

Section III. Quality of Education Environments (Postsecondary)

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Remedial education in higher education institutions

The role of remedial courses in higher education institutions has been the subject of ongoing debate among policymakers and educators. Some view remedial courses as a way to expand educational opportunities for unprepared students, while others feel that remedial courses should be discouraged because precollege-level courses have no place in the college curriculum. The percentage of institutions offering remedial courses and the percentage of freshmen who enroll in them provide a snapshot of the current availability of and demand for these courses at higher education institutions.

- The percentage of freshmen enrolled in remedial courses and the percentage of institutions offering such courses were similar in 1989 and 1995.
- In 1995, freshmen were more likely to enroll in a remedial mathematics course than in a remedial reading or writing course. In fact, from 1989 to 1995, the percentage of freshmen who enrolled in remedial mathematics courses increased, while the percentage who enrolled in remedial reading or writing courses was similar.
- In 1995, freshmen in public 2-year colleges were far more likely to enroll in remedial courses than their peers in public 4-year institutions (41 versus 22 percent).
- In 1995, almost all public 2-year institutions offered remedial writing and mathematics courses, while about three-quarters of public 4-year institutions offered remedial courses in these subjects. Half of private 4-year institutions offered remedial writing and mathematics courses.
- In 1995, a larger percentage of institutions with high minority enrollment offered remedial reading, writing, and mathematics courses than institutions with low minority enrollment.

Percentage of freshmen enrolled in remedial courses, by subject, control and type of institution, and minority enrollment: Fall 1989 and 1995

Subject	Fall 1989	Fall 1995						
		Total	Public		Private		Minority enrollment*	
			2-year	4-year	2-year	4-year	High	Low
Reading, writing, or mathematics	30	29	41	22	26	13	43	26
Reading	13	13	20	8	11	7	25	11
Writing	16	17	25	12	18	8	29	15
Mathematics	21	24	34	18	23	9	35	21

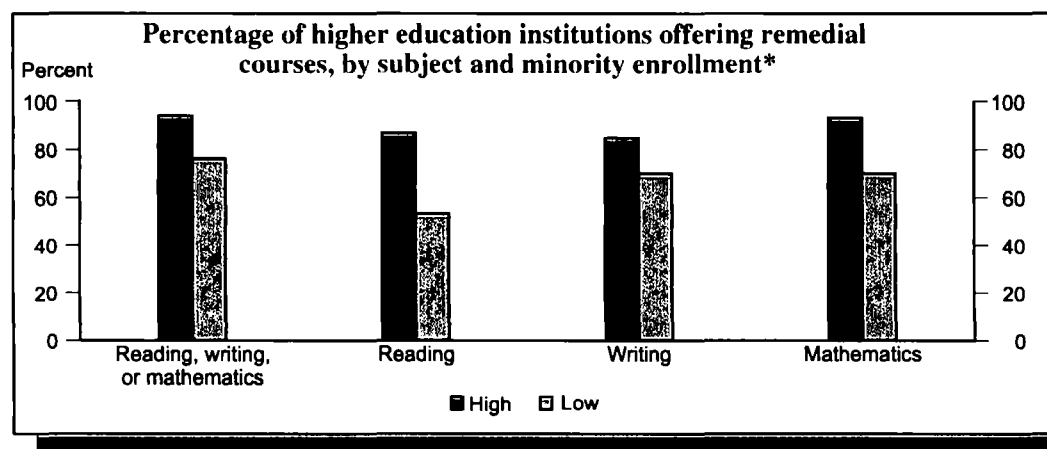
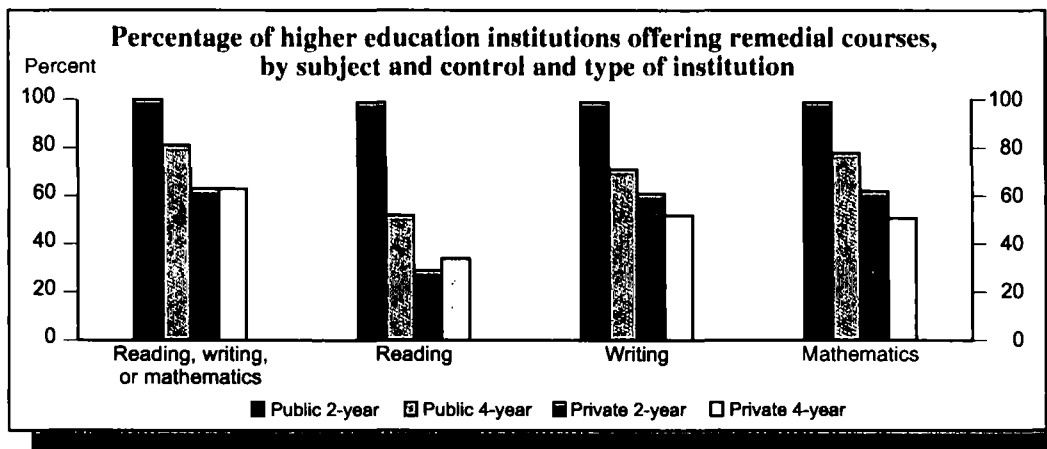
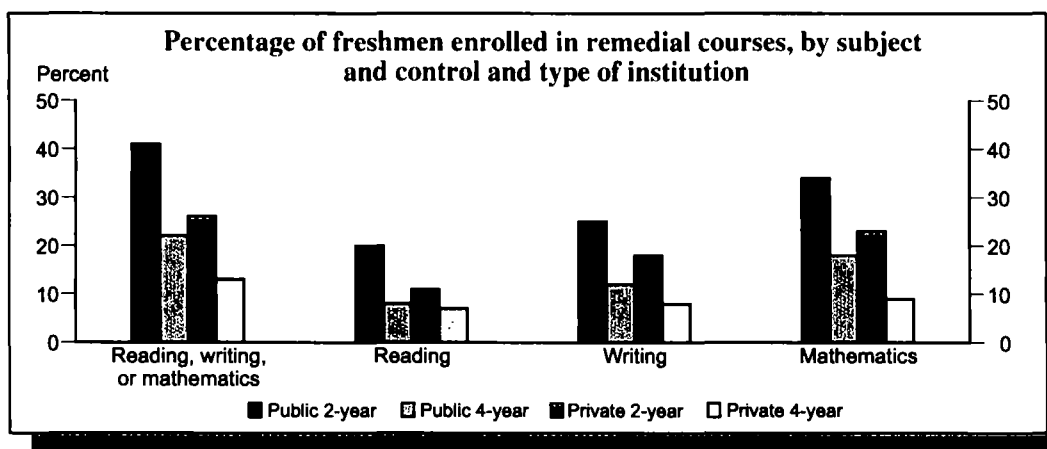
Percentage of higher education institutions offering remedial courses, by subject, control and type of institution, and minority enrollment: Fall 1989 and 1995

Subject	Fall 1989	Fall 1995						
		Total	Public		Private		Minority enrollment*	
			2-year	4-year	2-year	4-year	High	Low
Reading, writing, or mathematics	74	78	100	81	63	63	94	76
Reading	58	57	99	52	29	34	87	53
Writing	65	71	99	71	61	52	85	70
Mathematics	68	72	99	78	62	51	93	70

* Institutions with high minority enrollment are defined as those in which total student enrollment, excluding nonresident aliens, is less than 50 percent white.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, *Remedial Education at Higher Education Institutions in Fall 1995, 1996*.

Remedial education in higher education: Fall 1995



* Institutions with high minority enrollment are defined as those in which total student enrollment, excluding nonresident aliens, is less than 50 percent white.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, *Remedial Education at Higher Education Institutions in Fall 1995, 1996*.

Instructional methods of postsecondary faculty

Postsecondary instructional faculty and staff use a variety of methods to instruct students, make classroom assignments, grade students' work, and test students' competency. There has been much debate about which instructional methods are most effective in educating students. One factor in determining the type of instructional methods postsecondary faculty use may be the program area of the particular class.

- In fall 1992, about one-third of all instructional faculty and staff used teaching tools such as computational tools/software and computer-aided instruction. Engineering faculty were more likely to use computational tools/software than faculty from other program areas.
- Sixty-three percent of postsecondary instructional faculty and staff assigned student presentations, and 53 percent assigned term or research papers in fall 1992. Compared with faculty in other program areas, natural sciences and engineering faculty were less likely to use student presentations as an instructional method.
- In fall 1992, postsecondary instructional faculty and staff generally were more likely to use competency-based grading than to grade on a curve on a consistent basis across most program areas. However, engineering and natural sciences faculty were more likely to grade on a curve than education and humanities faculty.
- Fifty-seven percent of postsecondary instructional faculty and staff used essay midterms/finals in fall 1992. Humanities and social sciences faculty were more likely to use essay midterms/finals than engineering and natural sciences faculty.

Percentage of postsecondary instructional faculty and staff who used selected instructional methods* for undergraduate classes during the semester, by program area: Fall 1992

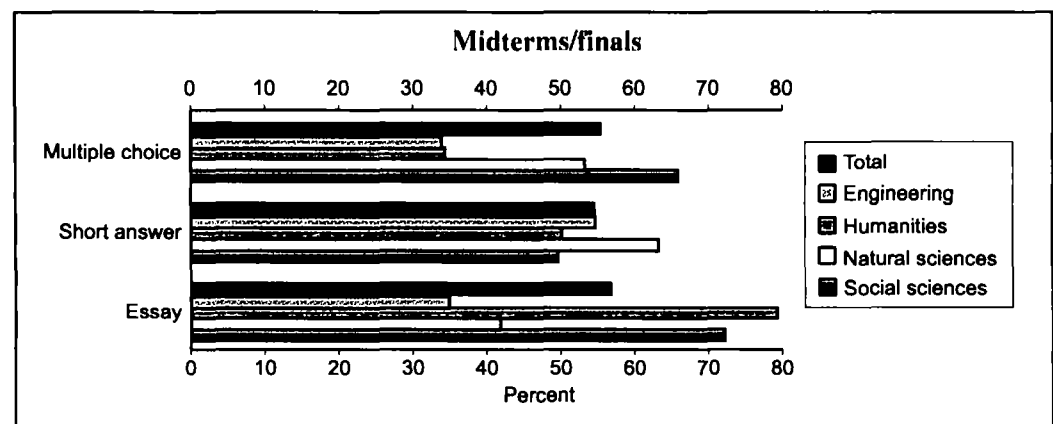
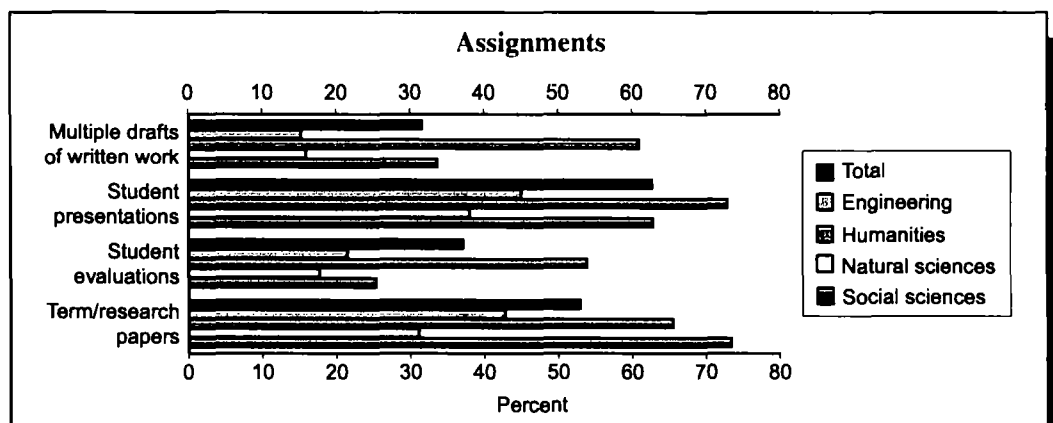
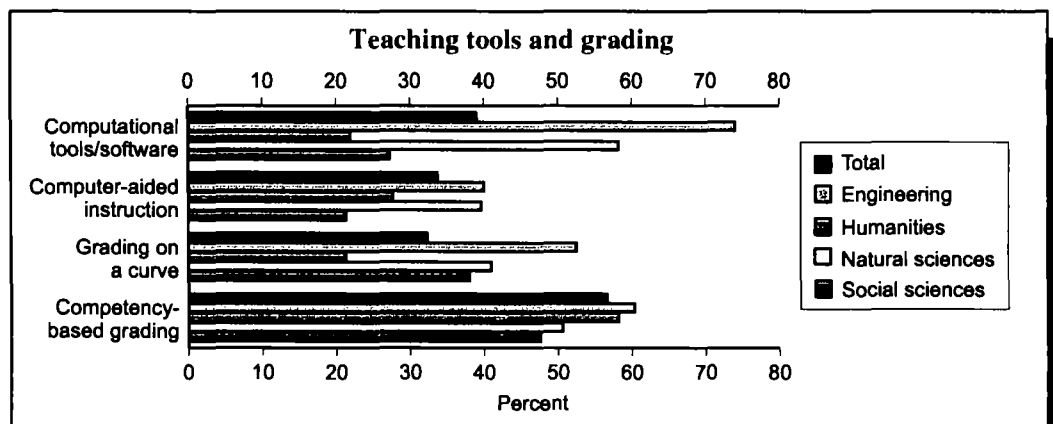
Instructional method	Program area										
	Total	Agriculture/ home economics	Business	Edu- cation	Engl- neering	Fine arts	Health sciences	Human- ities	Natural sciences	Social sciences	Other
Teaching tools											
Computational tools/software	39.0	38.1	54.6	35.5	74.0	21.3	40.4	21.9	58.2	27.2	34.0
Computer-aided instruction	33.7	31.7	36.8	37.4	40.0	32.0	41.5	27.6	39.6	21.3	34.7
Grading											
Grading on a curve	32.3	47.8	38.8	18.7	52.5	26.7	23.4	21.3	41.0	38.0	33.5
Competency-based grading	56.6	45.2	49.9	62.9	60.3	69.1	64.7	58.2	50.6	47.6	60.2
Assignments											
Multiple drafts of written work	31.5	27.7	22.1	39.0	15.2	23.7	25.2	60.9	15.9	33.6	28.3
Student presentations	62.7	69.5	61.0	79.7	45.0	78.4	67.8	72.9	38.0	62.8	70.4
Student evaluations	37.1	32.2	29.4	55.9	21.5	62.4	34.1	53.9	17.7	25.3	41.0
Term/research papers	52.9	59.0	55.6	61.0	42.8	45.1	50.6	65.5	31.1	73.4	53.0
Midterms/finals											
Multiple choice	55.4	65.9	74.6	57.5	33.9	38.1	80.6	34.4	53.3	65.9	64.9
Short answer	54.6	74.2	58.7	53.2	54.7	48.3	43.3	50.2	63.3	49.7	59.5
Essay	56.8	69.2	54.8	64.3	34.9	49.1	34.2	79.3	41.8	72.2	57.4

* Includes those faculty who responded that they used the indicated instructional method "some" or "all" of the time.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

NOTE: See the supplemental note to this indicator for a definition of program areas.

Percentage of postsecondary instructional faculty and staff who used selected instructional methods* for undergraduate classes during the semester, by selected program areas: Fall 1992



* Includes those faculty who responded that they used the indicated instructional method "some" or "all" of the time.

NOTE: See the supplemental note to this indicator for a definition of program areas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

Distance education in higher education

Advances in technology and widespread access to this technology allow many educational institutions to offer courses to students who would otherwise have difficulty participating in higher education (students who work, students who care for families, students who live in remote areas) without being present on campus. This type of education, commonly referred to as "distance education," is an increasingly important component of higher education. Examining the availability and use of distance education can help educators assess the need for these services.

