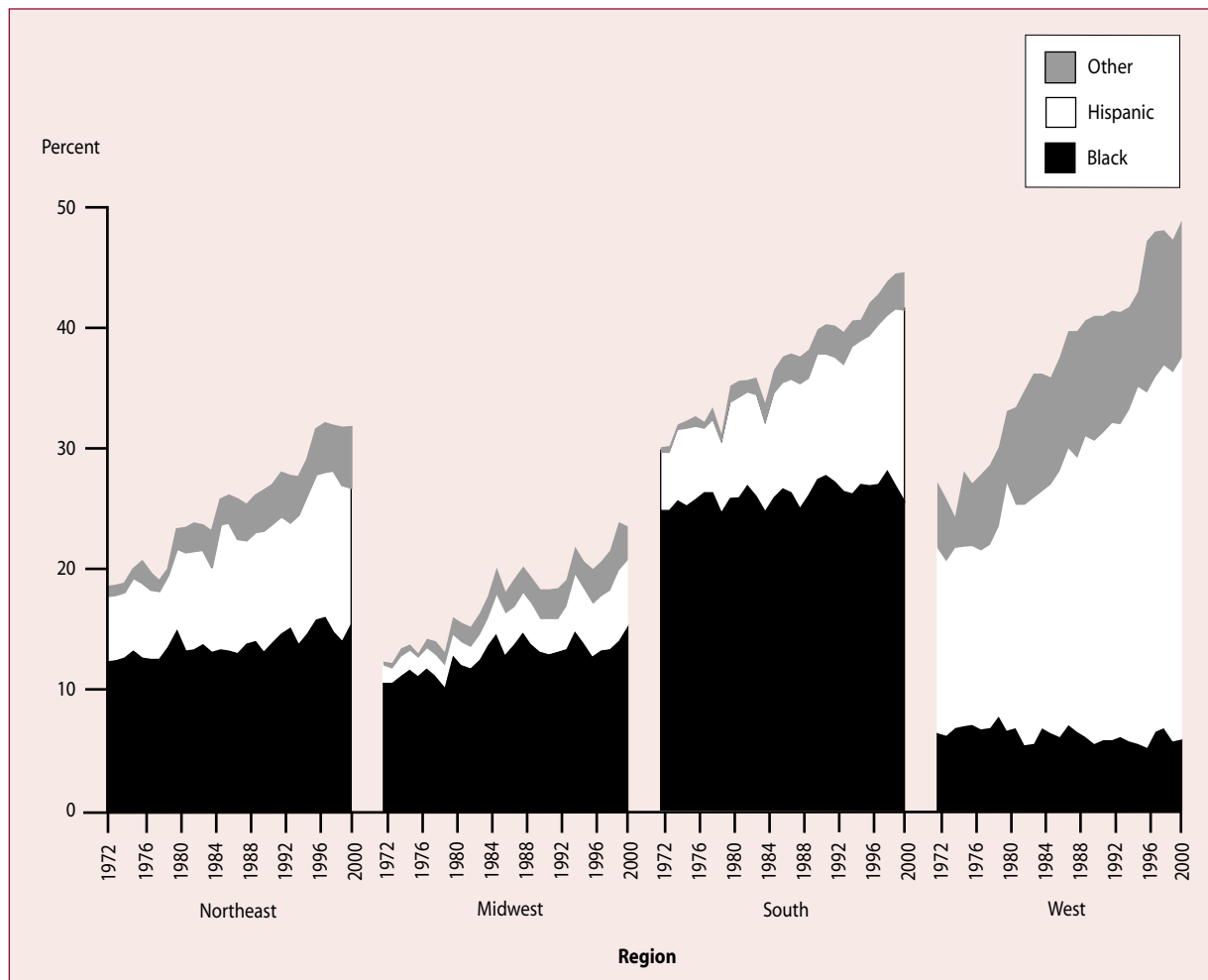
- Graduate and first-professional enrollments grew rapidly during the 1970s, slowed or declined in the 1980s, and then began to increase again in the 1990s.

### Learner Outcomes

At the elementary and secondary levels, students are performing better in some areas, but their performance has not changed or has declined in others. Students' performance in mathematics has improved somewhat over the past decade. Students' reading performance, on the other hand, remains unchanged. In addition, issues of equal educational opportunity and international competitiveness remain.

- Fourth-grade reading performance did not change significantly between 1992 and 2000. In each assessment year, female students scored higher than their male peers.

Figure A.—Percentage of public school students enrolled in grades K–12 who were minorities, by region: October 1972–2000



SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October 1972–2000. (Originally published on p.45 of the complete report from which this article is excerpted.)

- The average reading scores of White students are higher than those of Black students at ages 9, 13, and 17. While differences in performance decreased between the early 1970s and the late 1980s, the gaps have remained relatively stable or increased slightly since then.
- U.S. 15-year-olds performed at the international average of 27 Organization for Economic Cooperation and Development (OECD) countries in reading literacy in 2000, scoring below the average of 3 countries (Canada, Finland, and New Zealand) and above the average of 4 OECD countries (Greece, Portugal, Luxembourg, and Mexico) (figure B).
- The mathematics performance of 4th- and 8th-graders increased steadily from 1990 to 2000, while the performance of 12th-graders increased from 1990 to 1996 but then declined between 1996 and 2000.
- Compared with students in low-poverty public schools, students in high-poverty public schools had lower achievement scores in 4th-grade mathematics in 2000 (figure C).
- The scores of both 4th- and 8th-graders in science did not change significantly between 1996 and 2000, while 12th-graders' scores declined slightly.
- In 1999, U.S. 8th-graders exceeded the international average of 38 countries in mathematics and science, but performed lower than their peers in 14 countries.
- In 1999, U.S. 9th-graders scored significantly higher than the international average of 28 countries in overall civic knowledge and outperformed students in all other participating countries in civic skills.
- The better educated a person is, the more likely that person is to report being in "very good" or "excellent" health, regardless of income.
- The median earnings of young adults with at least a bachelor's degree increased over the past 20 years relative to their counterparts who have no more than a high school diploma.

### Student Effort and Educational Progress

The effort students devote to their studies and the choices they make as they proceed through the educational system contribute to their academic success. Students' attendance, interest, and attention to their studies affect how well they perform at each level and their access to and success at the next level.

- More than half of students in the 8th, 10th, and 12th grades missed 1 or more days of school in a 4-week period in spring 2000 due to illness, skipping school,

Figure B.—Average reading literacy score of 15-year-olds, by country: 2000

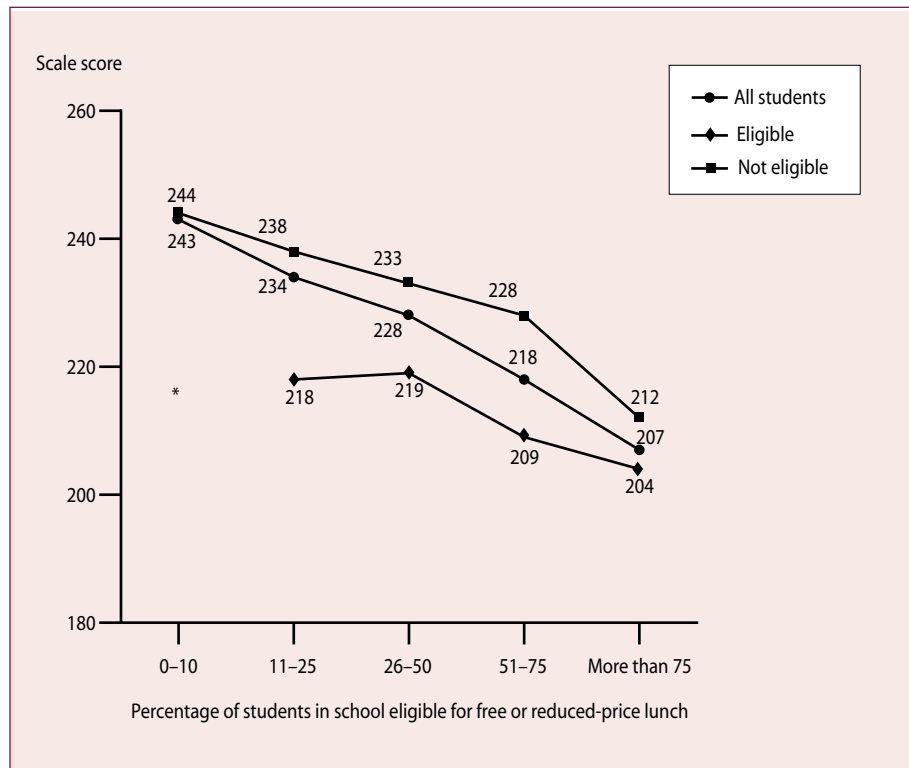
Average score relative to the United States	Country and score						
Significantly higher	Finland	546	Canada	534	New Zealand	529	
Not significantly different	Australia	528	Iceland	507	Spain	493	
	Ireland	527	France	505	Czech Republic	492	
	Korea, Republic of	525	Norway	505	Italy	487	
	United Kingdom	523	<b>United States</b>	504	Germany	484	
	Japan	522	<i>International average</i> <sup>1</sup>	500	Liechtenstein <sup>2</sup>	483	
	Sweden	516	Denmark	497	Hungary	480	
	Austria	507	Switzerland	494	Poland	479	
	Belgium	507					
	Significantly lower	Greece	474	Latvia <sup>2</sup>	458	Mexico	422
		Portugal	470	Luxembourg	441	Brazil <sup>2</sup>	396
	Russian Federation <sup>2</sup>	462					

<sup>1</sup>The international average is the average of Organization for Economic Cooperation and Development (OECD) countries only and thus excludes Brazil, Latvia, Liechtenstein, and the Russian Federation.

<sup>2</sup>Non-OECD country.

SOURCE: U.S. Department of Education, National Center for Education Statistics (2001). *Outcomes of Learning: Results From the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* (NCES 2002-115). (Previously published on p. 56 of the complete report from which this article is excerpted.)

**Figure C.—Average scale score of public school students in 4th-grade mathematics, by the percentage of students in the school eligible for free or reduced-price lunch and whether the student was eligible for free or reduced-price lunch: 2000**



\*For the eligible student category, there were too few sample cases for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), unpublished data provided by the Educational Testing Service, 2000. (Originally published on p. 58 of the complete report from which this article is excerpted.)

or other reasons. Moreover, about 13–14 percent of 8th- and 10th-graders were absent more than 5 days—or one-fourth of all school days—in this period.

- Over the past two decades, 12th-graders have reported a declining interest in school, while the effort they apply to their schoolwork has generally shown no measurable change over the past decade.
- One indicator of the failure to persist in school is the “status dropout rate” (i.e., the percentage of young people who have not completed high school and are not enrolled in school). Status dropout rates for Whites and Blacks ages 16–24 have declined since 1972, but have remained relatively stable since the early 1990s. The rates for Hispanic youths have not decreased and remain higher than those for other racial/ethnic groups.
- Rates of immediate college enrollment upon completing high school have increased since 1972. Rates of

immediate enrollment for females have increased faster than those for males.

- College enrollment rates of high school graduates vary with family income, but among those who were college qualified and took the steps necessary for admission, low-income students were as likely as middle-income students to enroll in a 4-year institution.
- About one-third of young people at risk for low educational attainment enrolled in a 4-year college within 2 years of their high school graduation despite being at risk.
- Rigorous academic preparation in high school narrowed the gap in postsecondary persistence between students whose parents did not go to college and their peers who have at least one parent with a bachelor’s degree.
- Among low- and middle-income students at public 2- and 4-year postsecondary institutions, recipients

of Pell Grants persisted at the same rate as non-recipients despite being less prepared academically and more likely to have certain risk factors.

- The percentages of 25- to 29-year-olds who have completed high school, some college, or a bachelor's degree or higher have increased since 1971, but disparities in attainment among racial/ethnic groups remain.

## Contexts of Elementary and Secondary Education

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

- The percentage of high school graduates who completed advanced coursework in science and mathematics in high school increased between 1982 and 1998.
- Asian/Pacific Islanders and Whites completed advanced levels of science and mathematics coursework in high school at higher rates than did their peers in other racial/ethnic groups. Private school graduates also completed such coursework at higher rates than did public school graduates.
- The rates at which students of almost all disability types are being served in regular classrooms have increased over the past decade.
- Both the proportion of children enrolled in public schools chosen by their parents and the proportion enrolled in private, not church-related schools increased between 1993 and 1999. Differences in parental choice of schools are related to race/ethnicity, household income, and region. The percentage of children in grades 3–12 with parents who reported they were “very satisfied” with their children's school decreased from 56 percent in 1993 to 53 percent in 1999.
- In 2000–01, there were 1,993 public charter schools. Public charter schools were more likely than traditional public schools to be located in urban settings, to enroll a higher proportion of Black and Hispanic students, and to employ teachers with fewer years of teaching experience.
- College students with low college entrance examination scores are more likely than students with high scores to prepare to become teachers and to become teachers upon graduation. They are also more likely than their high-scoring peers to remain in the teaching profession.
- About half of secondary school teachers majored in an academic subject, and about 4 out of 10 majored in an academic subject area in education.
- Teachers who participated in more than 8 hours per year of professional development activity in a single area of development were more likely than teachers who participated in 1–8 hours to report that the activity improved their teaching “a lot.” However, most teachers participated in such an activity only 1–8 hours.
- Victimization affects all types of students. However, students who reported gangs or guns at their schools were more likely to report victimization than students who did not report these conditions.

## Special Focus on Private Schools

One of this year's special analyses (*Private Schools: A Brief Portrait*) examines private schools, how they differ by type, and how they differ from public schools. Comparisons between the public and private sectors—and within the private sector—of elementary, secondary, and combined schools suggest that these schools vary greatly in their size, composition, climate, and goals. In 1999–2000, private schools accounted for 24 percent of all K–12 schools, 10 percent of all students, and 12 percent of all full-time-equivalent teachers. Private schools have maintained their share of total school enrollments throughout recent decades at roughly 10–11 percent.

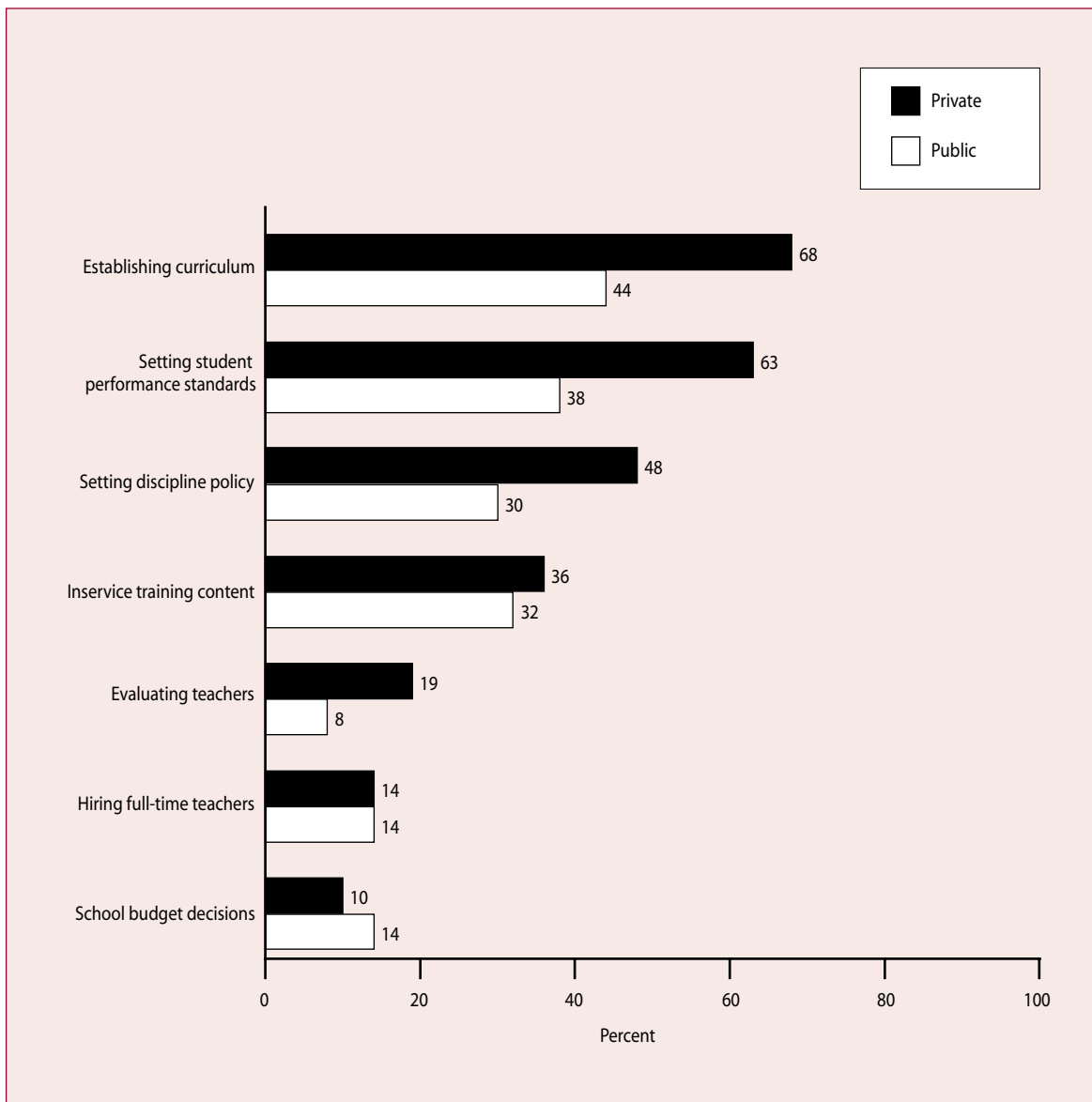
- Private schools are smaller and the sector as a whole has lower proportions of Black and Hispanic students than the public school sector. The proportion of Asian/Pacific Islander students in the public sector is not measurably different from that in the private sector. Catholic schools tend to be larger and to enroll more minority students than other private schools.
- Principals at the three main types of private schools (Catholic, other religious, and nonsectarian) differed in their top priorities for their school; overall, however, private school principals most often included academic excellence and religious development, as well as basic literacy skills in core areas like reading and mathematics, and self-discipline. Public school principals most often cited basic literacy skills and academic excellence, as well as self-discipline.

Teachers in private schools reported that they have wide latitude in deciding how and what to teach, as well as a fairly strong influence on many school policies (figure D). Nonsectarian schools, in particular, may give teachers considerable authority to shape their course content and materials. In contrast to their counterparts in public schools, the majority of teachers in the three types of private schools—

particularly teachers in non-Catholic religious schools—strongly agreed with positive statements about staff cooperation and school management.