- In 1995, one-third of higher education institutions offered distance education courses; another 25 percent indicated plans to begin courses within 3 years; and 42 percent did not offer and did not plan to offer these courses in the next 3 years. Higher education institutions in the Northeast were less likely than institutions in other regions to offer distance education courses in 1995, and institutions with larger enrollments were more likely to offer distance education courses than schools with smaller enrollments.
- Public institutions were more likely to offer distance education courses than private institutions, and more students enrolled in these courses in 1995 were enrolled in public 2-year institutions than in other types of institutions (see supplemental table 31-1). Public 4-year institutions were, however, more likely than public 2-year institutions to offer and award degrees and certificates that could be earned by taking only distance education courses (see supplemental table 31-2).
- In 1995, two-way interactive video and one-way prerecorded video were the most frequently used methods of delivering distance education courses (57 and 52 percent, respectively). Furthermore, of higher education institutions who currently were offering or planning to offer distance education, about 80 percent were planning to start or increase the use of two-way interactive video, and about half were planning to start or increase the use of one-way prerecorded video in the next 3 years (see supplemental table 31-3).

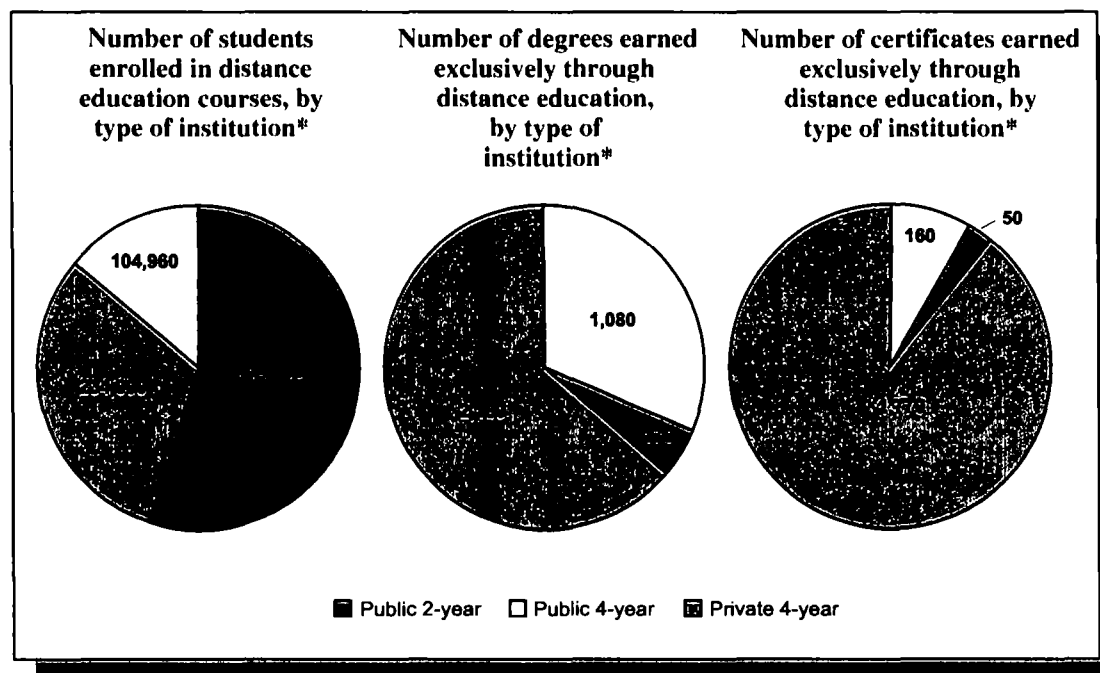
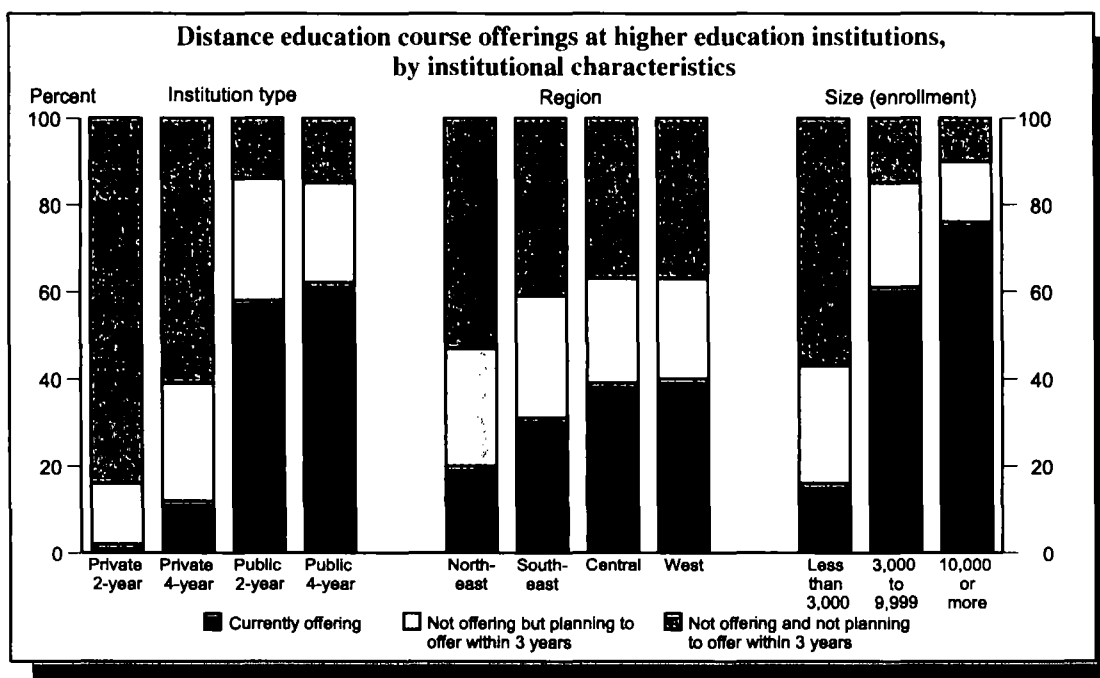
Percentage distribution of higher education institutions according to status of offering distance education, by selected institutional characteristics: 1995

Selected institutional characteristics	Currently offering distance education courses	Not currently offering distance education courses	
		Planning to offer distance education courses in the next 3 years	Not planning to offer distance education courses in the next 3 years
All institutions	33	25	42
Institution type			
Private 2-year	2	14	84
Private 4-year	12	27	61
Public 2-year	58	28	14
Public 4-year	62	23	14
Region			
Northeast	20	27	53
Southeast	31	28	41
Central	39	24	37
West	40	23	37
Size of institution (enrollment)			
Less than 3,000	16	27	56
3,000-9,999	61	24	15
10,000 or more	76	14	10

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, *Distance Education in Higher Education Institutions*, 1997.

Distance education in higher education: 1995



* Data for private 2-year institutions are not included because too few of them offered distance education in fall 1995 for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, *Distance Education in Higher Education Institutions, 1997*.

Part-time instructional faculty and staff at postsecondary institutions

Part-time faculty provide postsecondary institutions with a flexible work force to respond to fluctuating student enrollments, to fill temporary vacancies, to teach specialized courses, and to reduce faculty costs. While many faculty work part time out of choice, these individuals face job uncertainty, often play no role in academic governance, and lack job benefits provided to full-time faculty. These issues, which are accentuated by an increasing use of part-time instructional faculty, may affect faculty morale and the quality of teaching at postsecondary institutions.

- In fall 1992, 42 percent of postsecondary instructional faculty and staff worked part time.
- Instructors and lecturers were more likely to be employed part time than faculty with higher academic ranks in fall 1992.
- Postsecondary instructional faculty and staff at 2-year institutions were more likely to be employed part time in fall 1992 than faculty at all other types of postsecondary institutions.
- In fall 1992, females were more likely than males to work part time at both public and private institutions, and at each type of postsecondary institution, except 2-year and other institutions.

Percentage of postsecondary instructional faculty and staff employed part time, by control and type of institution, sex, and academic rank: Fall 1992

Sex and academic rank	Total	Control of institution		Type of institution					
		Public	Private	Research	Doctoral	Comprehensive	Liberal arts	2-year	Other
Total¹	41.6	41.4	42.2	23.4	32.6	38.6	35.7	60.2	37.8
Sex									
Male	37.2	37.0	37.7	19.0	27.4	33.3	29.8	60.8	35.0
Female	48.9	48.5	49.9	34.1	43.2	46.7	43.3	59.4	45.0
Academic rank									
Full professor	16.7	11.7	27.1	10.3	13.9	16.9	17.8	25.1	29.1
Associate professor	15.4	13.3	19.6	16.6	11.0	9.5	9.4	22.2	28.9
Assistant professor	16.3	13.2	21.3	14.8	13.0	11.2	17.0	24.5	27.2
Instructor	74.5	73.3	78.9	65.9	73.8	78.2	75.8	74.7	66.2
Lecturer	79.3	78.1	81.3	59.6	81.6	85.6	80.4	95.1	82.2
Average number of classes taught²									
Total	1.8	1.8	1.7	1.7	1.6	1.7	1.8	1.8	1.8
Undergraduate	1.8	1.8	1.7	1.7	1.6	1.7	1.8	1.8	1.8
Graduate	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.5	1.4

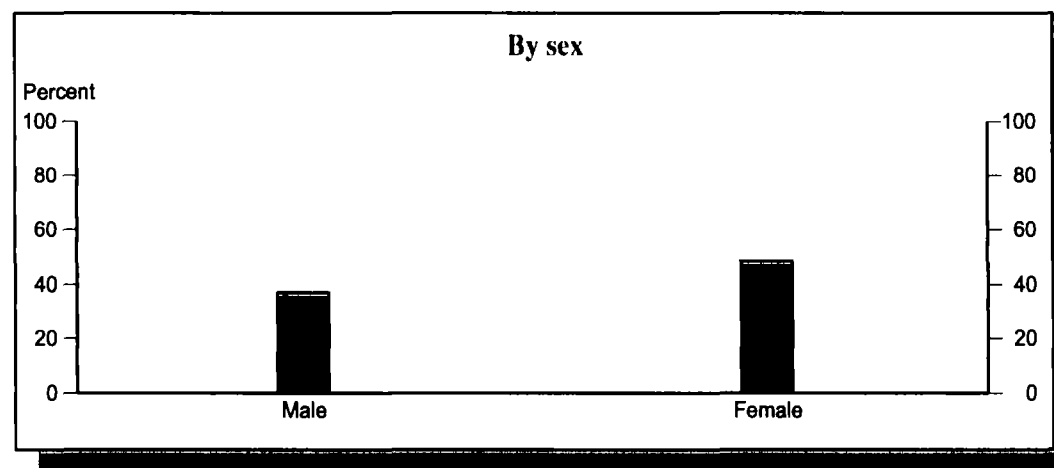
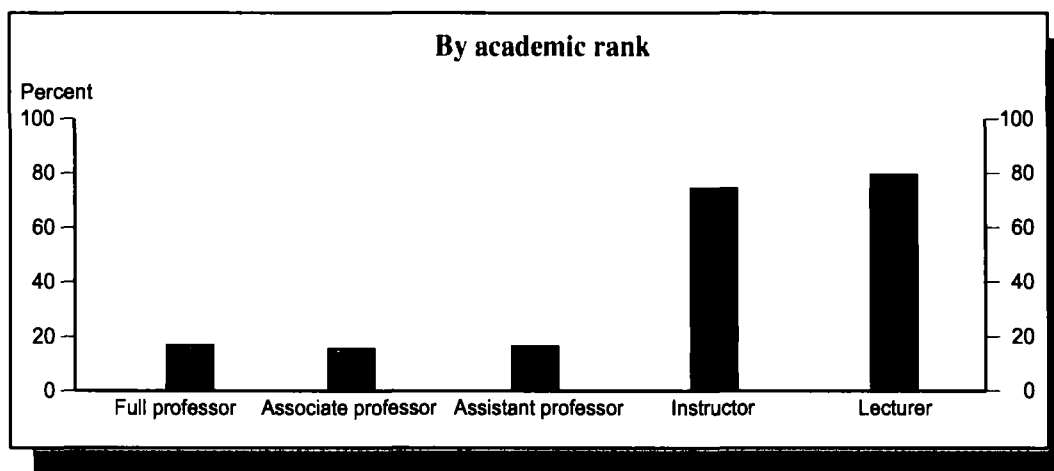
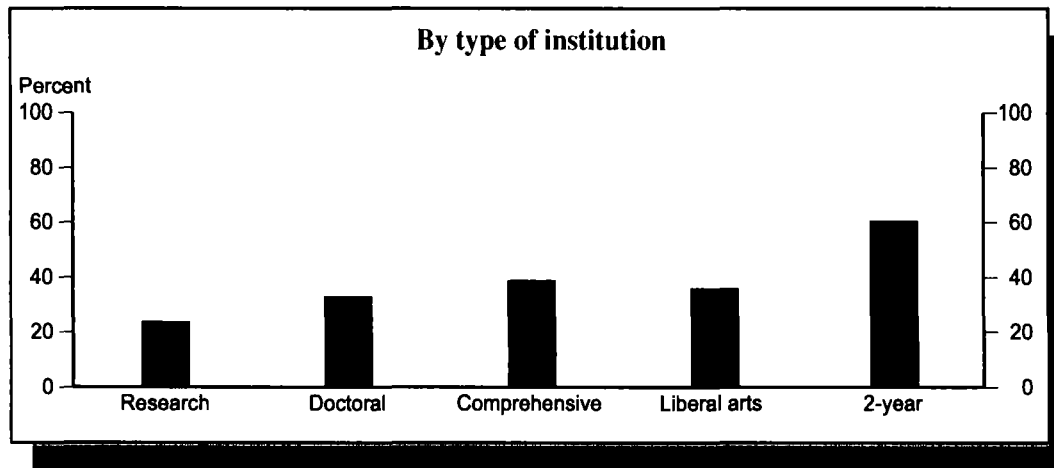
¹ Included in the total but not shown separately are other academic ranks and those with no academic rank.

² Includes only classes taught for credit. Only teachers who reported teaching at least 1 class for credit regardless of class level (undergraduate or graduate) were included in the analysis.

NOTE: See the supplemental note to this indicator for a description of types of institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

**Percentage of postsecondary instructional faculty and staff employed part time:
Fall 1992**



NOTE: See the supplemental note to this indicator for a description of types of institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

Teaching workload of full-time postsecondary faculty

Teaching students is only one aspect of a postsecondary faculty member's job. Faculty also spend time on other activities such as research, freelance work, administrative tasks, and professional growth. Debates about tenure, instructional time, and the overall quality of a college education raise questions about the actual time postsecondary faculty spend teaching relative to the time they spend doing other activities.

- In 1992, full-time faculty members spent 54 percent of their work hours performing teaching activities, 18 percent conducting research, and 13 percent performing administrative tasks.
- Between 1987 and 1992, the percentage of time full-time postsecondary faculty members spent on teaching activities decreased (from 57 to 54 percent); however, the number of classroom and student contact hours per week increased (see supplemental table 33-1).
- Full, associate, and assistant professors tended to spend a higher percentage of their time conducting research than did other faculty in 1992. Assistant professors, instructors, and lecturers spent a higher proportion of their time performing teaching activities than did full or associate professors.
- Full-time postsecondary faculty members at 2-year institutions had more student contact hours per week in 1992 than did faculty at other institutions (87 percent more than those at liberal arts institutions and 67 percent more than those at research institutions; see supplemental table 33-1).