Private high schools require more academic courses for graduation, and their graduates are more likely than graduates of public schools to have completed advanced courses in mathematics, science, and foreign language.

**Figure D.—Percentage of teachers who thought they had a lot of influence on various school policies, by sector: 1999–2000**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public, Charter, and Private Teacher Questionnaires,” 1999–2000. (Originally published as figure 5 on p. 13 of the complete report from which this article is excerpted.)

- Private school students also score higher, on average, on achievement tests in reading, mathematics, and science than do their public school counterparts.
- Students who attended private schools in the 8th grade in 1988 were twice as likely as those who attended public schools to have completed a bachelor's degree or higher by their mid-20s.

### 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. The diversity of the undergraduate and graduate populations, the various educational missions and learning environments of colleges and universities, the courses that students take, and the ways in which colleges and universities use faculty and other resources all are important aspects of the contexts of postsecondary education.

- Undergraduates are diverse in their demographic, enrollment, and employment characteristics. Minority students represented nearly a third of all undergraduates in 1999–2000, up from about a quarter in 1989–90. The percentage of students working full time during the school year rose 7 percentage points during this period, and the percentage not working rose 2 points.
- Undergraduates who worked but identified themselves primarily as students were more likely to report that working negatively affected their academic performance as the number of hours worked per week increased.
- Despite the proliferation of distance education offerings during the 1990s, only 8 percent of undergraduates and 12 percent of master's students enrolled in these classes in 1999–2000.
- Over the past decade, the number of associate's degrees awarded has increased at a faster rate than the number of bachelor's degrees.
- During the 1990s, women advanced in their status as faculty members in several areas, including salary. At the end of the decade, however, a gap in salary between male and female faculty remained.

### Special Focus on Nontraditional Undergraduates

A second special analysis this year (*Nontraditional Undergraduates*) examines the undergraduate enrollment of students who have characteristics not traditionally associated with undergraduates. The undergraduate population today is quite different than it was over a generation ago in 1970. Indeed, the “traditional” postsecondary student—one who is dependent, attends full time until completing a bachelor's degree, and works no more than part time while enrolled—is no longer typical.

- Fully three-quarters of all undergraduates in 1999–2000 had at least one “nontraditional” characteristic (i.e., they delayed their enrollment in postsecondary education, attended part time for at least part of the academic year, worked full time while enrolled, were considered financially independent for purposes of determining financial aid eligibility, had dependents other than a spouse, were single parents, or did not have a high school diploma) (table A).
- The most highly nontraditional students (those with four or more nontraditional characteristics) were concentrated in public 2-year institutions, with about two-thirds enrolled in such institutions.
- Two-thirds of highly nontraditional students perceived their primary role to be that of an employee, suggesting that school did not have first claim on their time and energy. Among highly nontraditional students who considered themselves primarily students, many found that work limited their class and scheduling options.
- Among beginning postsecondary students seeking associate's and bachelor's degrees, those with any nontraditional characteristics were more likely than traditional students to leave without earning a degree. They were at greater risk than traditional students of dropping out in their first year.

### Societal Support for Learning

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

**Table A.—Percentage of all undergraduates with each nontraditional characteristic, by type of institution, and percentage of nontraditional undergraduates with each nontraditional characteristic, by nontraditional characteristic and status: 1999–2000**

Type of institution, non-traditional characteristic, and nontraditional status	Financially independent	Attended part time	Delayed enrollment	Worked full time	Had dependents	Single parent	No high school diploma*
<b>All undergraduates</b>							
Total	50.9	47.9	45.5	39.3	26.9	13.3	6.5
Type of institution							
Public 2-year	63.7	69.5	58.7	53.8	34.5	16.4	9.8
Public 4-year	37.6	33.3	31.5	25.5	17.6	9.2	2.4
Private not-for-profit 4-year	36.7	27.6	34.0	28.5	18.8	8.6	3.2
Private for-profit	72.9	21.5	67.8	40.8	44.3	26.6	15.6
<b>Nontraditional undergraduates</b>							
Nontraditional characteristic							
Any nontraditional characteristic	67.8	63.8	60.9	54.0	35.8	17.7	8.7
Financially independent	100	66.2	66.4	57.3	52.8	26.1	10.1
Attended part time	70.3	100	58.8	62.0	36.2	15.7	8.0
Delayed enrollment	74.1	61.7	100	52.0	39.7	19.6	9.2
Worked full time	72.0	73.3	48.4	100	40.7	16.6	7.1
Had dependents	100	64.5	67.6	58.2	100	49.4	11.6
Single parent	100	56.6	68.0	55.4	100	100	14.1
No high school diploma	78.7	58.6	76.1	46.2	47.6	28.7	100
Nontraditional status							
Minimally nontraditional	15.2	36.2	22.8	22.8	0	0	2.2
Moderately nontraditional	68.0	63.8	42.2	51.5	18.7	3.8	5.2
Highly nontraditional	99.4	80.4	76.3	75.0	79.6	38.6	15.1

\*Student did not finish high school or completed with a GED or certificate of completion.

NOTE: Total row and nontraditional characteristic and status rows include students at types of institutions not shown here. Students may appear in more than one column. Percentages in the “minimally nontraditional” row (only one nontraditional characteristic) do not sum to 100.0 because of rounding. “Moderately nontraditional” means having two or three nontraditional characteristics, and “highly nontraditional” means having four or more such characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

- In 1999, half of all children in grades 3–12 had parents who reported that they were “very satisfied” with their child’s school, their child’s teachers, the school’s academic standards, and the school’s order and discipline.
- In 1998, U.S. expenditures on primary and secondary education ranked high compared with the expenditures of other countries. U.S. spending on postsecondary education ranked highest among advanced industrialized countries.
- At the elementary and secondary levels, public revenue raised for education per student has increased since the mid-1970s, while total public revenue expended for education as a percentage of total personal income has generally decreased. At the postsecondary level, public revenue per student has fluctuated within a narrow band since the mid-1970s, while total public revenue as a percentage of total personal income has generally declined.
- Traditional differences in the proportion of local funding to state and federal funding generally persist across the United States, though a substantial decrease in local funding occurred in the Midwest, where local funding dropped from 55 percent in 1993–94 to 48 percent in 1994–95. This decrease was offset by a large increase in state funding.
- The “net price” of college attendance—the amount that students pay with their own or borrowed funds after taking grants received into account—varies by the type of institution that students attend and by family income. In 1999–2000, the average net price of college attendance ranged from \$7,600 at public 2-year institutions to \$17,800 at private not-for-profit 4-year institutions.

## Conclusion

Trends in the condition of American education show a mixed picture. While high school graduates have increased their enrollment in more advanced courses since the early



1980s, the performance of 12th-graders in mathematics and science has stagnated in recent years. International comparisons suggest that U.S. 9th-graders have relatively good civic knowledge, and even better civic skills, but that the reading literacy scores of U.S. 15-year-olds are similar to the international average among advanced industrialized countries. International comparisons in mathematics and science also show mixed results, with U.S. 8th-graders performing above the international average of 38 countries but below the average of their counterparts in 14 countries.

In addition, gaps persist in academic performance and educational participation among different racial/ethnic groups, socioeconomic groups, and school sectors. The gaps between the average reading scores of White and Black students ages 9, 13, and 17 have remained stable or increased since the late 1980s. In mathematics, high poverty levels in schools are associated with low student achievement in the 4th grade. While the percentages of dropouts in the population of White and Black young adults have declined, the percentage for Hispanics has remained higher than that of other groups and remains high. Finally, private school students in general scored higher than public school students in reading, mathematics, and science.

A growing and increasingly diverse population of elementary and secondary students continues to heighten the challenge of providing high-quality instruction and equal educational opportunities. In addition, school absence

among middle and high school students and the declining academic interest of high school seniors are just a few of the challenges that educators face. At the postsecondary level, institutions must prepare for the record numbers of enrollments expected over the next decades.

NCES produces an array of reports each month on findings about the U.S. education system. *The Condition of Education* represents the culmination of a yearlong project. In the coming months, many other reports and surveys informing us about education will be released, including studies of elementary and secondary school staffing, the participation of children in before- and after-school programs, a follow-up look at the status of the 8th-grade class of 1988 14 years later, school crime, early childhood education, full- and half-day kindergarten, children's computer use at home and at school, and adult learning. As with the indicators presented 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:

National Center for Education Statistics. (2002). *The Condition of Education: 2002* (NCES 2002-025).

**For questions about content,** contact John Wirt ([john.wirt@ed.gov](mailto:john.wirt@ed.gov)).

**To obtain the complete report (NCES 2002-025),** 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).

# Projections to 2012

## Projections of Education Statistics to 2012

Debra E. Gerald and William J. Hussar

*This article was originally published as the Foreword and Highlights of the Compendium report of the same name. The universe and sample survey data are from many sources, both government and private, which are listed at the end of this article.*

### Introduction

*Projections of Education Statistics to 2012* is the 31st report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2011* (Gerald and Hussar 2001) and includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections of enrollments and graduates to the year 2012. Projections of teachers and expenditures are not included in this edition, but they are available in *Projections of Education Statistics to 2011*.

In addition to projections at the national level, the report includes projections of public elementary and secondary school enrollment and public high school graduates to the year 2012 at the state level. These projections were produced by the National Center for Education Statistics (NCES) to provide researchers, policy analysts, and others with state-level projections developed using a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

### Methodology

Assumptions regarding the population and the economy are the key factors underlying the projections of education statistics. The projections do not reflect changes in national, state, or local education policies that may affect enrollment levels.

The full report contains a methodology section describing models and assumptions used to develop the national and state-level projections. The enrollment models use enrollment data and population estimates and projections from NCES and the U.S. Census Bureau. The models are based on the mathematical projection of past data patterns into the future. The models also use projections of economic variables from the company DRI-WEFA, Inc., an economic forecasting service.

The population projections are not based on the 2000 census data. Projections of national population data based on the 2000 census are not scheduled for release until fall 2002. The projections presented in this report reflect revisions influenced by the 1990 census, incorporation of the 2000 estimates, and the latest assumptions for the

fertility rate, internal migration, net immigration, and the mortality rate.

Most of the projections of education statistics include three alternatives, based on different assumptions about demographic and economic growth paths. Although the first alternative set of projections (middle alternative) in each table is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes.

### Summary information

Highlights of projected changes in key education statistics are presented below. A convenient summary of the projections in this report is available in a pocket-sized booklet, *Pocket Projections: Projections of Education Statistics to 2012* (Hussar and Gerald 2002).

### Highlights of Changes Between 2000 and 2012

#### Public and private elementary and secondary enrollment—1 percent increase

Total public and private elementary and secondary enrollment is projected to increase from 53.2 million in 2000 to 53.9 million in 2005 (table A). Then total enrollment is projected to decrease to 53.5 million in 2010, followed by an increase to 53.7 million in 2012, resulting in an overall increase of 1 percent from 2000.

#### Public and private K–8 enrollment—less than 1 percent decrease

Total public and private K–8 enrollment is projected to remain around 38.4 million between 2000 and 2002 (table A). Then total K–8 enrollment is projected to decrease to 37.7 million in 2008, followed by an increase to 38.3 million in 2012, resulting in an overall decrease of less than 1 percent from 2000.

#### Public and private 9–12 enrollment—4 percent increase

Total public and private 9–12 enrollment is projected to increase from 14.8 million in 2000 to 16.1 million in 2007 (table A). Then total 9–12 enrollment is projected to decrease to 15.4 million in 2012, resulting in an overall increase of 4 percent from 2000.

**Table A.—Enrollment in grades K-8 and 9-12 of elementary and secondary schools, by control of institution, with projections: Fall 1987 to fall 2012**

(In thousands)

Year	Total			Public			Private		
	K-12 <sup>1</sup>	K-8 <sup>1</sup>	9-12	K-12 <sup>1</sup>	K-8 <sup>1</sup>	9-12	K-12 <sup>1</sup>	K-8 <sup>1</sup>	9-12
1987 <sup>2</sup>	45,487	32,165	13,323	40,008	27,933	12,076	5,479	4,232	1,247
1988 <sup>2</sup>	45,430	32,537	12,893	40,188	28,501	11,687	5,242	4,036	1,206
1989 <sup>3</sup>	45,741	33,187	12,554	40,543	29,152	11,390	5,198	4,035	1,163
1990 <sup>4</sup>	46,451	33,962	12,488	41,217	29,878	11,338	5,234	4,084	1,150
1991 <sup>3</sup>	47,322	34,619	12,703	42,047	30,506	11,541	5,275	4,113	1,162
1992 <sup>4</sup>	48,145	35,264	12,882	42,823	31,088	11,735	5,322	4,175	1,147
1993 <sup>3</sup>	48,813	35,719	13,093	43,465	31,504	11,961	5,348	4,215	1,132
1994 <sup>4</sup>	49,609	36,233	13,376	44,111	31,898	12,213	5,498	4,335	1,163
1995 <sup>3</sup>	50,502	36,806	13,697	44,840	32,341	12,500	5,662	4,465	1,197
1996 <sup>4</sup>	51,375	37,316	14,060	45,611	32,764	12,847	5,764	4,551	1,213
1997 <sup>3</sup>	51,968	37,696	14,272	46,127	33,073	13,054	5,841	4,623	1,218
1998 <sup>4</sup>	52,476	38,048	14,427	46,539	33,346	13,193	5,937	4,702	1,235
1999 <sup>3</sup>	52,875	38,254	14,623	46,857	33,489	13,369	6,018	4,765	1,254
2000 <sup>4</sup>	53,167	38,387	14,780	47,223	33,709	13,514	5,944	4,678	1,266
<b>Projected</b>									
2001	53,369	38,414	14,954	47,424	33,746	13,678	5,944	4,668	1,276
2002	53,566	38,416	15,150	47,613	33,756	13,857	5,953	4,660	1,292
2003	53,700	38,320	15,380	47,746	33,677	14,069	5,954	4,644	1,310
2004	53,800	38,120	15,680	47,846	33,500	14,346	5,954	4,620	1,334
2005	53,866	37,917	15,948	47,912	33,315	14,597	5,954	4,603	1,351
2006	53,862	37,765	16,097	47,912	33,174	14,739	5,950	4,592	1,358
2007	53,789	37,666	16,123	47,847	33,078	14,768	5,942	4,588	1,355
2008	53,652	37,661	15,991	47,719	33,069	14,649	5,933	4,592	1,341
2009	53,538	37,726	15,812	47,607	33,122	14,485	5,931	4,604	1,327
2010	53,498	37,869	15,629	47,561	33,244	14,317	5,937	4,625	1,313
2011	53,538	38,039	15,500	47,586	33,389	14,197	5,952	4,649	1,303
2012	53,692	38,258	15,434	47,715	33,578	14,137	5,977	4,680	1,297

<sup>1</sup>Includes most kindergarten and some nursery school enrollment.

<sup>2</sup>Private school numbers are interpolated based on data from the 1985 Private School Survey.

<sup>3</sup>Private school numbers are from the Private School Universe Survey.

<sup>4</sup>Private school numbers are interpolated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics: *Key Statistics on Public Elementary and Secondary Schools*; Common Core of Data (CCD) surveys; 1985 Private School Survey; Private School Universe Survey (PSS), various years; and National Elementary and Secondary Enrollment Model. (Originally published as table 1 on p.12 of the complete report from which this article is excerpted.)

### Public school enrollment in grades 10, 11, and 12—more than 4 percent increase

Between 2000 and 2012, public school enrollment in grade 10 is projected to increase by 4 percent. Over the same period, enrollments in grades 11 and 12 are expected to increase 5 and 8 percent, respectively.

### Public school enrollment in grades 1, 8, and 9—less than 4 percent increase

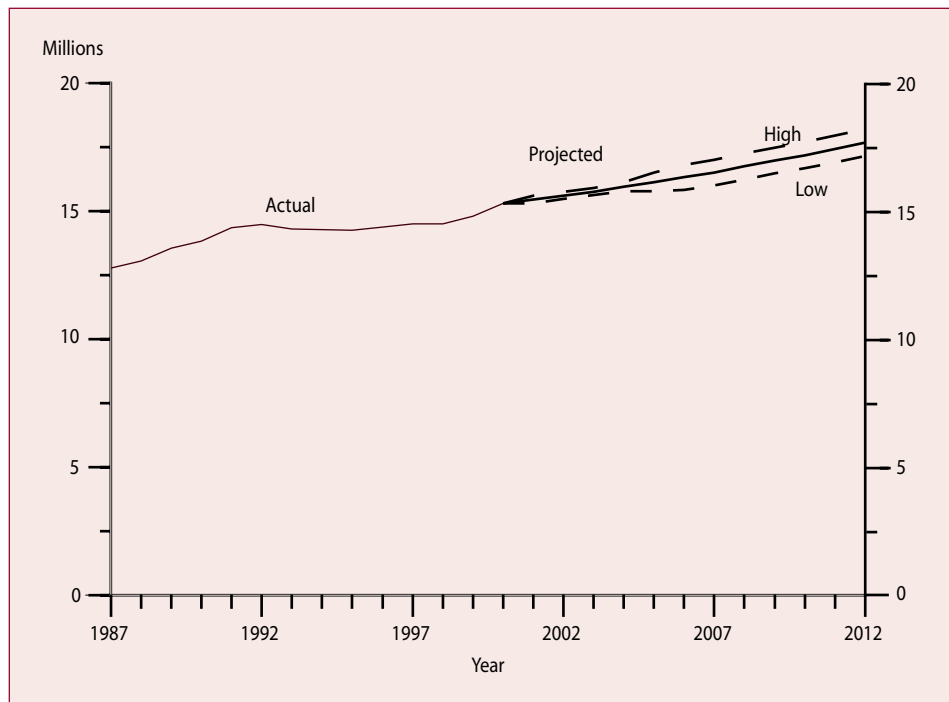
Between 2000 and 2012, public school enrollment in grade 1 is projected to increase 2 percent. Over the same period, enrollments in grades 8 and 9 are projected to increase 2 and 3 percent, respectively.

### Public school enrollment in the Western region—9 percent increase

Between 2000 and 2012, public elementary and secondary enrollment is projected to increase 9 percent in the West and 1 percent in the South. Over the same period, in the Northeast and Midwest, enrollment is projected to decrease 5 and 4 percent, respectively.