Percentage of time full-time postsecondary faculty spent on various activities, by academic rank and type of institution: Fall 1987 and fall 1992

		Academic rank					Type of institution				
Activity	Total ¹	Full professor	Associate professor	Assistant professor	Instructor	Lecturer	Research	Doc- tor's	Compre- hensive	Liberal arts	2- year
Fall 1987											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Teaching activities ²	57.1	51.3	54.2	57.4	70.1	69.3	43.3	54.1	63.5	67.1	73.1
Research/scholarship	17.3	21.1	20.3	19.0	5.9	9.5	30.3	21.9	12.0	10.2	4.2
Professional growth	4.6	3.7	4.5	4.2	7.0	5.5	4.1	4.1	4.4	4.3	5.2
Administration	13.2	16.4	13.3	10.3	9.9	8.9	13.7	13.5	13.2	13.8	11.0
Outside consulting/ freelance work	2.5	2.8	2.6	1.8	2.7	3.6	2.5	3.1	2.8	1.6	2.5
Service and other	5.4	4.8	5.1	7.4	4.4	3.2	6.4	3.3	4.2	3.0	4.0
Fall 1992											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Teaching activities ²	54.4	50.2	52.3	55.3	67.8	61.1	39.0	46.0	60.2	63.6	68.7
Research/scholarship	17.6	21.5	19.4	19.7	6.0	10.2	32.4	23.0	13.3	9.7	4.5
Professional growth	4.6	4.1	4.4	4.5	5.7	5.5	3.6	4.2	5.0	4.6	5.8
Administration	13.1	15.1	13.6	9.3	10.4	12.8	12.9	14.1	12.7	14.6	12.1
Outside consulting/ freelance work	2.7	3.0	2.9	2.1	2.6	2.3	2.6	2.6	2.8	2.3	2.7
Service and other	7.4	6.0	7.1	8.9	7.5	8.1	9.3	10.1	6.0	4.9	6.1

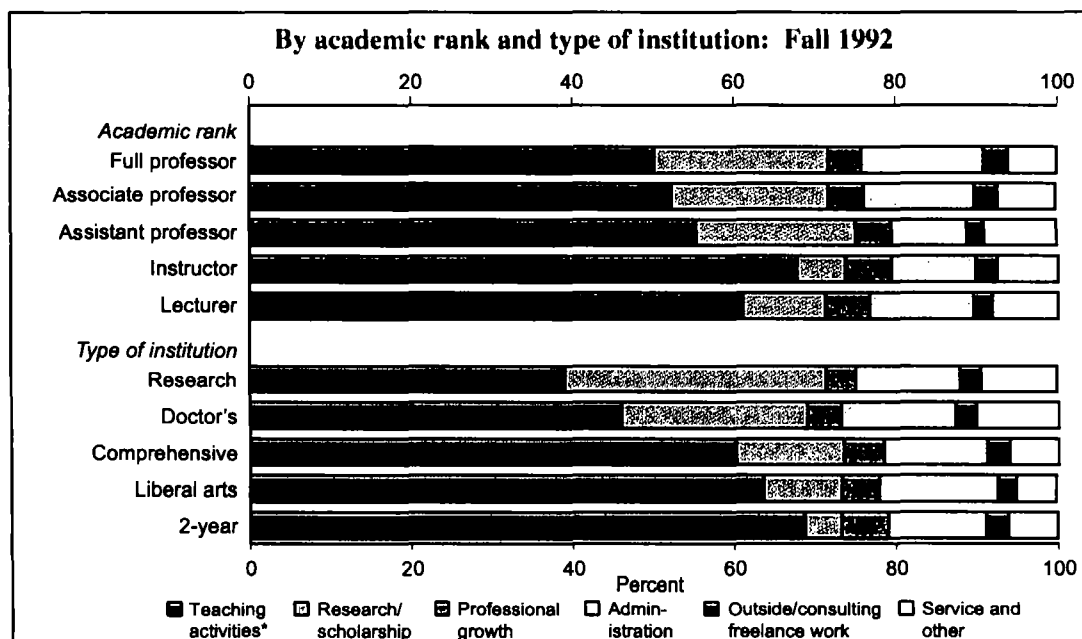
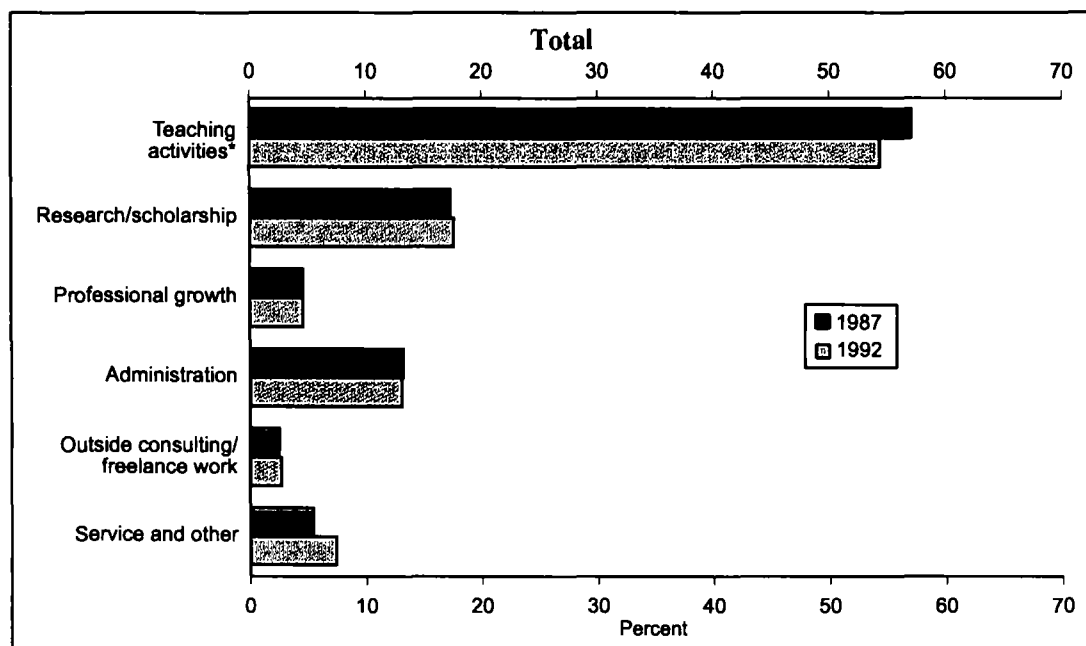
¹ Included in the total but not shown separately are other academic ranks and types of postsecondary institutions.

² Includes other activities in addition to teaching in the classroom such as grading papers, preparing for class, developing new curricula, advising or supervising students, or working with student organizations or intramural athletics.

NOTE: Details may not add to 100.0 due to rounding. See the supplemental note to this indicator for further definitions of time spent by faculty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

**Percentage of time full-time postsecondary faculty spent on various activities:
Fall 1987 and fall 1992**



* Includes other activities in addition to teaching in the classroom such as grading papers, preparing for class, developing new curricula, advising or supervising students, or working with student organizations or intramural athletics.

NOTE: See the supplemental note to this indicator for further definitions of time spent by faculty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

Section IV. Social Support for Learning

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Early reading activities in the home

Family participation in reading activities provides valuable developmental experiences for young children. In addition to developing an interest in reading, children who are read to, told stories, and visit the library may start school better prepared to learn than other students. Engaging young children in reading activities at home also enables parents and other family members to become actively involved in their children's education at an early age.

- In 1996, at least 80 percent of children ages 3–5 were read to or told a story in the past week by a parent or family member, while 38 percent had visited a library in the past month. The percentage of children who were read to or told a story was higher in 1996 than in 1991.
- Children ages 3–5 who were not enrolled in preprimary education were usually as likely to have been read to or told a story by a parent or family member in the past week as those 3- to 5-year-olds who were enrolled in kindergarten or center-based care in 1996. However, children ages 3–5 who were not enrolled in preprimary education were less likely to have visited a library in the past month than children who were enrolled in kindergarten or a center-based program.
- In 1996, white children ages 3–5 were more likely than their black and Hispanic peers to have been read to in the past week and were more likely than their black peers to have been told a story in the past week. In addition, white children were more likely to have visited a library in the past month than their black and Hispanic peers.
- In 1996, children ages 3–5 whose parents had completed a bachelor's degree or more education were more likely to have been read to in the past week or to have visited a library in the past month than children whose parents' highest education level was a high school diploma or less.

Percentage of children ages 3–5 who participated in various reading activities with a parent or family member, by selected characteristics: 1991, 1993, 1995, and 1996

Selected characteristics	Read to three or more times in the past week				Told a story at least once in the past week				Visited a library in the past month			
	1991	1993	1995	1996	1991	1993	1995	1996	1991	1993	1995	1996
Total	71.4	77.7	83.1	82.9	72.0	74.7	81.4	82.0	36.6	38.8	41.2	38.2
School enrollment status and level ¹												
Not enrolled	68.9	75.5	81.3	80.0	72.7	73.6	79.7	80.2	29.3	32.8	32.9	31.8
Center-based programs ²	73.9	80.8	85.6	84.6	73.4	77.3	82.9	83.4	40.0	42.4	44.2	41.1
Kindergarten ²	71.3	75.9	80.8	83.8	69.1	72.2	80.9	81.9	40.8	41.6	46.0	42.1
Race-ethnicity												
White	77.7	84.0	89.0	88.9	73.8	75.6	83.9	83.9	40.7	42.1	45.1	42.5
Black	59.0	66.8	73.7	75.9	66.0	72.2	74.4	76.6	27.8	32.0	34.1	34.1
Hispanic	53.0	60.2	61.5	65.3	68.4	71.5	75.1	79.3	24.5	27.9	28.0	25.9
Other	65.8	70.8	85.2	87.4	74.2	78.5	80.8	84.3	34.8	43.3	41.5	37.1
Parents' highest education level												
Less than high school diploma	53.8	54.5	64.4	58.8	67.4	65.3	71.9	72.8	18.3	24.6	18.3	19.4
High school diploma or GED	63.5	73.1	77.9	77.4	68.2	73.6	77.6	79.9	26.0	28.2	31.5	30.1
Some college/vocational/technical	74.0	80.4	85.3	86.5	74.2	74.7	82.9	84.6	38.5	39.6	40.9	37.1
Bachelor's degree	82.1	87.7	89.7	90.9	74.7	77.4	85.0	83.2	52.0	53.9	53.5	51.9
Graduate/professional school	88.3	88.4	94.0	96.1	78.4	81.1	88.2	85.8	59.1	59.5	62.8	59.5

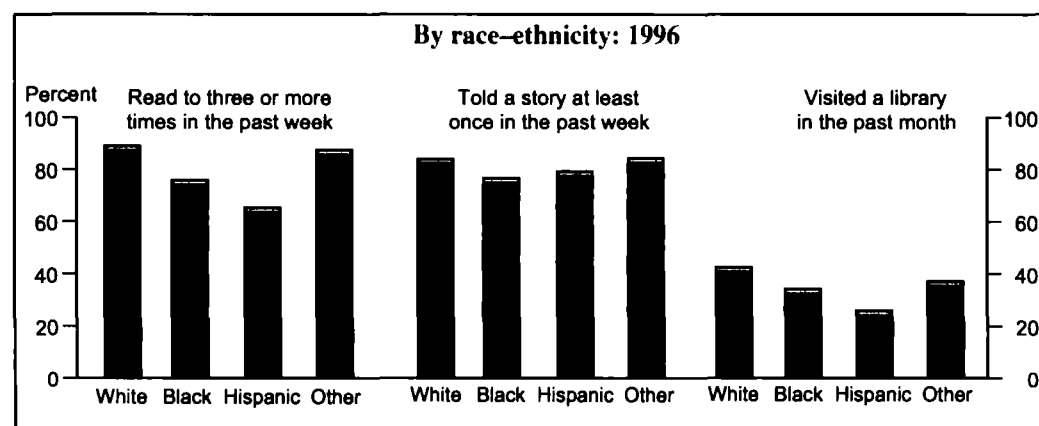
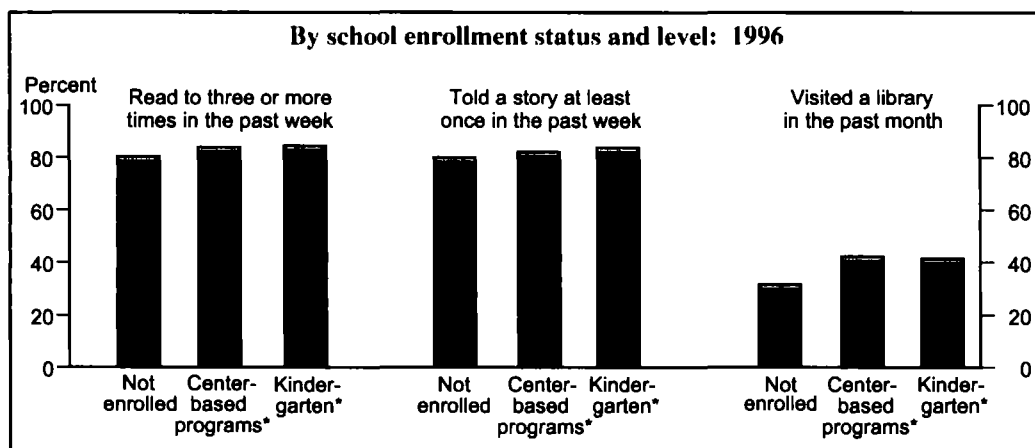
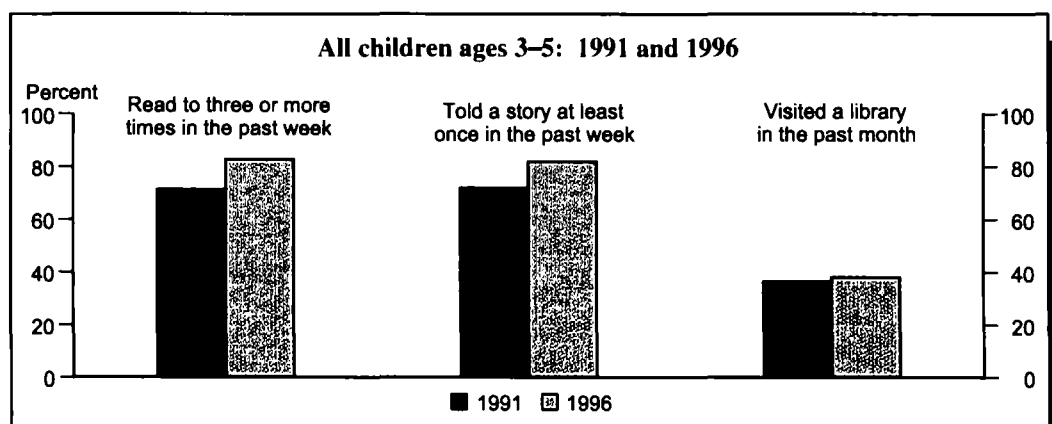
¹ Data are revised from previously published figures.

² See the glossary for definitions of center-based programs and kindergarten.

NOTE: This analysis includes children ages 3–5 who were not enrolled in first grade. Included in the total but not shown separately are children from other types of enrollment levels.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), 1995 (Early Childhood Program Participation File), and 1996 (Parent and Family Involvement in Education File).

Percentage of children ages 3–5 who participated in various reading activities with a parent or family member



* See the glossary for definitions of center-based programs and kindergarten.

NOTE: This analysis includes children ages 3–5 who were not enrolled in first grade.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1996 (Parent and Family Involvement in Education File).

Fathers' involvement in their children's education

Although most research on parental involvement has focused on mothers' roles in their children's education, current research indicates that fathers' involvement in their children's education also has a positive effect on student achievement and success in school. The role fathers assume in their children's education has become the subject of increasing interest to researchers and policymakers because single and nonresident fathers have become more common and higher proportions of mothers have entered the labor force.

- Fathers in two-parent families, single fathers, and nonresident fathers were all more likely to attend a class event, a parent-teacher conference, or a general school meeting in 1996 than they were to volunteer in their children's schools.
- Fathers in single-parent families were more likely to have a high level of involvement in their children's schools than were fathers in two-parent families and nonresident fathers. Nearly half of fathers in two-parent families had a low level of involvement in their children's schools, as did a large majority of nonresident fathers.
- Children of fathers with high levels of involvement in their schools were generally more likely than children of fathers with low levels of involvement to have positive school outcomes. For example, children of fathers with high levels of involvement were more likely to enjoy school and less likely to be expelled or suspended than were children of fathers with low levels of involvement.

Percentage of students in grades K-12 whose fathers were involved in their schools during the current school year, by type of activity and family type: 1996

Family type	Level of involvement ¹		Type of activity			
	High	Low	Volunteered	Attended class event	Attended parent-teacher conference	Attended general school meeting
Fathers in two-parent families	26.8	47.8	15.4	52.9	38.7	55.3
Fathers in single-parent families	46.1	28.4	23.3	64.8	63.9	68.3
Nonresident fathers ²	8.7	82.5	4.0	22.0	15.0	18.0

Percentage of students in grades K-12 with selected school outcomes during the current school year, by family type and level of fathers' involvement in child's school: 1996

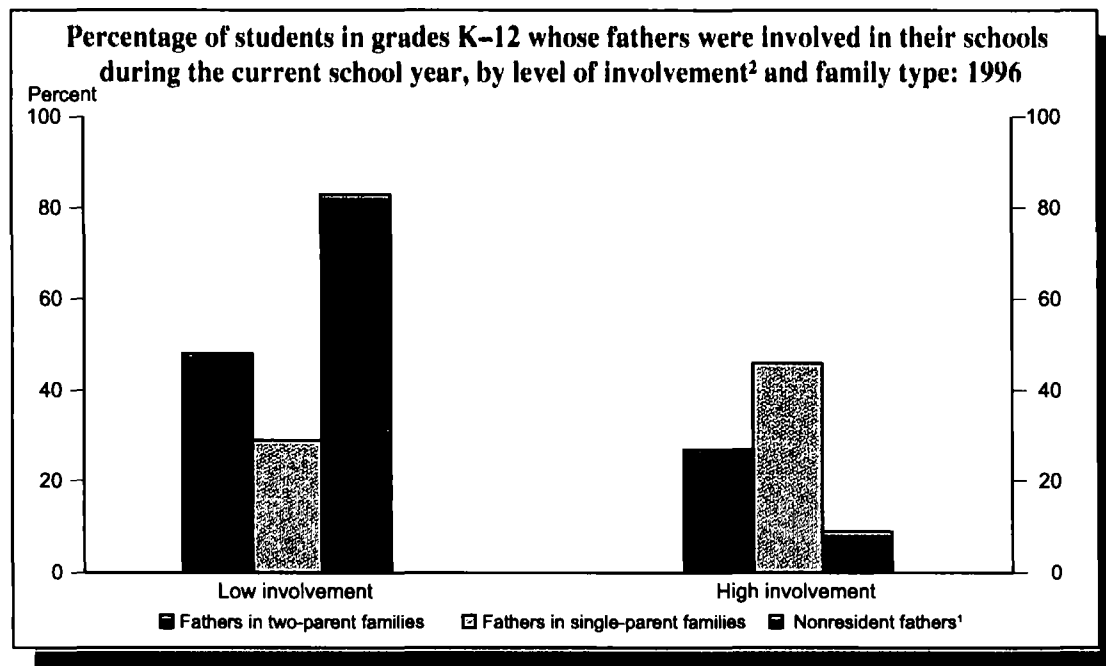
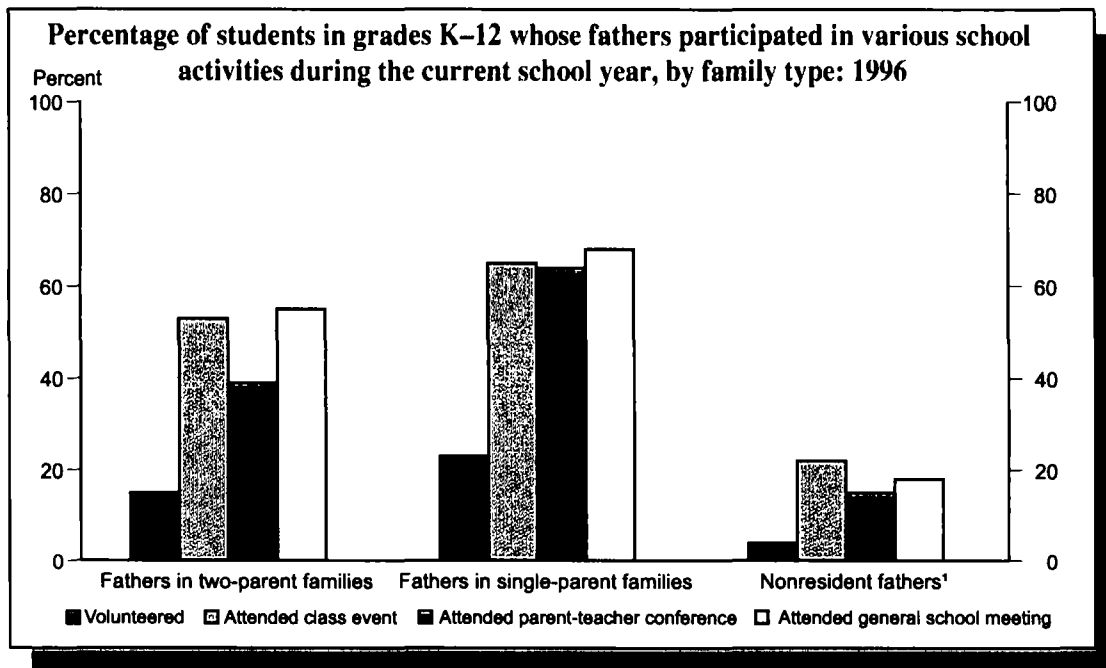
Family type and level of fathers' involvement ¹	Child gets mostly A's (Grades 1-12)	Child enjoys school (Grades 1-12)	Child participated in extracurricular activities		Child has repeated a grade (Grades K-12)	Child has ever been expelled/suspended (Grades 6-12)
			Grades K-5	Grades 6-12		
Fathers in two-parent families						
Low involvement	34.1	33.0	73.7	79.3	14.8	17.7
High involvement	50.4	49.8	90.6	94.5	6.7	9.8
Fathers in single-parent families						
Low involvement	16.6	29.8	60.7	68.6	17.9	34.5
High involvement	31.7	43.9	79.1	86.3	13.3	11.4
Nonresident fathers ²						
Low involvement	29.1	34.7	73.5	75.5	18.1	27.8
High involvement	35.2	44.8	86.6	92.0	7.2	14.4

¹ Low involvement is defined as participation in none or only one activity out of four; high involvement is defined as participation in three or four activities.

² These percentages represent the 75 percent of all nonresident fathers who were reported to have had contact with their children within the past year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1996 (Parent and Family Involvement in Education and Civic Involvement Components).

Fathers' involvement in their children's education: 1996



¹ These percentages represent the 75 percent of all nonresident fathers who were reported to have had contact with their children within the past year.

² Low involvement is defined as participation in none or only one activity out of four; high involvement is defined as participation in three or four activities.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1996 (Parent and Family Involvement in Education and Civic Involvement Components).

Family characteristics of 6- to 12-year-olds

The family environment in which a child lives affects many aspects of that child's life, including school performance. For example, research has shown that family characteristics, such as parents' educational attainment, number of children in the family, family income, and mother's employment status, are related to student achievement. Data on such family characteristics may help policymakers and educators to apply resources efficiently and to develop programs designed to increase learning.

- The educational attainment of parents of 6- to 12-year-olds increased substantially between 1972 and 1997. For example, the percentage whose mothers completed at least high school increased from 66 to 84 percent, while the percentage whose fathers completed at least high school rose from 65 to 85 percent (see supplemental table 36-1).
- The employment rate of mothers of 6- to 12-year-olds increased between 1972 and 1997, rising from 39 percent in 1972 to 66 percent in 1997. The employment rate of fathers decreased slightly from 93 percent in 1972 to 91 percent in 1997. Despite the increase in mothers' employment, median family income (in constant 1997 dollars) remained relatively stable between 1972 and 1992 and increased between 1992 and 1997 (see supplemental table 36-1).
- The percentage of 6- to 12-year-olds who lived with only their mother doubled between 1972 and 1997, increasing from 12 to 24 percent. Conversely, the percentage who lived with two parents decreased from 87 to 71 percent during the same period.
- In 1997, 6- to 12-year-olds had fewer other children in their household than their peers in 1972. For example, in 1972, 71 percent of 6- to 12-year-olds had two or more brothers or sisters, compared with 46 percent in 1997.

Percentage distribution of 6- to 12-year-olds, by selected family characteristics: 1972-97

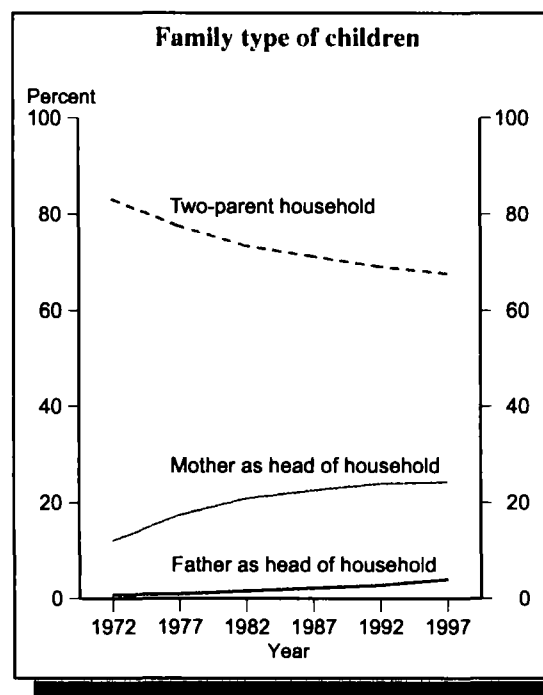
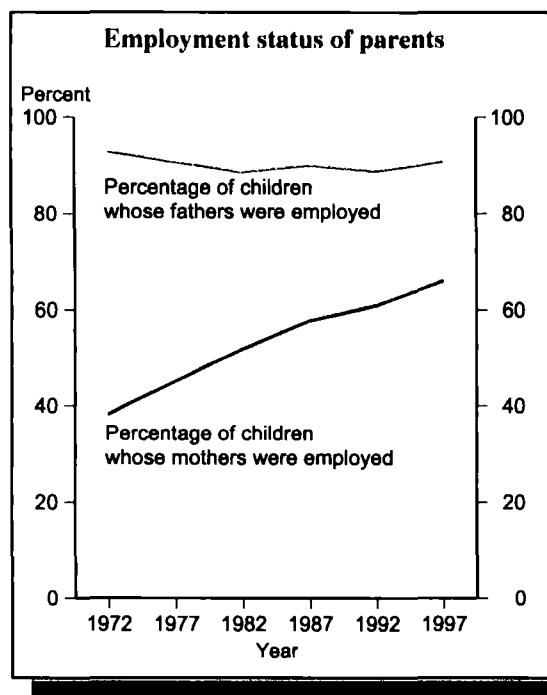
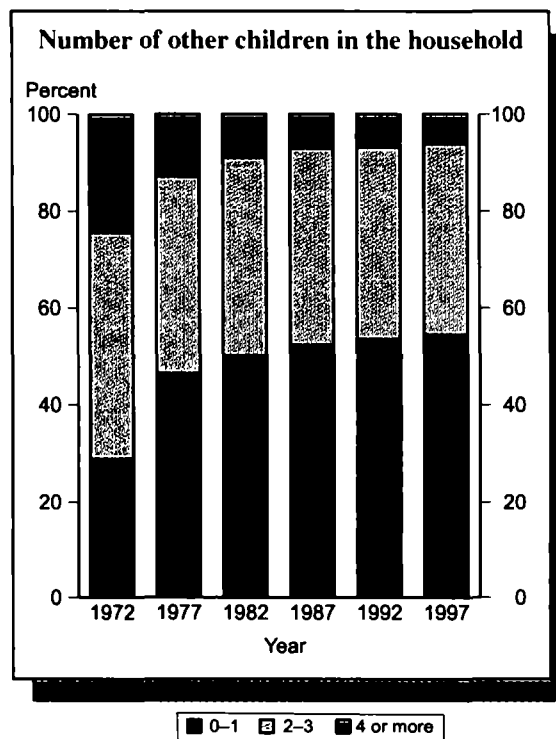
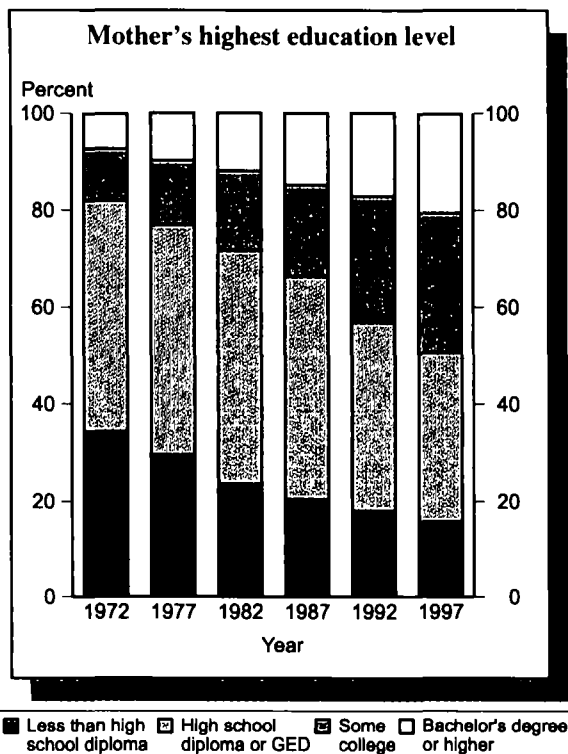
Selected family characteristics	1972	1977	1982	1987	1992	1997
Mother's highest education level						
Less than high school diploma	34.3	29.5	23.6	20.4	18.0	15.8
High school diploma or GED	47.6	47.4	48.0	45.9	38.8	34.8
Some college	10.8	13.4	16.5	18.9	26.1	28.8
Bachelor's degree or higher	7.2	9.8	12.0	14.8	17.2	20.5
Percentage of children whose mothers were employed	38.5	45.5	52.1	58.1	61.2	66.4
Percentage of children whose fathers were employed	93.1	91.0	88.9	90.3	89.1	91.2
Family type						
Two-parent household	86.8	81.2	77.1	74.9	72.8	71.4
Father as head of household	1.0	1.2	1.8	2.4	3.0	4.2
Mother as head of household	12.3	17.6	21.1	22.7	24.1	24.4
Number of other children in household						
0-1	28.8	46.4	50.1	52.3	53.5	54.5
2-3	46.7	40.8	41.0	40.8	39.8	39.5
4 or more	24.4	12.8	8.9	7.0	6.7	6.1

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. See the supplemental note to *Indicator 59* for further discussion. Information on parents' educational attainment, employment status, or age of mother at child's birth is available only for those parents who live in the same household with their child. See the supplemental note to this indicator for further discussion on how the data were calculated.

In 1994, the survey instrument for the CPS was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further discussion. Percentages for employment status were based on the total population, not just those in the labor force. Details may not add to 100.0 due to rounding.

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

Percentage distribution of 6- to 12-year-olds, by family characteristics: 1972-97



NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. See the supplemental note to *Indicator 59* for further discussion. Information on parents' educational attainment, employment status, or age of mother at child's birth is available only for those parents who live in the same household with their child. See the supplemental note to this indicator for further discussion on how the data were calculated.

In 1994, the survey instrument for the CPS was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further discussion. Percentages for employment status were based on the total population, not just those in the labor force.

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

National indicators of public investment in education

The level of public investment in education can be measured in several ways. The national index of public effort is revenue raised for the education of students relative to the income of taxpayers adjusted for the number of students and the total population. The numerator measures average financial resources available for the education of each student. The denominator measures the taxpayer's average ability to pay. The index is the number of dollars of revenue raised for each student from each \$100 of income received by each member of the population.

- In 1996, the national effort index for elementary and secondary education was 23.5, a slight decrease after a 3.2 point increase between 1982 and 1994.
- The national effort index for higher education was 20.6 in 1996, 10.7 points below the high in 1966 (see supplemental table 37-1). However, higher education public revenues per student have been relatively stable since 1970, except for a drop in the early 1980s.
- After remaining relatively stable during the 1980s, elementary and secondary public education revenue as a percentage of Gross Domestic Product (GDP) rose between 1988 and 1992, but did not rebound to the level of the early to mid-1970s. Higher education revenue as a percentage of GDP has remained about 1 percent since 1970.