### Enrollment in degree-granting institutions—15 percent increase

Enrollment in degree-granting postsecondary institutions is projected to increase from 15.3 million in 2000 to 17.7 million by 2012, an increase of 15 percent. A 12 percent increase is projected under the low alternative and a 19 percent increase is projected under the high alternative (figure A).

**Figure A.—Enrollment in degree-granting institutions, with alternative projections: Fall 1987 to fall 2012**

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (Originally published as figure 15 on p. 29 of the complete report from which this article is excerpted.)

### High school graduates—9 percent increase

Graduates from public and private high schools are projected to increase from 2.8 million in 1999–2000 to 3.1 million by 2011–12, an increase of 9 percent. This increase reflects the projected rise in the 18-year-old population.

### Public high school graduates in the Western region—17 percent increase

Between 1999–2000 and 2011–12, the number of public high school graduates is projected to increase 17 percent in the West and 11 percent in the South. Graduates in the Northeast and the Midwest are projected to increase 8 and 1 percent, respectively, over the same period.

### Bachelor's degrees—16 percent increase

The number of bachelor's degrees is expected to increase from 1.2 million in 1999–2000 to 1.4 million by 2011–12, an increase of 16 percent.

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### Data sources:

NCES: Common Core of Data (CCD); Private School Universe Survey (PSS); *Key Statistics on Public Elementary and Secondary Schools*; National Elementary and Secondary Enrollment Model; State Public Elementary and Secondary Enrollment Model; "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS); Enrollment in Degree-Granting Institutions Model; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; *Projections of Education Statistics*, various years; National Elementary and Secondary High School Graduates Model; State Public High School Graduates Model; "Degrees and Other Formal Awards Conferred" surveys; and Earned Degrees Conferred Model.

U.S. Bureau of the Census: *Current Population Reports*; "National Population Estimates," December 2001; and "Annual Projections of Total Resident Population," 1999–2100.

Other: DRI-WEFA, Inc. (an economic forecasting service).

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

Gerald, D.E., and Hussar, W.J. (2002). *Projections of Education Statistics to 2012* (NCES 2002–030).

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**To obtain the complete report (NCES 2002–030)**, 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).

Beginning Postsecondary Students Longitudinal Study: 1996–2001 (BPS:1996/2001) Methodology Report <i>Jennifer S. Wine, Ruth E. Heuer, Sara C. Wheelless, Talbric L. Francis, Jeff W. Franklin, and Kristin M. Dudley</i> .....	147
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## BPS:1996/2001

### Beginning Postsecondary Students Longitudinal Study: 1996–2001 (BPS:1996/2001) Methodology Report

*Jennifer S. Wine, Ruth E. Heuer, Sara C. Wheelless, Talbric L. Francis,  
Jeff W. Franklin, and Kristin M. Dudley*

*This article was originally published as the Executive Summary of the Technical Report of the same name. The sample survey data are from the NCES Beginning Postsecondary Students Longitudinal Study (BPS).*

#### Introduction

The 1996 Beginning Postsecondary Students Longitudinal Study (BPS:96), sponsored by the National Center for Education Statistics (NCES) in the U.S. Department of Education, follows a cohort of students who started their postsecondary education during the 1995–96 academic year. These students were first interviewed during 1996 as part of the 1995–96 National Postsecondary Student Aid Study (NPSAS:96). In 1998, 2 academic years after the cohort's entry into postsecondary education, the first follow-up interview (BPS:96/98) was conducted. BPS:1996/2001 is the second and final follow-up interview with the BPS:96 cohort. This interview, which took place in 2001, focused on persistence and attainment among students

enrolled in 4-year institutions and employment among students no longer enrolled. This report describes the procedures and results of the full-scale implementation of BPS:1996/2001.

#### Sample Design

The respondent universe for the BPS:96/98 and BPS:1996/2001 interviews consisted of all students who began their postsecondary education for the first time during the 1995–96 academic year at any postsecondary institution in the United States or Puerto Rico. The students sampled were first-time beginning postsecondary students who attended postsecondary institutions eligible for inclusion in NPSAS:96 and who were themselves eligible for NPSAS:96.

All BPS:1996/2001 sample members had completed either the NPSAS:96 interview, the BPS:96/98 interview, or both interviews. At the beginning of BPS:96/98, over 12,400 students had been identified as potentially both eligible for NPSAS:96 and first-time beginners (i.e., eligible for the BPS interviews). Of those students, about 10,350 were located and completed a BPS:96/98 interview, with almost 10,300 of them determined to be both NPSAS and BPS eligible. The majority of the BPS:1996/2001 sample consisted of these BPS:96/98 respondents. However, the BPS:96/98 respondents were supplemented by a subsample of about 100 BPS:96/98 nonrespondents. The BPS:1996/2001 sample was representative of the students who first began post-secondary education in 1995–96.

### Instrumentation

All sample members were eligible for participation in BPS:1996/2001, having had their eligibility determined as part of either the NPSAS:96 or the BPS:96/98 interview. Consequently, the BPS:1996/2001 interview focused exclusively on activities since the last interview. The first section of the instrument collected information on postsecondary enrollment and degree attainment. A second section collected information on undergraduate education experiences. A third section, on postbaccalaureate education experiences, was included for those sample members who had completed a bachelor's degree since the last interview. A fourth section collected extensive employment information for the current job if no degree had been earned since the last interview. For those who had earned a degree, employment information was collected for the current job and for the first job held after degree completion, if different. The final section updated the sample members' family, financial, and disability status and their civic participation since the last interview.

### Data Collection Design and Outcomes

Interviews were conducted using computer-assisted telephone interviewing (CATI). Cases for sample members for whom no locating information was available were sent directly to a specialized tracing unit for intensive tracing. The tracing unit was also used for intensive tracing once all contact information for sample members was exhausted during attempts to conduct the telephone interview.

In addition to telephone interviewing and intensive tracing, field locating and interviewing were available for certain cases that fell into any one of 30 geographic clusters developed according to the Zip Code of the last known address for the sample member. Potential field cases were

those in which CATI and intensive tracing failed to locate sample members or in which sample members initially refused to participate in the interview. Computer-assisted personal interviewing (CAPI) software was available on laptop computers for field interviewing.

### Training

Training programs on successful locating and interviewing were developed for telephone and field staff. Topics covered administrative procedures required for case management; quality control; locating; interactions with sample members, parents, and other contacts; the nature of the data to be collected; and the organization and operation of the CATI and CAPI programs used for data collection. Tracing specialists received an abbreviated training specific to the needs of BPS:1996/2001.

### Interviewing

CATI locating and interviewing began at the end of February 2001. Contact information for the BPS:96/98 respondents was loaded into CATI initially, followed by contact information for the BPS:96/98 nonrespondents several weeks after the start of CATI. Field interviewing began about 12 weeks following the start of telephone interviewing.

Of the original starting sample, 21 sample members were found to be deceased since the last interview. The unweighted contact rate among the remaining BPS:1996/2001 sample members was 92 percent. Of those contacted, 96 percent were interviewed, for an overall unweighted response rate of 88 percent.

### Refusal conversion

Important to successful interviewing was the ability of the interviewers to gain the cooperation of sample members, thereby avoiding a refusal. The telephone interviewers included refusal conversion specialists with special training in attempting to convert (interview) sample members who have refused to complete the interview. From the point when a sample member refused, the case was handled only by these conversion specialists. In BPS:1996/2001, 1,860 sample members refused at least once to participate in the interview. Of those, 74 percent were converted and interviewed.

### Field interviewing

Field interviewers were assigned a total of 1,213 cases, covering 30 geographic clusters. Cases were identified for the field for a number of reasons, including inability to

locate in CATI, Puerto Rico residence, refusal in CATI, and exhaustion of locating leads. Only cases located in reasonable geographic proximity to a field interviewer were assigned to the field. Of the 1,213 cases fielded, 80 percent were contacted, and 90 percent of those were interviewed, for an unweighted response rate of 72 percent.

### Nonresponse incentive

Incentives were offered as necessary to targeted sample members in order to encourage participation among sample members who would otherwise not have participated in the interview. Those offered incentives included the BPS:96/98 nonrespondents, a subset of refusal cases, and those who were hard to reach or could not be located. By the end of data collection, 4,106 sample members had been offered incentives and, of those, 72 percent were converted.

### Indeterminate responses

Efforts were made to encourage response to all items in the BPS:1996/2001 interview and to convert indeterminate responses (i.e., “don’t know” and “refusal” responses), especially for those items that historically have had high nonresponse (e.g., income). As a result, item nonresponse was quite low throughout the interview. Only 9 of the 445 CATI items had indeterminate response rates in excess of 10 percent.

### Interview timing

The average administration time for the BPS:1996/2001 interview was 17.8 minutes, over 2 minutes shorter than the first follow-up interview (BPS:96/98). In the 2001 interview, BPS:96/98 nonrespondents took an average of 3.6 minutes longer than BPS:96/98 respondents. This is because the 2001 interview updated enrollment and employment information since the last interview (in 1996 for BPS:96/98 nonrespondents and in 1998 for BPS:96/98 respondents).

### Online coding

The BPS:1996/2001 instrument included systems allowing the interviewer to perform computer-assisted online coding of literal responses for postsecondary institution, major, occupation, and industry. These online coding systems were designed to improve data quality by capitalizing on the availability of the respondent to clarify responses at the time the coding was performed. Only the postsecondary institution coding system—which included only U.S. institutions—resulted in more than 10 percent uncodeable responses, primarily because some sample members attended foreign institutions.