National effort index and other indicators of public effort to fund education (in constant 1998 dollars), by level: School years ending 1930-96

School year ending	National effort index ¹		Revenues per student ²		Per capita personal income ²	Revenues as a percentage of			
						GDP ³		Personal income	
	Elementary/secondary	Higher education	Elementary/secondary	Higher education		Elementary/secondary	Higher education	Elementary/secondary	Higher education
1930 ⁴	10.5	22.5	\$696	\$1,490	\$6,609	2.0	0.2	2.4	0.2
1940 ⁴	13.4	24.0	933	1,671	6,958	2.2	0.2	2.9	0.3
1950	13.7	28.8	1,303	2,745	9,536	2.0	0.4	2.6	0.5
1960	15.5	30.4	1,986	3,881	12,784	2.9	0.5	3.6	0.6
1970	19.5	31.1	3,376	5,390	17,340	4.1	1.0	4.5	1.0
1972	20.6	27.6	3,832	5,128	18,561	4.4	1.0	4.9	1.2
1974	21.1	26.5	4,003	5,034	18,968	4.2	1.1	5.0	1.2
1976	22.0	25.5	4,253	4,940	19,355	4.4	1.2	5.1	1.2
1978	20.8	24.2	4,316	5,004	20,716	4.0	1.1	4.8	1.2
1980	21.5	23.5	4,326	4,742	20,153	3.8	1.1	5.0	1.2
1982	20.8	21.9	4,157	4,384	20,009	3.5	1.0	5.0	1.3
1984	20.7	20.9	4,453	4,492	21,506	3.6	1.0	5.0	1.3
1986	21.7	23.0	4,927	5,212	22,697	3.6	1.0	4.8	1.3
1988	21.4	21.5	5,203	5,225	24,290	3.6	1.0	4.6	1.2
1990	23.9	21.3	5,786	5,161	24,191	3.8	1.0	4.5	1.2
1992	24.0	20.4	5,809	4,929	24,169	4.0	1.0	4.4	1.2
1994	24.0	20.6	5,880	5,043	24,538	4.0	1.0	4.3	1.2
1996	23.5	20.6	5,968	5,223	25,376	4.0	1.0	4.1	1.2

¹ Revenues per student divided by per capita personal income. Revised from previously published figures.

² For the calendar year in which the school year ended. In constant 1998 dollars, adjusted by the Consumer Price Index (CPI).

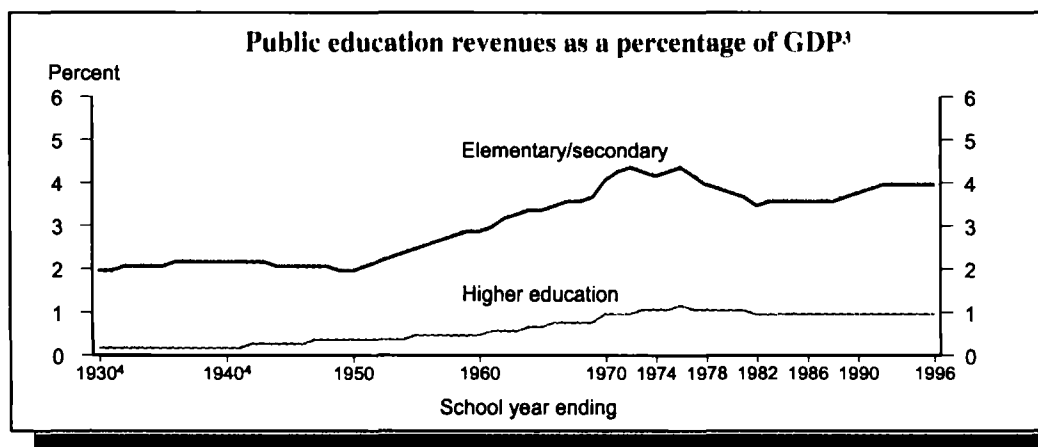
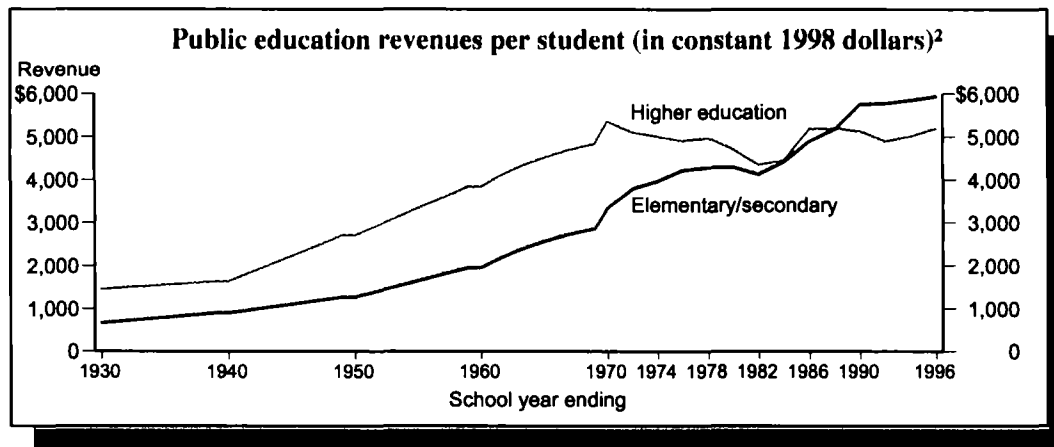
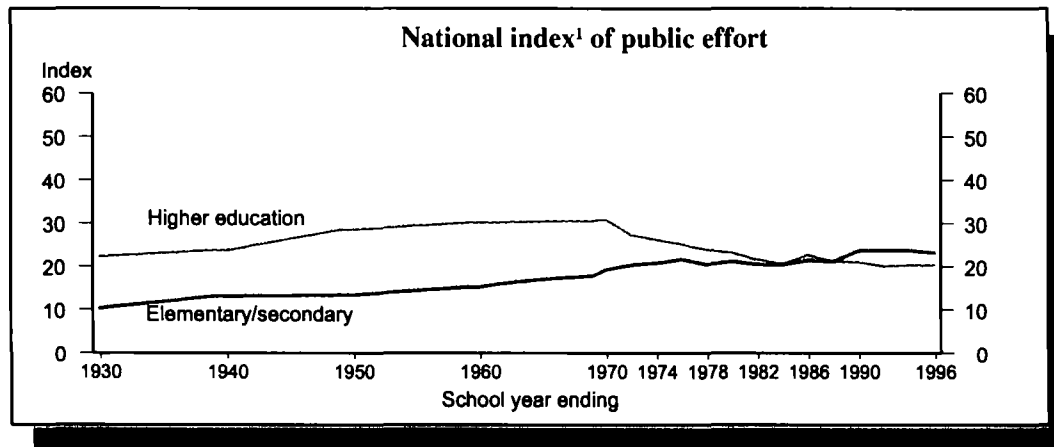
³ Gross Domestic Product (GDP) is Gross National Product (GNP) less net property income from abroad for the calendar year in which the school year began.

⁴ Income or population is for the calendar year in which the school year began.

NOTE: Public education revenues at the elementary and secondary level are revenues at public schools. Public funds for higher education may be used at many types of institutions, both publicly and privately controlled. Enrollment in both publicly and privately controlled institutions is included. For more information about the calculation of these statistics, see the supplemental note to this indicator.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998: 120 Years of American Education: A Statistical Portrait*, 1993.

National indicators of public investment in education, by level: School years ending 1930-96



¹ Revenues per student divided by per capita personal income. Revised from previously published figures.

² For the calendar year in which the school year ended. In constant 1998 dollars, adjusted by the Consumer Price Index (CPI).

³ Gross Domestic Product (GDP) is Gross National Product (GNP) less net property income from abroad for the calendar year in which the school year began.

⁴ Income or population is for the calendar year in which the school year began.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998: 120 Years of American Education: A Statistical Portrait*, 1993.

Public elementary and secondary expenditures per student

Public elementary and secondary spending can be divided into three main functional areas: instruction, support services, and capital outlay. How school districts spend the funds they receive is influenced by many factors, such as the overall level of funding; the differences in student needs (e.g., demand for special education services and programs for limited-English-proficient students); and the relative cost of educational resources (e.g., teacher salaries, building maintenance, and construction costs for new schools). The distribution of expenditures across functional areas is an indication of how public school systems allocate funds to meet their specific needs.

- In the 1995–96 school year, public schools spent, on average, \$6,855 per pupil (in constant 1998 dollars). Of that amount, more than half (\$3,677) was spent on instruction, which includes teacher salaries and benefits, supplies, and purchased instructional services.
- Between the 1989–90 and 1995–96 school years, the percentages of total expenditures per pupil that public schools spent on instruction and capital outlay increased slightly, whereas the percentage spent on support services decreased.
- In the 1994–95 school year, relatively high wealth school districts (those with a median household income of \$35,000 or more) spent more per pupil than school districts with less wealth. The distribution of expenditures across functional areas was slightly different according to the wealth of school districts. For example, wealthy school districts spent slightly less proportionally than poorer school districts (those with a median household income of less than \$20,000) in instruction (53 versus 55 percent) and more in capital outlay (9 versus 7 percent; see supplemental table 38-1).

Public school expenditures per pupil (in constant 1998 dollars) and percentage distribution, by function: School years 1989–90 to 1995–96

School year	Total	Instruction	Support services	Capital outlay	Other	Percentage distribution				
						Total	Instruction	Support services	Capital outlay	Other
1989–90	\$6,684	\$3,567	\$2,346	\$559	\$212	100.0	53.4	35.1	8.4	3.2
1991–92	6,710	3,576	2,303	565	266	100.0	53.3	34.3	8.4	4.0
1993–94	6,753	3,605	2,289	604	255	100.0	53.4	33.9	9.0	3.8
1994–95	6,802	3,670	2,275	596	260	100.0	54.0	33.4	8.8	3.8
1995–96	6,855	3,677	2,279	643	256	100.0	53.6	33.2	9.4	3.7

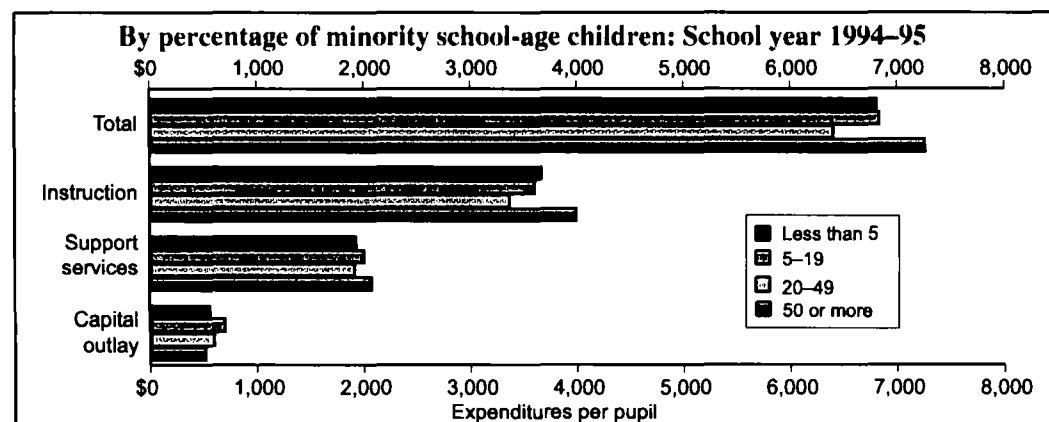
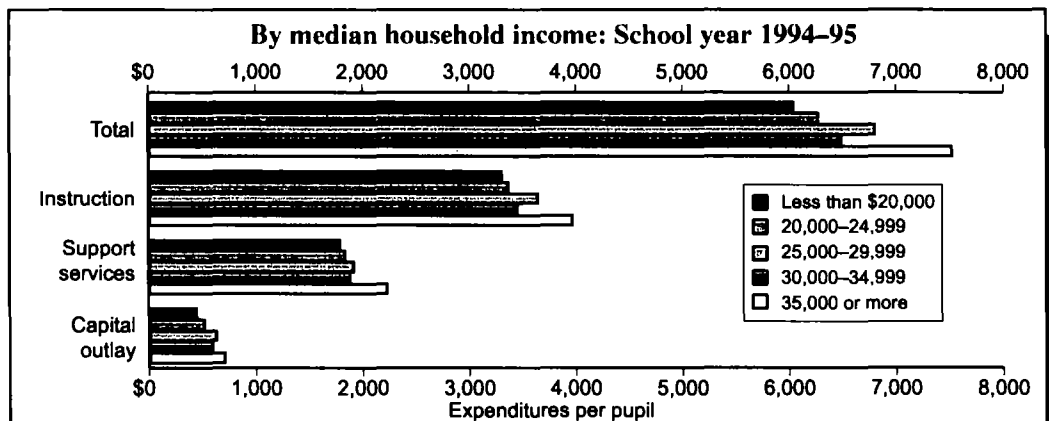
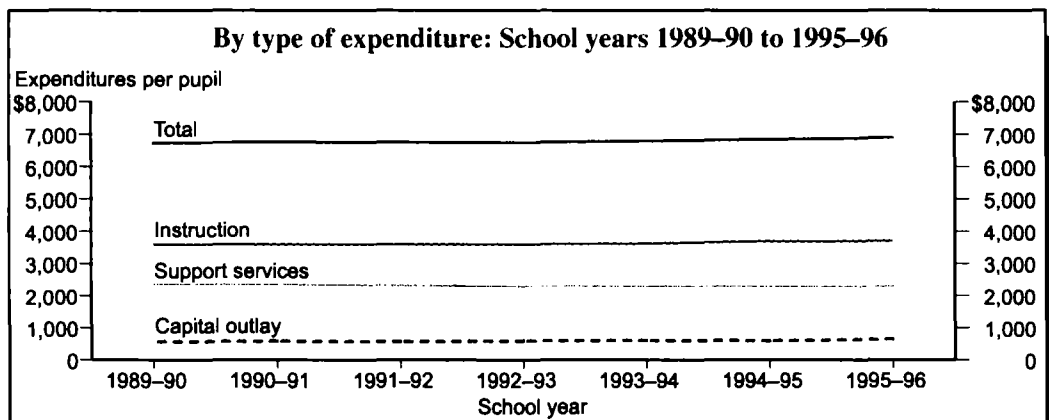
Public school expenditures per pupil (in constant 1998 dollars), by function and selected district characteristics: School year 1994–95

Selected district characteristics	Total	Instruction	Support services	Capital outlay	Other
Median household income					
Less than \$20,000	\$6,028	\$3,289	\$1,775	\$431	\$534
20,000–24,999	6,259	3,356	1,823	501	580
25,000–29,999	6,790	3,631	1,902	616	642
30,000–34,999	6,479	3,439	1,871	578	591
35,000 or more	7,504	3,952	2,217	693	642
Percentage of minority school-age children					
Less than 5	6,798	3,653	1,920	548	678
5–19	6,827	3,592	1,990	684	561
20–49	6,396	3,357	1,904	587	548
50 or more	7,251	3,980	2,063	506	702

NOTE: See the glossary for definitions of specific expenditure functions. The district characteristics are from the U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations." The school year Consumer Price Index (CPI) was used to adjust expenditures to constant 1998 dollars. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys, various years, and "School District Finance File," 1994–95. U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations."

Public school expenditures per pupil (in constant 1998 dollars), by function



NOTE: See the glossary for definitions of specific expenditure functions. The district characteristics are from the U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations." The school year Consumer Price Index (CPI) was used to adjust expenditures to constant 1998 dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys, various years, and "School District Finance File," 1994-95. U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations."

Higher education revenues per student

Tuition and fees, government appropriations, and gifts and endowments provide most of the revenues for institutions of higher education. The proportion of total revenues from each source can vary from year to year, thus requiring administrators of U.S. colleges and universities to be alert to changes in the overall availability of funds. The availability of funds and their sources affect decisions about rates for tuition and fees and, in turn, the cost of providing and completing a higher education degree.

- The primary source of revenue for all public institutions is government appropriations. Between 1986 and 1996, government appropriations per full-time-equivalent (FTE) student fell both in constant 1995–96 dollars and as a share of all revenue at public universities from \$8,980 to \$7,994 and from 53 to 40 percent as a share of all revenue (see supplemental tables 39-1 and 39-2).
- Between 1986 and 1996, tuition and fees per FTE student increased both in constant dollars and as a share of all revenue at public institutions. At public universities, for example, tuition and fees rose from \$3,186 to \$4,825 in constant 1995–96 dollars and from 19 to 25 percent as a share of all revenue between 1986 and 1996 (see supplemental table 39-1).
- Between 1986 and 1996, average tuition and fee revenue per FTE student increased at private universities, rising from \$12,000 to \$16,299 in constant 1995–96 dollars. In addition, revenue from private gifts and endowment income per FTE student climbed by 37 percent (from \$6,014 to \$8,227), compared with an increase of 12 percent at private 4-year colleges (from \$2,794 to \$3,134).

General education revenues of higher education institutions per full-time-equivalent (FTE) student (in constant 1995–96 dollars), by selected revenue sources and control and type of institution: Academic years ending 1977–96

Academic year ending	Universities				Colleges					
	Private		Public		Private 4-year		Public 4-year		Public 2-year	
	Tuition and fees*	Gifts and endowment	Tuition and fees*	Government appropriations	Tuition and fees*	Gifts and endowment	Tuition and fees*	Government appropriations	Tuition and fees*	Government appropriations
1977	\$9,172	\$4,779	\$2,487	\$8,386	\$6,945	\$2,417	\$1,865	\$7,466	\$1,018	\$4,513
1978	9,141	4,731	2,514	8,558	6,978	2,343	1,838	7,621	977	4,555
1979	9,232	4,779	2,556	8,829	7,021	2,358	1,806	7,897	979	4,620
1980	9,267	4,782	2,525	8,646	7,087	2,454	1,785	7,976	983	4,511
1981	9,512	4,937	2,543	8,301	7,137	2,466	1,808	7,795	979	4,248
1982	9,866	4,971	2,659	8,110	7,353	2,546	1,892	7,758	1,034	4,190
1983	10,537	4,836	2,877	7,935	7,672	2,602	1,943	7,528	1,039	3,891
1984	11,219	5,532	2,997	8,240	7,918	2,629	2,104	7,453	1,077	3,970
1985	11,601	5,809	3,012	8,779	8,170	2,749	2,161	8,014	1,147	4,309
1986	12,000	6,014	3,186	8,980	8,402	2,794	2,243	8,169	1,165	4,510
1987	12,848	6,317	3,330	8,759	8,947	2,924	2,245	7,871	1,177	4,528
1988	13,198	6,573	3,492	8,841	9,193	2,909	2,336	7,952	1,162	4,423
1989	13,502	6,709	3,584	8,821	9,383	2,902	2,401	7,616	1,220	4,436
1990	13,628	6,822	3,668	8,678	9,684	2,845	2,443	7,436	1,221	4,271
1991	14,210	6,958	3,794	8,442	9,919	2,790	2,458	6,856	1,274	4,245
1992	14,557	6,960	4,050	8,056	10,255	2,667	2,703	6,659	1,337	4,004
1993	14,963	7,337	4,340	7,964	10,474	2,634	2,968	6,532	1,438	3,953
1994	15,469	7,538	4,526	7,929	10,786	2,621	3,083	6,470	1,522	4,066
1995	15,900	7,761	4,668	8,062	11,111	2,775	3,163	6,592	1,534	4,167
1996	16,299	8,227	4,825	7,994	11,337	3,134	3,263	6,481	1,574	4,199

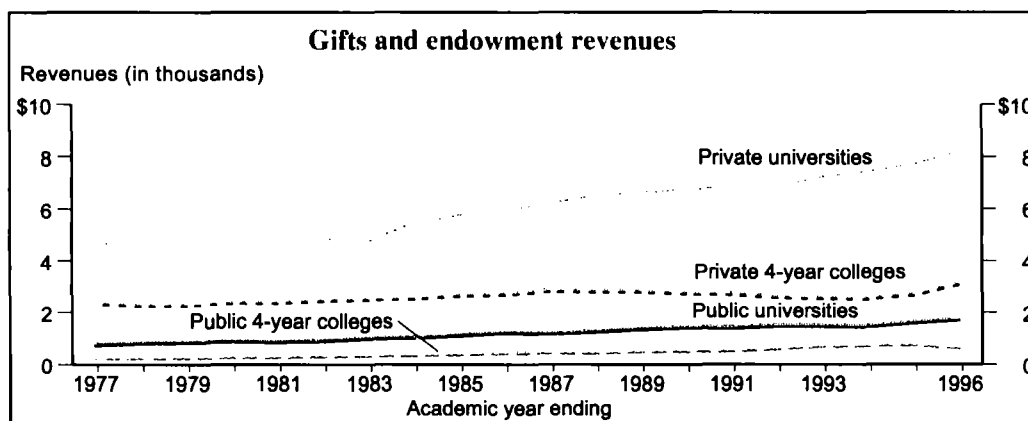
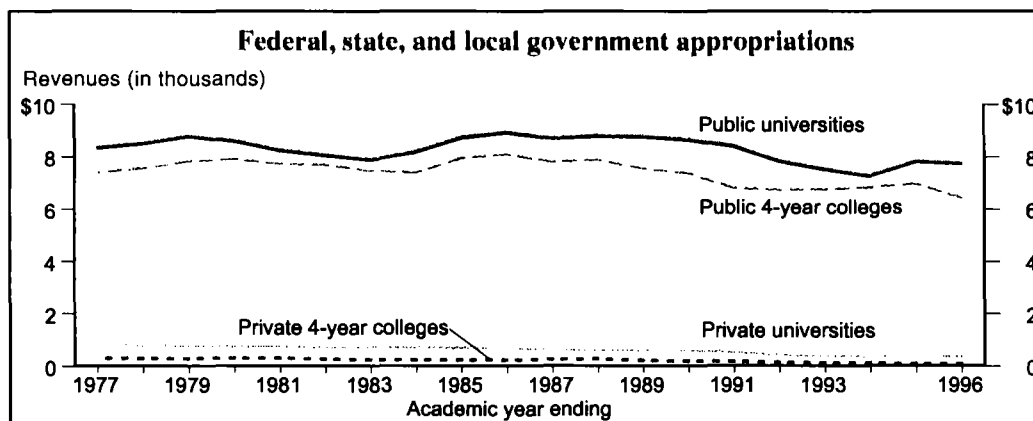
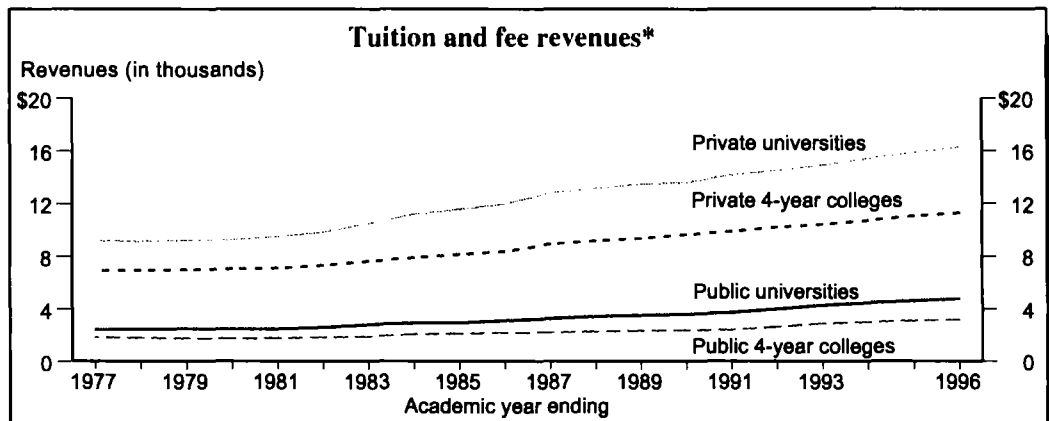
* Federally supported student aid received through students (e.g., Federal Student Loan Programs) is included under tuition and fees.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars. Data for academic years 1976–77 through 1985–86 include only institutions that provided both enrollment and finance data. Data for "Gifts and endowment" and "Federal appropriations" do not always match individual categories presented in table 39-2 due to rounding. FTE students include both undergraduate and

graduate students. Data from academic years ending 1989 to 1995 were revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS) "Financial Statistics of Institutions of Higher Education" survey and Integrated Postsecondary Education Data System (IPEDS) "Institutional Characteristics," "Financial Statistics," and "Fall Enrollment" surveys.

General education revenues of higher education institutions per full-time-equivalent (FTE) student (in constant 1995-96 dollars), by selected revenue sources and control and type of institution: Academic years ending 1977-96



* Federally supported student aid received through students (e.g., Federal Student Loan Programs) is included under tuition and fees.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars. Data for academic years 1976-77 through 1985-86 include only institutions that provided both enrollment and finance data. Data for "Gifts and endowment" and "Federal appropriations" do not always match individual categories presented in table 39-2 due to rounding. FTE students include both undergraduate and

graduate students. Data from academic years 1989 to 1995 were revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS) "Financial Statistics of Institutions of Higher Education" survey and Integrated Postsecondary Education Data System (IPEDS) "Institutional Characteristics," "Financial Statistics," and "Fall Enrollment" surveys.

Higher education expenditures per student

Faculty and staff salaries and institutionally supported research account for a large share of higher education expenditures. Since differences in institutional spending can affect the quality and nature of instruction and learning experiences, understanding variations in expenditures can provide insight into the organization and operation of higher education.

- Overall spending per full-time-equivalent (FTE) student increased at all types of higher education institutions between 1986 and 1996. In constant 1995–96 dollars, increases ranged from 7 percent at public 2-year colleges (from \$6,292 to \$6,733 per FTE student) to 33 percent at private universities (from \$27,983 to \$37,200 per FTE student).
- Although instructional expenditures per FTE student increased between 1986 and 1996, instructional spending as a percentage of total expenditures fell at public universities, public 4-year colleges, private 4-year colleges, and public 2-year colleges (by 2, 4, 3, and 2 percentage points, respectively). At private universities, instructional spending as a percentage of total expenditures remained similar during this period (see supplemental table 40-1).
- In 1996, total expenditures per FTE student were higher at private universities than at public universities (\$37,200 versus \$19,700). Likewise, total expenditures at private 4-year colleges were higher than expenditures at public 4- and 2-year colleges (\$17,177 versus \$13,403 and \$6,733, respectively).
- Between 1986 and 1996, research expenditures increased by 27 percent in private universities (from \$5,173 to \$6,551 per FTE student) and by 29 percent in public universities (from \$3,319 to \$4,292 per FTE student). Over the decade, research spending accounted for roughly 18 percent of total institutional expenditures in private universities, and rose from 20 to 22 percent of total spending in public universities (see supplemental table 40-1).

Educational and general expenditures of higher education institutions per full-time-equivalent (FTE) student (in constant 1995–96 dollars), by selected expenditure categories and control and type of institution: Academic years ending 1977–96

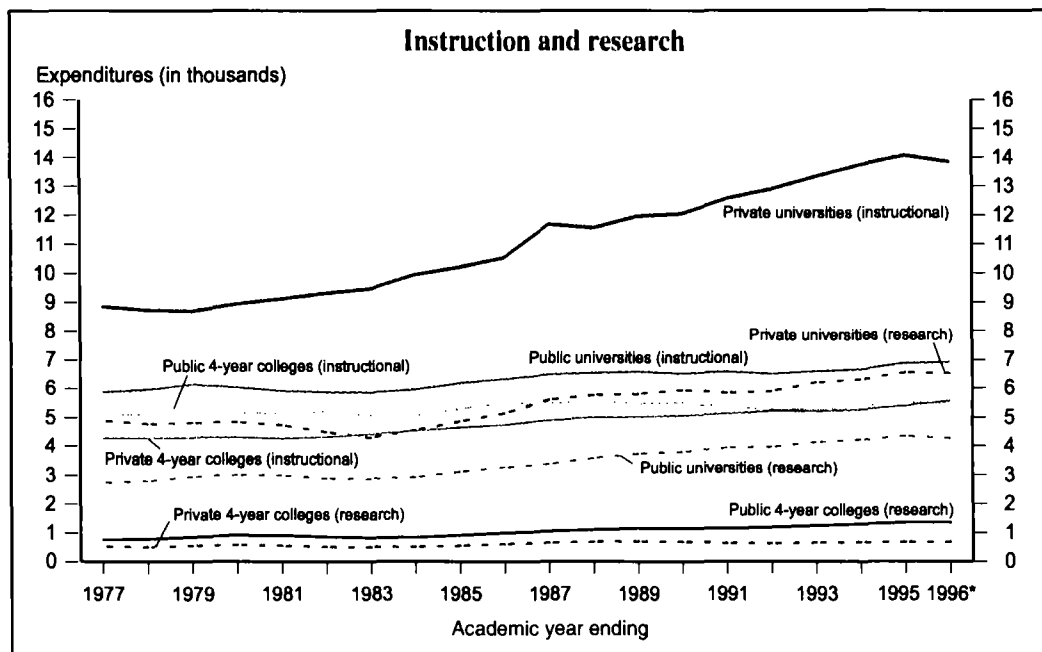
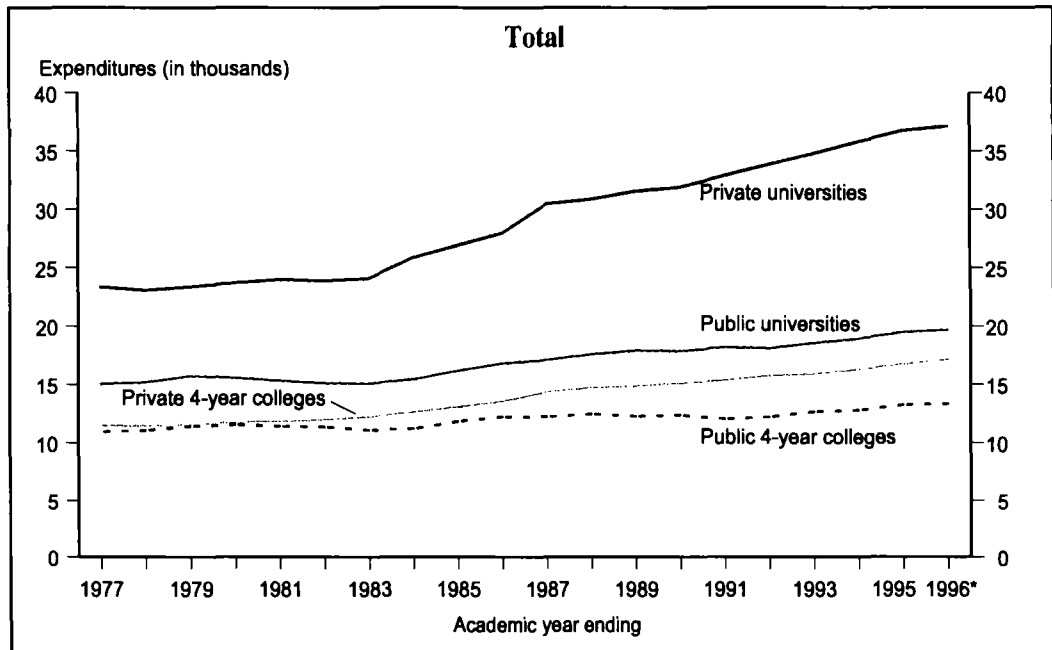
Academic year ending	Universities						Colleges					
	Private			Public			Private 4-year		Public 4-year		Public 2-year	
	Total	Instruc- tion	Re- search	Total	Instruc- tion	Re- search	Total	Instruc- tion	Total	Instruc- tion	Total	Instruc- tion
1977	\$23,395	\$8,895	\$4,927	\$15,112	\$5,893	\$2,774	\$11,533	\$4,307	\$11,020	\$5,111	\$5,939	\$3,033
1980	23,750	8,992	4,875	15,633	6,059	3,047	11,821	4,334	11,598	5,203	6,071	3,053
1983	24,140	9,505	4,313	15,139	5,878	2,905	12,279	4,449	11,148	5,091	5,499	2,797
1986	27,983	10,569	5,173	16,868	6,357	3,319	13,605	4,770	12,283	5,532	6,292	3,140
1987	30,544	11,732	5,633	17,162	6,521	3,428	14,409	4,947	12,278	5,489	6,394	3,173
1988	30,934	11,612	5,790	17,628	6,581	3,631	14,768	5,032	12,527	5,586	6,309	3,104
1989	31,609	12,004	5,823	17,961	6,613	3,764	14,916	5,041	12,335	5,502	6,379	3,162
1990	31,961	12,087	5,954	17,915	6,552	3,827	15,167	5,085	12,447	5,525	6,206	3,090
1991	32,945	12,616	5,858	18,237	6,613	3,963	15,417	5,153	12,102	5,367	6,276	3,129
1992	33,923	12,945	5,912	18,145	6,538	3,988	15,812	5,232	12,262	5,297	5,992	3,014
1993	34,870	13,386	6,225	18,588	6,628	4,150	15,964	5,236	12,714	5,338	6,082	3,047
1994	35,876	13,799	6,334	18,957	6,693	4,241	16,340	5,284	12,862	5,416	6,390	3,154
1995	36,828	14,117	6,583	19,525	6,913	4,353	16,799	5,422	13,317	5,566	6,538	3,205
1996*	37,200	13,902	6,551	19,700	6,946	4,292	17,177	5,593	13,403	5,486	6,733	3,240

* Preliminary data.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars. Data for academic years 1976–77 through 1985–86 include only institutions that provided both enrollment and finance data. FTE students include both undergraduate and graduate students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on the IPEDS "Institutional Characteristics," "Financial Statistics," and "Fall Enrollment" surveys).