## Analysis Weights

Cross-sectional weights were developed for analyzing the respondents to the BPS:1996/2001 interview. In addition, two longitudinal weights were constructed, one for analyzing the students who participated in all three interviews—NPSAS:96, BPS:96/98, and BPS:1996/2001—and the other for analyzing the students who participated only in NPSAS:96 and BPS:1996/2001. Variances were computed using the Taylor Series and balanced repeated replications (BRR) techniques. Weighted response rates and survey design effect tables are provided in the complete report.

## Data Files

Because BPS:1996/2001 was the third of three interviews, the BPS:1996/2001 data set includes the derived variable and interview files for all three interviews. Also included are data collected from institution records, government databases, and admission test vendors throughout the period covered by the NPSAS:96 interview through the BPS:1996/2001 interview.

## Products

In addition to the methodology report, NCES plans to release the following major products for BPS:1996/2001: a public-use Data Analysis System (DAS), restricted-use research files with an associated electronic codebook (ECB), and a descriptive summary of significant findings with an essay on the persistence and attainment of students at 4-year institutions. The DAS, containing derived variables and associated documentation, will enable users to specify and create numerous tables. Restricted-use files will be available to those researchers who need raw data not included in the DAS and who have applied for and received authorization from NCES. The descriptive summary, as the first NCES report based on this data set, will discuss major findings on persistence and attainment and present additional descriptive statistics in a table compendium.

**Data source:** The NCES 1996/2001 Beginning Postsecondary Students Longitudinal Study (BPS:1996/2001).

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

Wine, J.S., Heuer, R.E., Wheelless, S.C., Francis, T.L., Franklin, J.W., and Dudley, K.M. (2002). *Beginning Postsecondary Students Longitudinal Study: 1996–2001 (BPS:1996/2001) Methodology Report* (NCES 2002–171).

**Author affiliations:** J.S. Wine, R.E. Heuer, S.C. Wheelless, T.L. Francis, J.W. Franklin, and K.M. Dudley, Research Triangle Institute.

**For questions about content,** contact Paula R. Knepper (paula.knepper@ed.gov).

**To obtain the complete report (NCES 2002–171),** call the toll-free ED Pubs number (877–433–7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## NSOPF:99

# 1999 National Study of Postsecondary Faculty (NSOPF:99) Methodology Report

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*This article was originally published as the Executive Summary of the Technical Report of the same name. The sample survey data are from the NCES National Study of Postsecondary Faculty (NSOPF).*

## Introduction

The 1999 National Study of Postsecondary Faculty (NSOPF:99) serves a continuing need for data on faculty and other instructional staff,<sup>1</sup> all of whom directly affect the quality of education in postsecondary institutions. Faculty determine curriculum content, performance standards for students, and the quality of students' preparation for careers. In addition, faculty perform research and development work upon which the nation's technological and economic advancement depend. For these reasons, it is essential to understand who they are; what they do; and whether, how, and why the nation's faculty are changing.

## Target Population and Sample Design

NSOPF:99 utilized a sample of 960 institutions and 28,576 full- and part-time faculty employed at these institutions. The sample was designed to allow detailed comparisons and high levels of precision at both the institution and faculty levels. The sampled institutions represent all public and private not-for-profit Title IV-participating, degree-granting institutions in the 50 states and the District of Columbia.

Both the sample of institutions and the sample of faculty were stratified, systematic samples. The institution sample was stratified by Carnegie classifications that were aggregated into fewer categories. The faculty sample was stratified by gender and race/ethnicity.

The sample for NSOPF:99 was selected in three stages. In the initial stage, 960 postsecondary institutions were selected from the 1997–98 Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics (IC) data files and the 1997 and 1995 IPEDS Fall Staff files.<sup>2</sup> Each sampled institution was asked to provide a list of all of the full- and part-time faculty that the institution employed during the 1998 fall term, and 819 institutions provided such a list.

<sup>1</sup>In the interest of brevity, this report uses the term "faculty" interchangeably with "faculty and other instructional staff."

<sup>2</sup>Information about IPEDS, as well as data and publications, can be found on the Internet at <http://nces.ed.gov/ipeds/>.

In the second stage of sampling, 28,576 faculty were selected from the lists provided by the institutions. Over 1,500 of these sample members were determined to be ineligible for NSOPF:99, as they were not employed by the sampled institution during the 1998 fall term, resulting in a sample of 27,044 faculty.

A third stage of sampling occurred in the final phases of data collection. In order to increase the response rate, a subsample of the faculty who had not responded was selected for intensive follow-up efforts. Others who had not responded were eliminated from the sample, resulting in a final sample of 19,213 eligible faculty.

## Data Collection Design and Outcomes

NSOPF:99 involved a multistage effort to collect data from sampled faculty. At the same time that institutions were asked to provide a list of all their faculty and instructional staff (as described above), they were also asked to complete a questionnaire about their policies regarding tenure, benefits, and other policies. Counts of full-time and part-time faculty were also requested on the questionnaire. Prior to sampling faculty from the lists provided by the institutions, counts of faculty on the lists were compared with counts on the questionnaires. If no questionnaire data were provided, the list counts were compared to the prior year's IPEDS data. If a discrepancy of more than 5 percent existed, intensive follow-up was conducted to rectify the inconsistency. Once an institution's list was determined to be accurate and complete, faculty were sampled from the list and were invited to participate in the study. Intensive locating was performed to ensure that an updated home or campus address was available for each sample member.

## Institution data collection

Institutional recruitment began in September 1998 when the Chief Administrative Officer (CAO) for each sampled institution was asked to designate an institution coordinator, who would be responsible for providing both the list of faculty and the institution questionnaire. The institution coordinator was then mailed a complete data collection packet, including both the institution questionnaire and



instructions for compiling the list of faculty. The coordinator had the option of completing the questionnaire via the Internet or returning a paper questionnaire. The list of faculty could be provided in any format; institutions were encouraged to provide the list in an electronic format, if possible. Follow-up with coordinators was conducted via telephone, mail, and e-mail. The field period for list and institution questionnaire collection encompassed approximately 54 weeks.

Of the 959 institutions that were determined to be eligible to participate in NSOPF:99, a total of 819 institutions provided lists of their faculty and instructional staff, resulting in an unweighted participation rate of 85.4 percent. A total of 865 institutions returned the institution questionnaire, resulting in an unweighted questionnaire response rate of 90.2 percent.

### Faculty data collection

Because lists of faculty were received on a rolling basis, faculty were sampled in seven waves. Data collection for wave 1 began in February 1999, and data collection for wave 7 began in December 1999. Sampled faculty were given the option of completing a paper questionnaire and returning it by mail or completing the questionnaire via the Internet. Sampled faculty in each wave received a coordinated series of mail, e-mail, and telephone follow-up, including as many as two additional mailings of the questionnaire and six e-mail reminders. Telephone follow-up included telephone prompting to encourage self-administration, followed by computer-assisted telephone interviewing (CATI) for nonresponding faculty.

Of the final sample of 19,213 faculty who were determined to be eligible to participate in NSOPF:99, a total of about 17,600 respondents completed the faculty questionnaire, resulting in a weighted response rate of 83.2 percent. This response rate takes into account the reduction of the active sample through subsampling as described earlier.

### Quality Control

Quality control procedures were implemented for receiving faculty list data and processing it for sampling, monitoring the receipt of completed questionnaires, preparing paper questionnaires for data entry, editing paper questionnaires for overall adequacy and completeness, entering the data, flagging cases with missing or inconsistent data through automated consistency checks, coding responses, checking data entry, and preparing questionnaires, lists, and other documentation for archival storage.

## Data Quality

### Item nonresponse

One measure of data quality is item nonresponse rates. Item nonresponse occurs when a respondent does not complete a questionnaire item. Item nonresponse creates two problems for survey analysts. First, it reduces the sample size and thus increases sampling variance. This happens when respondents must be eliminated from the sample that is used for analyses because they failed to respond to a large percentage of the questionnaire items. As a result, insufficient sample sizes may hinder certain analyses such as subgroup comparisons. Second, item nonresponse may give rise to nonresponse bias. To the extent that the missing data for a particular item differ from the reported data for that item, the reported data are unrepresentative of the survey population. Item nonresponse is also worth examining because it can signal items that respondents had difficulty answering.

Item nonresponse rates were calculated by dividing the total number of responses to a question by the number of respondents eligible to respond to that item ( $n$ ). The standard error of the item nonresponse rate (SE) equals the square root of  $(RATE * (1-RATE)/n)$ . In general, this means that the larger the number of eligible respondents for a particular question and the further the nonresponse rate is from .5, the lower the standard error. Because these estimates were conditional on selection into the sample and do not represent population estimates, for simplicity's sake, the standard errors for item nonresponse rates were modeled as though the sample were a simple random sample. For questions containing multiple subitems, each subitem was counted as a unique question.

The mean item nonresponse rate for the institution questionnaire was 3.4 percent (SE=.004). Overall, the item nonresponse rate for the faculty questionnaire was 6.2 percent. More than half of the items on the faculty questionnaire (55 percent) had an item nonresponse rate of less than 5 percent, 25 percent had rates between 5 and 10 percent, and 20 percent had rates greater than 10 percent.

### Discrepancies in faculty counts

Another measure of data quality is the magnitude of discrepancies in faculty counts on the lists and questionnaires provided by institutions. When institutions provided discrepant data, they tended to provide more faculty on the questionnaire than on the list. As was detected in earlier

rounds of NSOPF, some institutions had difficulty generating lists of part-time faculty. Without discrepancy checks, this can result in serious coverage error, with part-time faculty given less of an opportunity to participate in NSOPF:99. Similarly, earlier cycles of NSOPF indicated that some institutions were less likely to include medical faculty on their lists. Special reminders were inserted into the list collection instructions to encourage institutions to remember to include part-time faculty and medical faculty. In addition, a rigorous check was conducted to ensure the completeness of the faculty lists, with intensive follow-up if needed.

Nearly 43 percent of the institutions returning both a questionnaire and a list provided identical data on both. An additional 30 percent had discrepancies of 10 percent or less. Thus, roughly 73 percent of institutions provided data

with a discrepancy of 10 percent or less. This stands in marked contrast to the previous cycle of NSOPF, where only 42 percent had discrepancies of 10 percent or less.

**Data source:** The NCES 1999 National Study of Postsecondary Faculty (NSOPF:99).

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

Abraham, S.Y., Steiger, D.M., Montgomery, M., Kuhr, B.D., Tourangeau, R., Montgomery, B., and Chattopadhyay, M. (2002). *1999 National Study of Postsecondary Faculty (NSOPF:99) Methodology Report* (NCES 2002-154).

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**To obtain the complete report (NCES 2002-154),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

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## Data Products

### Data File: CCD Public Elementary/Secondary School Universe Survey: School Year 2000–01

Part of the NCES Common Core of Data (CCD), the “Public Elementary/Secondary School Universe Survey” has two primary purposes: (1) to provide a complete listing of all public elementary and secondary schools located in the 50 states, District of Columbia, and five outlying areas, or operated by the Department of Defense or Bureau of Indian Affairs; and (2) to provide basic information and descriptive statistics on all schools, their students, and their teachers. Data are provided annually by state education agencies (SEAs) from their administrative records. The 2000–01 data set contains 96,570 records, one for each of the listed schools.

The following information is included for each school: NCES and state school ID numbers; name of the agency that operates the school; name, address, and phone number of the school; school type (regular, special education, vocational education, or alternative); operational status (open, closed, new, added, or changed agency); locale code; latitude and longitude; full-time-equivalent classroom teacher count; low/high grade span offered; school level; Title I and schoolwide Title I eligibility status; magnet school and charter school status (yes or no); free lunch–eligible, reduced-price lunch–eligible, and total free and reduced-price lunch–eligible students; migrant students enrolled in previous year; student totals and detail (by grade, race/ethnicity, and gender); and pupil/teacher ratio.

The data can be downloaded from the NCES Electronic Catalog either in SAS files or in flat files that can be used with other statistical processing programs, such as SPSS. Documentation is provided in separate files.

*For questions about this data product*, contact Beth Young ([beth.young@ed.gov](mailto:beth.young@ed.gov)).

*To obtain this data product (NCES 2002–362)*, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### Data File: CCD Local Education Agency Universe Survey: School Year 2000–01

The Common Core of Data (CCD) “Local Education Agency Universe Survey” is one of the surveys that make up the CCD collection of surveys. This survey provides (1) a complete listing of every education agency in the United States responsible for providing free public elementary/secondary instruction or education support services; and (2) basic information

about all education agencies and the students for whose education the agencies are responsible. Most of the agencies listed are school districts or other local education agencies (LEAs). The data are provided annually by state education agencies (SEAs) from their administrative records. The 2000–01 data set contains 17,149 records, one for each public elementary/secondary education agency in the 50 states, District of Columbia, five outlying areas, Department of Defense, and Bureau of Indian Affairs.

The data file includes the following information for each listed agency: NCES and state agency ID numbers; agency name, address, and phone number; agency type code; supervisory union number; county name; FIPS county code; metropolitan statistical area and metropolitan status codes; district locale code; operational status code; low/high grade span offered; number of ungraded students; number of PK–12 students; number of migrant students served in special programs; number of special education/Individualized Education Program students; instructional staff fields; support staff fields; number of limited-English-proficient students; and number of diploma recipients and other high school completers (by race/ethnicity and gender). Dropout counts by grade, race/ethnicity, and gender are published separately from the rest of the data.

The data can be downloaded from the NCES Electronic Catalog either in SAS files or in flat files that can be used with other statistical processing programs, such as SPSS. Documentation is provided in separate files.

*For questions about this data product*, contact Beth Young ([beth.young@ed.gov](mailto:beth.young@ed.gov)).

*To obtain this data product (NCES 2002–360)*, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### Data File: CCD Local Education Agency (School District) Universe Dropout Data: 1999–2000

Starting with the 1997–98 school year, Common Core of Data (CCD) dropout data have been reported in a separate data file, constructed from data collected through the “Local Education Agency Universe Survey” and the “Public Elementary/Secondary School Universe Survey.” The 1999–2000 file provides dropout data for the local education agencies in 42 states and other jurisdictions. In addition to each agency’s NCES ID code, name, address, and phone number, the Dropout File provides the following information: number of dropouts by grade, race/ethnicity, and sex; dropout rates by grade, race/ethnicity, and sex; and the enroll-

ment base used in computing the dropout rates. Users can merge the Dropout File with the Local Education Agency Universe File by using the NCES ID code for the agency.

The data can be downloaded from the NCES Electronic Catalog either in SAS files or in flat files that can be used with other statistical processing programs, such as SPSS. Documentation is provided in separate files.

**For questions about this data product**, contact Beth Young ([beth.young@ed.gov](mailto:beth.young@ed.gov)).

**To obtain this data product (NCES 2002–384)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### **Data File: CCD National Public Education Financial Survey: Fiscal Year 2000**

The Common Core of Data (CCD) “National Public Education Financial Survey” (NPEFS) provides detailed state-level data on public elementary and secondary education finances. Financial data are audited at the end of each fiscal year and then submitted to NCES by the state education agencies (SEAs) from their administrative records. This file provides data for fiscal year 2000 (school year 1999–2000). The data set contains 55 records, one for each of the 50 states, District of Columbia, and four of the outlying areas (American Samoa, Northern Marianas, Puerto Rico, and the Virgin Islands). (Guam did not report any data.)

For each state or jurisdiction, the data file includes revenues by source (local, intermediate, state, and federal); local revenues by type (e.g., local property taxes); current expenditures by function (instruction, support, and noninstruction) and by object (e.g., teacher salaries or food service supplies); capital expenditures (e.g., school construction and instructional equipment); average number of students in daily attendance; and total number of students enrolled.

The data 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](mailto:frank.johnson@ed.gov)).

**To obtain this data product (NCES 2002–381)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### **CD-ROM: NELS:88/2000 Public-Use Data Files and Electronic Codebook—Base Year Through Fourth Follow-up**

The NCES National Education Longitudinal Study of 1988 (NELS:88) was designed to provide longitudinal data about critical transitions experienced by young people as they develop, attend school, and embark on their careers. For this study, a nationally representative sample of eighth-graders was first surveyed in 1988. A fourth follow-up was conducted in 2000 to examine what this cohort had accomplished 12 years after the baseline survey. The 2000 data were collected at a key stage of life transitions for the eighth-grade class of 1988—most had been out of high school for nearly 8 years and many had already completed postsecondary education, started or even changed careers, and started to form families.

This CD-ROM contains public-release data files and an updated electronic codebook from the NELS:88 base year (1988) through the fourth follow-up (2000). Also included is a data file user’s manual, which is also available as a separate publication (NCES 2002–323). This CD-ROM contains only the sample surveyed in the year 2000. For any analysis using only data collected prior to the fourth follow-up, the NELS:88/94 CD-ROM (NCES 2000–328) is needed.

**For questions about this CD-ROM**, contact Ilona Berkovits ([ilona.berkovits@ed.gov](mailto:ilona.berkovits@ed.gov)).

**To obtain this CD-ROM (NCES 2002–322)**, call the toll-free ED Pubs number (877–433–7827). The Read-Me and ECB-Help files can also be downloaded from the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### **Data File, Public-Use: 1998 Academic Library Survey**

The NCES Academic Library Survey (ALS) provides an overview of academic libraries nationally and by state. Through 1998, the survey was part of the Integrated Postsecondary Education Data System (IPEDS). Data are collected biennially from U.S. postsecondary institutions. The 1998 data set contains 3,816 records, one for each degree-granting postsecondary institution that was located in the 50 states or the District of Columbia and had an academic library.

This data file includes information about the following: total library operating expenditures, full-time-equivalent library staff, service outlets, total volumes held at the end of the academic year, circulation, interlibrary loans, public service hours, patron count, reference

transactions per typical week, and various types of electronic services.

The data and related documentation can be downloaded from the NCES Electronic Catalog in Microsoft Access, SAS, or ASCII (flat file) formats.

**For questions about this data product**, contact Jeffrey W. Williams ([jeffrey.williams@ed.gov](mailto:jeffrey.williams@ed.gov)).

**To obtain this data product (NCES 2002-320)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Data File, Public-Use: Public Libraries Survey: Fiscal Year 2000

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 (FY) 2000, the PLS includes data from 9,078 public libraries in the 50 states, the District of Columbia, and the outlying areas of Guam, the Northern Marianas, Palau, and the U.S. Virgin Islands.