**Educational and general expenditures of higher education institutions per full-time-equivalent (FTE) student (in constant 1995-96 dollars), by control and type of institution:
Academic years ending 1977-96**



* Preliminary data.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars. Data for academic years 1976-77 through 1985-86 include only institutions that provided both enrollment and finance data. FTE students include both undergraduate and graduate students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on the IPEDS "Institutional Characteristics," "Financial Statistics," and "Fall Enrollment" surveys).

International comparisons of expenditures for education

The proportion of total financial resources that countries invest in education indicate the relative importance that they place on education. The public and private shares indicate where the responsibility lies for funding education in that country. International comparisons of expenditures for education vary considerably in the share of national resources devoted to education, the sources (public or private) of funds spent on education, and the levels of education to which funds are allocated.

- Total expenditures for elementary and secondary education represented 3.9 percent of the U.S. Gross Domestic Product (GDP) in 1995; expenditures for higher education represented 2.3 percent of the GDP in the same year. Total expenditures for all education levels, including preprimary, and all sources combined made up 6.7 percent of the GDP of the United States. Of the G-7 countries, only Canada spent a larger fraction of its GDP on elementary–secondary and higher education than the United States, and France also spent a larger percentage of its GDP than did the United States on elementary–secondary education.
- Some countries rely more heavily than others on expenditures from private sources to finance education. For example, in both the United States and Japan, the percentage of GDP spent on higher education from private sources (1.2 and 0.6, respectively) was higher than the percentage from public sources (1.1 and 0.4, respectively). In other G-7 countries, the percentage from private sources was much smaller than the percentage from public sources. A number of G-7 countries had private funding levels for elementary–secondary schools that were similar to those of the United States, including Canada, France, and Japan.
- Among the G-7 countries, expenditures per student at the elementary and secondary levels in 1995 ranged from \$3,328 and \$4,246 in the United Kingdom to \$5,371 and \$6,812 in the United States, respectively. For higher education, however, expenditures per student varied widely. The United States spent more per higher education student than any other G-7 country and spent more than twice the amount spent in France, Italy, and the United Kingdom.

Public and private expenditures on educational institutions¹ in G-7 countries as a percentage of GDP, by level of education, funding source, and country: 1995

G-7 country	As a percent of GDP					Per student ²		
	Elementary–secondary		Higher education		All levels and sources combined ⁶	Constant 1995 U.S. dollars ³		
	Public sources ⁴	Private sources ⁵	Public sources ⁴	Private sources ⁵		Elementary	Secondary	Higher education
Canada	4.0	0.3	2.0	0.5	7.0	—	—	\$11,471
France	4.1	0.3	1.0	0.2	6.3	\$3,379	\$6,182	6,569
Germany	2.9	0.9	1.0	0.1	5.8	3,361	6,254	8,897
Italy	3.2	(⁷)	0.8	0.1	4.7	4,673	5,348	5,013
Japan	2.8	0.3	0.4	0.6	4.7	4,065	4,465	8,768
United Kingdom	3.8	—	0.9	0.1	—	3,328	4,246	7,225
United States	3.5	0.4	1.1	1.2	6.7	5,371	6,812	16,262

— Not available.

¹ Includes all institutions, public and private, with the exception of Germany and Italy, which include only public institutions, and the United Kingdom, which includes public and government-dependent private institutions.

² Per student expenditures are calculated based on public and private Full-Time-Equivalent (FTE) enrollment figures and expenditures from both public and private sources, where data are available.

³ Purchasing Power Parity (PPP) indices were used to convert other currencies to U.S. dollars. Because the fiscal year has a different starting date in different countries, within-country Consumer Price Indices (CPIs) were used to adjust the PPP indices to account for inflation. See the supplemental note to this indicator for further explanation.

⁴ Public expenditures are defined as direct public expenditures on education institutions plus public subsidies to households and other private entities for education (e.g., tuition and fees), excluding other education-related public aid to students and households (e.g., subsidies for student living costs).

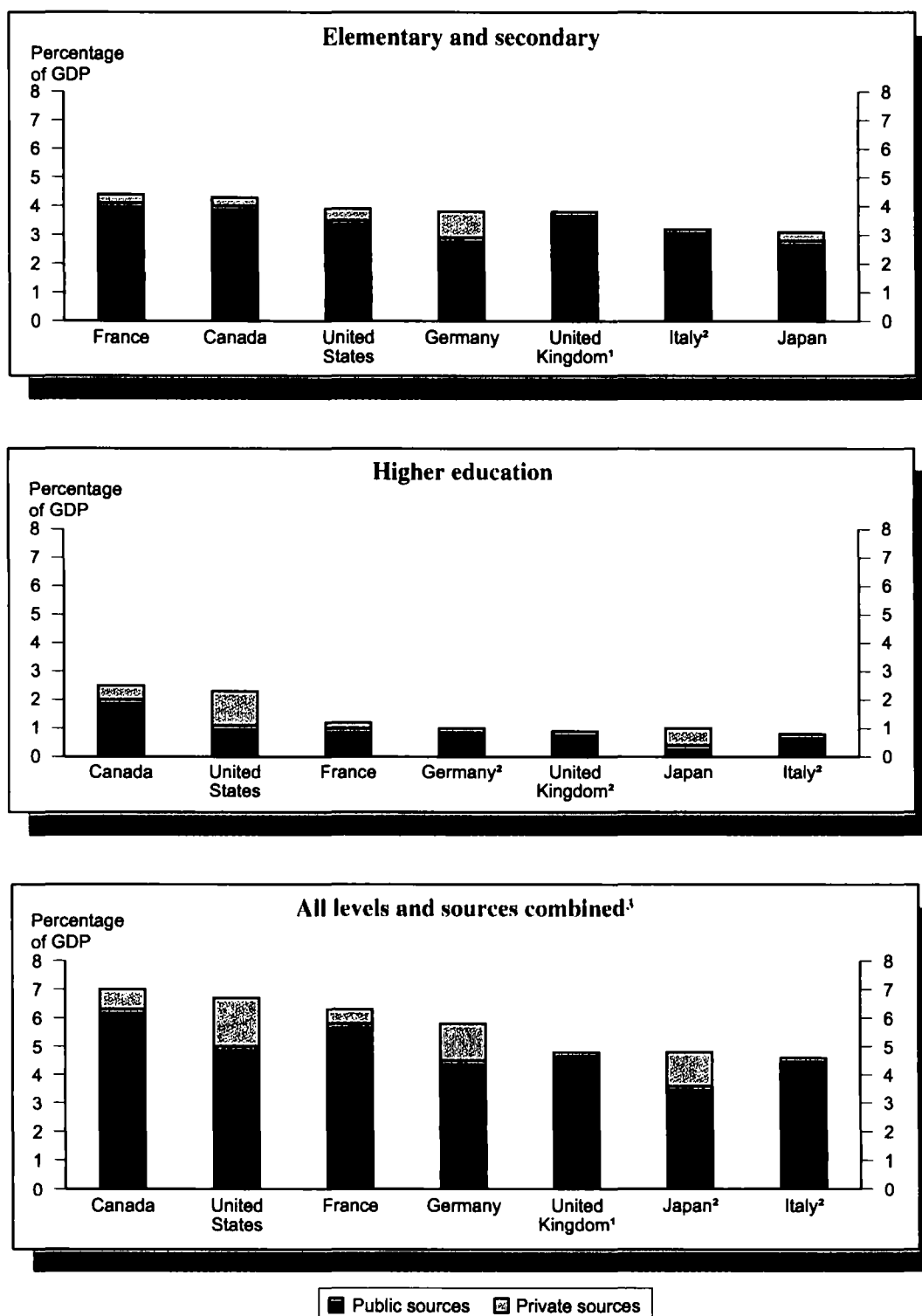
⁵ Private expenditures are defined as private payments from households and other private entities to education institutions, minus any portion derived from public subsidies.

⁶ "All levels combined" includes expenditures on preprimary education and funds classified as "undistributed," a classification reserved for enrollments, expenditures, or programs that cannot be classified by level (e.g., nongraded special education).

⁷ Percentage is less than 0.05.

SOURCE: Organisation for Economic Co-operation and Development, Center for Educational Research and Innovation, *Education at a Glance: OECD Indicators*, 1998.

Public and private expenditures on educational institutions in G-7 countries as a percentage of Gross Domestic Product (GDP), by level of education and funding source: 1995



¹ Sources of funds for the United Kingdom were not available.

² Private sources of funds for some countries are less than 1 percent; therefore, percentages may not be discernable in the graphs.

³ "All levels combined" includes expenditures on preprimary education and funds classified as "undistributed," a classification

reserved for enrollments, expenditures, or programs that cannot be classified by level (e.g., nongraded special education).

SOURCE: Organisation for Economic Co-operation and Development, Center for Educational Research and Innovation, *Education at a Glance: OECD Indicators*, 1998.

Trends in student borrowing: Subsidized and unsubsidized loans

The 1992 Reauthorization of the Higher Education Act expressed the desire of Congress to improve access to postsecondary education by allowing students from all income levels to receive unsubsidized Stafford federal student loans. In addition, students who qualify can also receive a subsidized federal student loan, with the federal government paying the interest while the students are enrolled. With unsubsidized federal loans, students are charged interest while enrolled, so there is some concern about the effect of this burden. Prior to 1993–94, unsubsidized federal loans were available only to independent students and to dependent students with exceptional need.

- The percentage of full-time, full-year undergraduates with subsidized federal student loans increased from 30 to 37 percent between 1992–93 and 1995–96. During the same period, the percentage with unsubsidized loans increased from 4 to 16 percent.
- While 1 percent of dependent undergraduates received an unsubsidized federal student loan in 1992–93, 12 percent did so by 1995–96.
- The percentage of independent students with unsubsidized federal student loans increased from 12 to 27 percent between 1992–93 and 1995–96, and increased in every income group.
- The percentage of independent students who received only subsidized federal loans decreased from 29 percent to 22 percent between 1992–93 and 1995–96 (see supplemental table 42-1).

Percentage of full-time, full-year undergraduates with subsidized and unsubsidized federal student loans, and for those with loans, the average amount borrowed in each academic year: 1992–93 and 1995–96¹

Selected institutional and student characteristics	1992–93				1995–96			
	Subsidized loans		Unsubsidized loans		Subsidized loans		Unsubsidized loans	
	Percent	Average amount	Percent	Average amount	Percent	Average amount	Percent	Average amount
Total	29.7	\$2,837	3.8	\$3,044	36.8	\$3,373	16.0	\$3,103
Control and type of institution ²								
Public 4-year	28.6	2,771	2.8	2,848	36.9	3,502	17.1	3,029
Private, not-for-profit 4-year	42.0	2,983	4.3	3,438	49.6	3,662	15.4	3,337
Public 2-year	10.1	2,107	1.2	—	12.1	2,312	6.4	2,637
Private, for-profit	51.5	3,096	15.5	2,936	59.5	2,899	38.7	3,413
Dependency status								
Dependent	25.6	2,741	0.8	2,792	33.4	3,251	12.1	2,904
Independent	39.8	2,990	11.5	3,086	46.3	3,621	27.1	3,355
Dependent family income								
Low quartile	45.0	2,664	1.4	2,546	44.8	3,272	5.5	2,718
Lower middle quartile	36.4	2,753	1.1	2,788	46.7	3,390	8.2	2,277
Upper middle quartile	21.6	2,761	0.5	3,075	32.3	3,155	16.6	2,741
High quartile	12.9	2,869	0.4	—	13.4	2,989	16.8	3,377
Independent family income								
Low quartile	45.7	2,901	10.6	2,796	52.9	3,672	27.3	3,043
Lower middle quartile	37.7	3,028	13.0	3,285	51.1	3,613	28.7	3,377
Upper middle quartile	34.1	3,121	12.0	3,233	42.6	3,556	25.3	3,508
High quartile	29.7	3,205	11.2	3,394	24.7	3,514	26.1	3,972