Three database files were generated from the FY 2000 PLS: Public Library Data File, Public Library State Summary/State Characteristics Data File, and Public Library Outlet Data File. The files include data on population of legal service area, number of full-time-equivalent staff, service outlets, public service hours, library materials, operating income and expenditures, capital outlay, total circulation, circulation of children's materials, reference transactions, library visits, children's program attendance, interlibrary loans, and electronic services.

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](mailto:patricia.kroe@ed.gov)).

**To obtain this data product (NCES 2002-341)**, visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Other Publications

### The Nation's Report Card: Geography Highlights 2001

*National Center for Education Statistics*

The National Assessment of Educational Progress (NAEP), known as "The Nation's Report Card," is authorized by Congress, administered by NCES, and overseen by the National Assessment Governing Board (NAGB). For over 30 years, NAEP has been the only ongoing national indicator of what American students know and can do in major academic subjects. In 2001, NAEP administered a geography assessment to a national sample representative of all students at grades 4, 8, and 12. The findings from the NAEP 2001 Geography Assessment provide a picture of U.S. students' geography knowledge, skills, and achievement.

This 20-page publication uses a full-color tabloid format to present highlights from the 2001 geography assessment. It describes the assessment content, presents major findings, and provides information about practices in school that are related to geography achievement. Results in 2001 are compared to results in 1994. The publication also includes sample test questions and examples of student responses.

**For questions about content**, contact Arnold Goldstein ([arnold.goldstein@ed.gov](mailto:arnold.goldstein@ed.gov)).

**To obtain this publication (NCES 2002-485)**, call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

### Safety in Numbers: Collecting and Using Crime, Violence, and Discipline Incident Data to Make a Difference in Schools

*Irene Hantman, Ghedam Bairu, Annette Barwick, Bill Smith, Bunny Mack, Susan Meston, Linda Rocks, and Brad James*

In 1996, the National Forum on Education Statistics published *Recommendations of the Crime, Violence, and Discipline Reporting Task Force*, a report that outlined a set of definitions and protocols for the collection of crime, violence, and discipline data. As part of an ongoing effort to promote data-driven educational policy decisionmaking, NCES and the Forum reconvened the Crime, Violence, and Discipline Task Force—made up of state and school district administrators, education policy researchers, and Department of

Education program and research staff—in 2000 to update the initial report.

The result is this handbook, which is designed to be used by school, district, and state staff to improve the effectiveness of their efforts to collect and use disciplinary incident data. It provides recommendations on what types of data to collect, why it is critical to collect such data, and how the data can be used effectively to improve school safety and answer policy questions relating to school improvement and the safety of students. This publication contains no actual data.

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**To obtain this handbook (NCES 2002-312),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Developments in School Finance: 1999–2000

William J. Fowler, Jr. (editor)

*Developments in School Finance: 1999–2000* is the sixth education finance publication from the annual NCES Summer Data Conference. Each year, state department of education policymakers, fiscal analysts, and fiscal data providers attend the conference for fiscal training sessions and presentations by invited experts on developments in the field of education finance. This publication contains six of the papers presented at the July 1999 and July 2000 conferences.

The 1999 Summer Data Conference addressed the theme “Statistics, Technology, and Analysis for Tomorrow’s Data Collections.” Discussions and presentations focused on technology, data collection, and their implications for education finance reform. The theme for the 2000 Summer Data Conference was “Changing Data Into Information: A Bridge to Better Policy” and focused on understanding data and survey changes and their implications for education finance reform.

Individual papers explore the following specific topics: the emphasis on performance-based accountability; the use of national data to assess local school district spending on professional development; how education finance systems can be designed to ensure that all students achieve high levels of learning; the policy shifts in education in the 1990s as standards-based

reforms took hold; and discussions of evidence from litigation cases in various states and their effect on education finance.

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**To obtain this publication (NCES 2002-316),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Pocket Projections: Projections of Education Statistics to 2012

William J. Hussar and Debra E. Gerald

Each year, NCES publishes this pocket summary of the *Projections of Education Statistics*. The pocket summary provides the reader with key information extracted from the full report. Included are data on actual and projected enrollment at all education levels, numbers of high school graduates, and earned degrees conferred for postsecondary institutions. This year’s edition of *Pocket Projections* includes 1989–90 data as well as estimates for 2000–01 and projections for 2011–12.

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**To obtain this pocket summary (NCES 2002-033),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## National Education Longitudinal Study of 1988: Base-Year to Fourth Follow-up Data File User’s Manual

Thomas R. Curtin, Steven J. Ingels, Shiyong Wu, and Ruth Heuer

This data file user’s manual documents the procedures and methodologies employed during the National Education Longitudinal Study of 1988 (NELS:88). The manual is designed to provide guidance and documentation for users of the public-release data for the base-year data collection in 1988 through the fourth follow-up in 2000 (NELS:88/2000). Although more comprehensive information is supplied for the fourth follow-up, this manual also provides the results of the previous data collections, which took place in 1988 (base year), 1990 (first follow-up), 1992 (second follow-up), and 1994 (third follow-up). This manual will familiarize the user with each wave of NELS:88.

While some information is provided about restricted-use data, this manual primarily focuses on public-use data, particularly as contained in the public-use

Electronic Codebooks (ECBs). This manual contains five chapters and six appendices.

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**To obtain this user's manual (NCES 2002-323),** call the toll-free ED Pubs number (877-433-7827) or visit the NCES Electronic Catalog (<http://nces.ed.gov/pubsearch>).

## Funding Opportunities

### The AERA Grants Program

Jointly funded by the National Science Foundation (NSF), NCES, and the Institute of Education Sciences, this training and research program is administered by the American Educational Research Association (AERA). The program has four major elements: a research grants program, a dissertation grants program, a fellows program, and a training institute. The program is intended to enhance the capability of the U.S. research community to use large-scale data sets, specifically those of the NSF and NCES, to conduct studies that are relevant to educational policy and practice, and to strengthen communications between the educational research community and government staff.

Applications for this program may be submitted at any time. The application review board meets three times per year. The following are examples of grants recently awarded under the program:

#### Research Grants

- Albert Beaton, Boston College—Examining Changes in International Multilevel Variance and Student Correlates of Mathematics Achievement Using Data From TIMSS 1995 and TIMSS 1999
- Sharon Judge, University of Tennessee—Resilient and Vulnerable At-Risk Children: What Makes the Difference?
- Xiaofeng Liu, University of South Carolina—Professional Support, School Conditions, and First-Year Teacher Attrition
- Ann O'Connell, University of Connecticut—Factors Associated With Growth in Proficiency During Kindergarten and Through First Grade
- David Post, University of Pittsburgh—Academic Achievement by Working Eighth-Grade Students in Ten Nations

- Linda Renzulli, University of Georgia—School Choice Whose Choice?

#### Dissertation Grants

- Guanglei Hong, University of Michigan—Causal Inference for Multi-Level Observational Data With Applications to Educational Research
- Doo Hwan Kim, University of Chicago—My Friend's Parents and My Parent's Friends: Impact of Parental Resources on Student's Competitiveness for College
- Natalie Lacireno-Paquet, George Washington University—Charter School Responses to Policy Regimes and Markets: The Effect on Service to Disadvantaged Students
- Kate Mahoney, Arizona State University—Linguistic Influences in Differential Item Functioning for English Learners on the NAEP Mathematics, 1996
- Colin Ong-Dean, University of California, San Diego—Parents' Role in the Diagnosis and Accommodation of Disabled Children in the Educational Context
- Ying Zhou, Pennsylvania State University—Examining the Influences on Faculty Departure Using NSOPF:99

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### The NAEP Secondary Analysis Grant Program

The NAEP Secondary Analysis Grant Program was developed to encourage education researchers to conduct secondary analysis studies using data from the National Assessment of Educational Progress (NAEP) and the NAEP High School Transcript Studies. This program is open to all public or private organizations and consortia of organizations. The program is typically announced annually, in the late fall, in the *Federal Register*. Grants awarded under this program run from 12 to 18 months and awards range from \$15,000 to \$100,000. The following grants were awarded for fiscal year 2002:

- Hua-Hua Chang, University of Texas at Austin—Improving the DIF Detection Procedures for NAEP Data Analysis
- Laura Desimone, Vanderbilt University—Preparation, Professional Development, and Policy in Mathematics: Does It All Add Up?



- Henry Braun, Educational Testing Service—Using State NAEP Data to Examine Patterns in Eighth-Grade Mathematics Achievement and the Efficacy of State Education Policy Initiatives
- Susan Lubienski, Iowa State University—A Closer Look at Mathematics Achievement and Instructional Practices: Examinations of Race, SES, and Gender in a Decade of NAEP Data
- Kendrick Curry, United Negro College Fund Special Programs Corporation—The Trickle Down Effect: How Teacher Quality and Recruitment Practices Affect the Achievement of African American Students in a Three-State Metropolitan Area
- Claudia Gentile, Educational Testing Service—Reading Test Design, Validity, and Fairness: A Re-Analysis of Data From the 2000 Fourth-Grade Reading Assessment
- Matthias von Davier, Educational Testing Service—A Tool for Improved Precision Reporting in Secondary Analysis of National and State Level NAEP Data
- Norman Webb, University of Wisconsin—Informing State Mathematics Reform Through State NAEP
- Laura O'Dwyer, Boston College—Estimating the Full NAEP Population Distribution: Imputing Scores for Excluded SD and LEP Students Using Hierarchical Linear Modeling Techniques

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