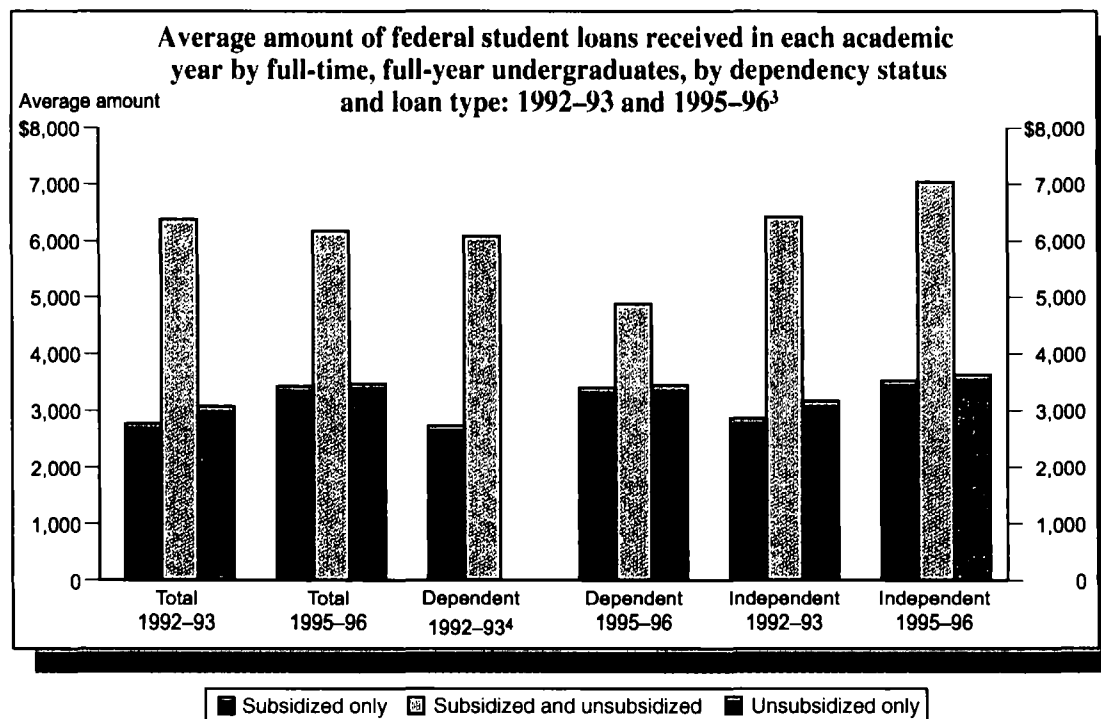
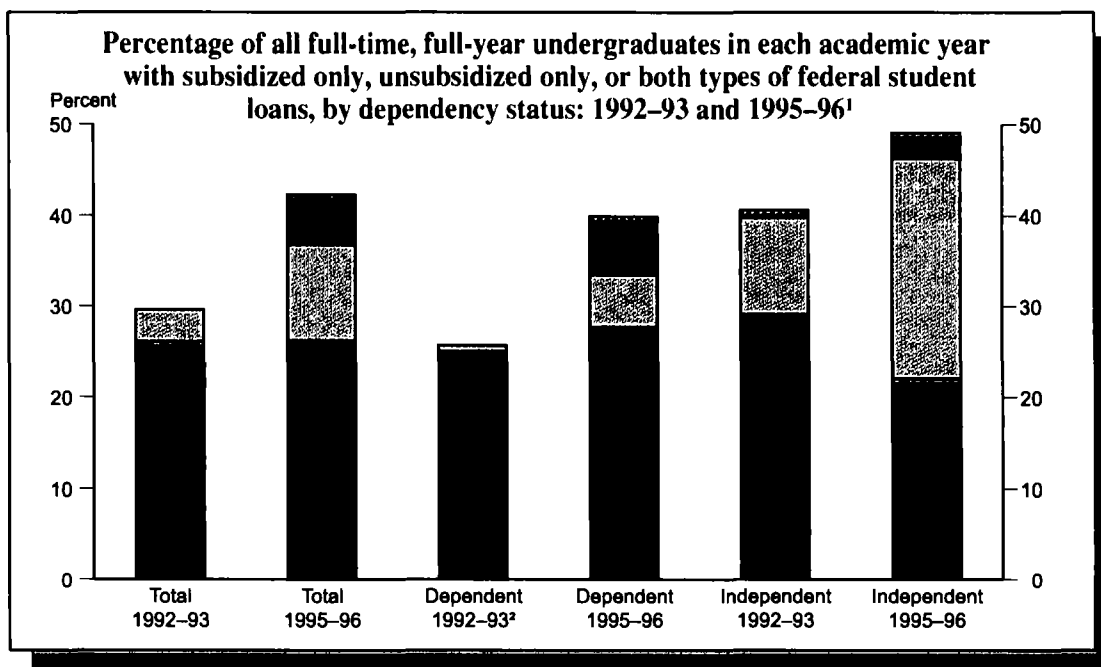
— Too few sample observations for a reliable estimate.

¹ In 1992–93, subsidized federal student loans were offered through the Stafford Federal Loan Program and unsubsidized federal student loans through the Supplemental Loans for Students (SLS) program. In 1995–96, both subsidized and unsubsidized loans were offered through the Stafford Federal Loan program. Students may receive both a subsidized and unsubsidized loan in an academic year, and thus may appear in each loan category.

² Excludes public less-than-2-year and private, not-for-profit less-than-4-year institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 and 1995–96.

Trends in student borrowing: Subsidized and unsubsidized loans



¹ In 1992-93, subsidized federal student loans were offered through the Stafford Federal Loan Program and unsubsidized federal student loans through the Supplemental Loans for Students (SLS) program. In 1995-96, both subsidized and unsubsidized federal student loans were offered through the Stafford Federal Loan Program.

² Percentage for unsubsidized only is less than 1 percent; therefore, it may not be discernible on the graph.

³ Among those who received a subsidized or unsubsidized federal student loan in each academic year.

⁴ Too few observations for a reliable estimate for unsubsidized only.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992-93 and 1995-96.

Student financing of graduate and first-professional education

Parental income and assets are not considered when determining graduate and first-professional students' eligibility for financial aid. Thus, student financial aid plays a particularly important role in providing access to graduate and first-professional education.

- In 1995–96, 52 percent of all graduate and first-professional students received some type of financial aid, averaging \$9,800. The other 48 percent of all students paid for their education entirely with their own resources or assistance from families and friends. Among those who attended full time, full year, 76 percent received financial aid, averaging \$14,400 (see supplemental tables 43-1 and 43-2).
- Most graduate and first-professional students worked while enrolled (79 percent), even when they were enrolled full time, full year (64 percent; see supplemental table 43-1).
- Students could receive more than one type of aid. At the master's degree level, 51 percent received financial aid: 30 percent received grants; 22 percent took out loans; and 10 percent worked as teaching or research assistants. Students at public institutions were more likely to hold assistantships than those at private, not-for-profit institutions.
- At the doctor's level, 65 percent of students received financial aid. Doctor's students were much more likely than master's students to have tuition waivers (17 percent versus 7 percent) and assistantships (36 percent versus 10 percent). Doctor's students at public institutions were more likely than those at private, not-for-profit institutions to have both these types of aid.
- Compared with master's and doctor's students, first-professional students were less likely to work and more likely to have loans and to have a higher average loan amount. First-professional students with loans borrowed an average of \$16,500, compared with \$9,900 for master's and doctor's students with loans (see supplemental table 43-2).

Percentage of graduate and first-professional students with various types of aid, percentage who worked while enrolled, and average hours worked per week while enrolled, by degree program and type of institution: Academic year 1995–96

Degree program and type of institution	Any aid	Any grants ¹	Tuition waiver ²	Any loans	Any assistantships	Worked while enrolled	Average hours worked per week ³
Total⁴	51.9	29.6	7.8	24.7	11.1	78.9	35.1
Master's degree ⁴	51.3	30.0	7.4	22.1	10.3	84.3	36.6
Public	51.3	28.5	9.1	20.2	15.4	83.2	35.1
Private, not-for-profit	51.1	31.9	5.4	24.8	3.6	85.3	38.1
Doctor's degree ⁴	65.0	37.0	17.1	19.5	35.9	76.4	31.8
Public	67.4	38.0	22.1	16.8	43.9	81.3	29.1
Private, not-for-profit	61.1	37.9	9.4	20.9	24.5	67.8	37.9
First-professional degree ^{4, 5}	80.2	37.9	3.4	69.4	4.1	50.4	24.8
Public	84.3	42.4	4.5	76.9	5.2	40.6	21.7
Private, not-for-profit	77.4	34.7	2.6	64.2	3.2	56.7	26.3

¹ Grants include scholarships, fellowships, tuition waivers, and employer aid (forms of aid that do not have to be repaid).

² Also included in the "Any grants" column.

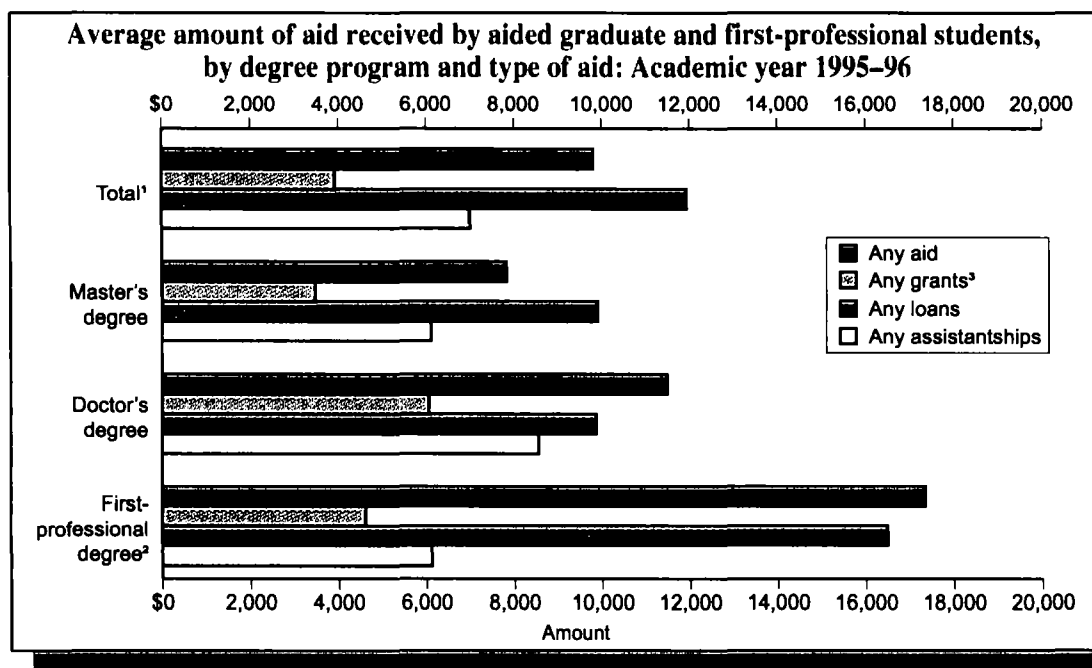
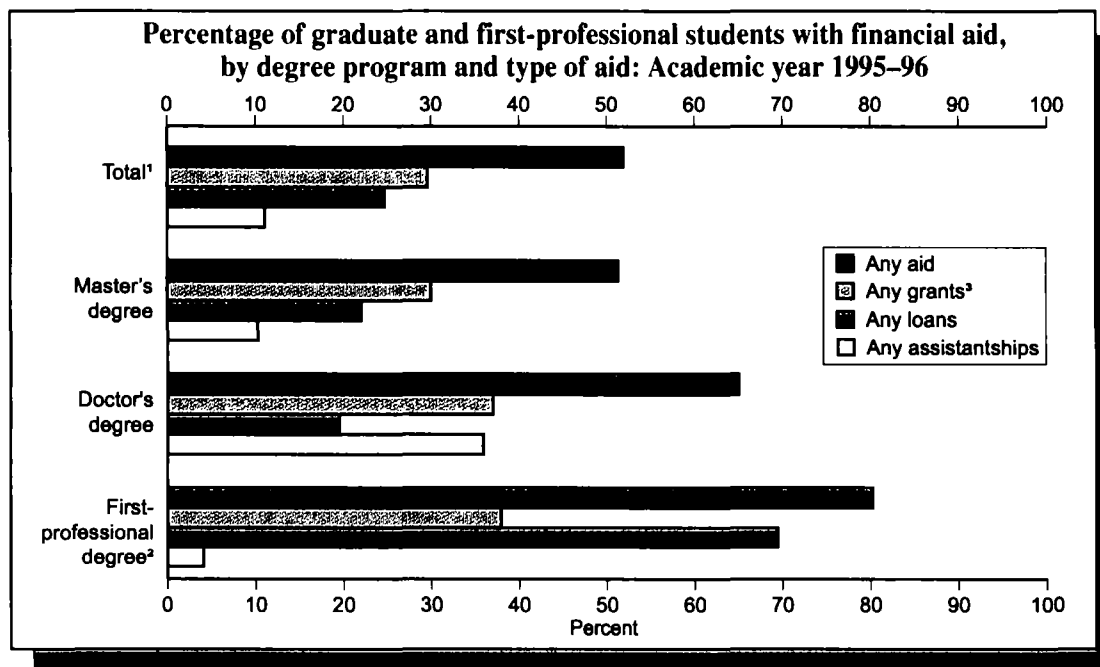
³ For students who worked.

⁴ Total includes students in graduate programs other than master's, doctor's, and first-professional. Total and degree program totals include students in private, for-profit institutions.

⁵ First-professional programs include medicine, chiropractic, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, veterinary medicine, law, and theology.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1995–96, Graduate Data Analysis System.

Financial aid received by graduate and first-professional students



¹ Total includes students in graduate programs other than master's, doctor's, and first-professional programs.

² First-professional programs include medicine, chiropractic, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, veterinary medicine, law, and theology.

³ Grants include scholarships, fellowships, tuition waivers, and employer aid (forms of aid that do not have to be repaid).

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1995-96, Graduate Data Analysis System.

Section V. Educational Participation and Progress

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Preprimary education enrollment

Participating in early childhood programs such as Head Start, nursery school, prekindergarten, and kindergarten can better prepare a child to enter first grade. Many policymakers and educators believe that it is important to help all children start elementary school on an equal footing with other children. Involving students and their parents in preprimary programs beginning at earlier ages may provide valuable experiences that will help children start elementary school better prepared to learn.

- Preprimary enrollment rates for 5-year-olds were higher in 1996 than in 1991, while enrollment rates for 3- and 4-year-olds were similar in both years. In 1996, 43 percent of 3-year-olds, 64 percent of 4-year-olds, and 92 percent of 5-year-olds were enrolled in preprimary education.
- In 1995, similar percentages of white and black 3- and 4-year-olds were enrolled in center-based programs, while their Hispanic peers were less likely to be enrolled (see supplemental table 44-1).
- Three- and 4-year-olds from families with incomes of more than \$50,000 were more likely to be enrolled in preprimary education than their peers from families with incomes of \$50,000 or less.
- Overall, there was a positive relationship between parents' educational attainment and the enrollment rates of 3-, 4-, and 5-year-olds: as parents' educational attainment increased, so did the preprimary enrollment rates of their children.

Percentage of 3-, 4-, and 5-year-olds enrolled in center-based programs or kindergarten,¹ by selected student characteristics: 1991, 1993, 1995, and 1996

Selected student characteristics	3-year-olds				4-year-olds				5-year-olds			
	1991	1993	1995	1996	1991	1993	1995	1996	1991	1993	1995	1996
Total	42.6	40.6	41.0	42.6	61.7	63.1	65.4	64.4	89.8	91.1	93.2	92.3
Race-ethnicity												
White	44.8	40.8	44.0	44.6	61.4	63.6	65.8	65.3	89.5	90.7	92.6	91.8
Black	45.4	47.1	44.6	49.8	71.7	68.5	72.9	79.3	94.0	93.2	94.5	95.5
Hispanic	24.9	32.8	22.4	28.4	51.5	50.7	50.1	48.8	86.2	90.7	93.2	90.1
Other	² 43.8	² 35.7	² 32.9	² 39.5	² 62.3	² 72.6	² 71.6	² 51.0	² 90.6	90.2	98.4	95.6
Household income												
\$10,000 or less	(³)	35.3	31.7	30.5	(³)	56.8	61.5	58.7	(³)	91.1	94.5	91.4
10,001-20,000	(³)	27.3	31.6	40.1	(³)	54.7	57.0	57.0	(³)	89.8	90.7	90.4
20,001-35,000	(³)	30.6	32.7	34.9	(³)	54.9	52.9	55.4	(³)	86.3	92.2	91.3
35,001-50,000	(³)	46.5	40.7	47.4	(³)	68.6	63.5	65.8	(³)	92.7	89.1	91.6
50,001 or more	(³)	64.6	62.1	60.3	(³)	82.4	84.5	80.9	(³)	97.1	97.3	95.2
Parents' highest education level												
Less than high school diploma	23.3	16.1	19.9	² 27.1	37.6	46.5	² 44.9	² 54.6	86.9	79.6	93.8	87.7
High school diploma or GED	32.5	29.3	29.3	34.8	51.9	51.5	56.7	54.2	87.8	89.3	91.7	92.6
Some college/vocational/technical	44.5	42.9	40.6	42.0	64.1	68.6	65.6	66.5	91.3	92.6	92.3	91.5
Bachelor's degree	53.8	52.9	55.1	55.2	77.0	74.8	76.6	70.1	91.3	95.7	96.2	94.3
Graduate/professional school	66.1	66.4	² 62.6	62.1	81.1	80.1	83.3	83.3	92.4	96.0	94.8	94.7
Family structure												
Two biological or adoptive parents	—	40.6	41.1	42.9	—	62.9	65.5	62.3	—	90.3	92.1	91.8
One biological or adoptive parent	—	41.7	43.6	43.2	—	64.9	65.8	69.2	—	93.6	95.4	92.7
One biological/adoptive and one stepparent	—	² 30.3	² 23.1	² 28.8	—	² 56.8	² 60.7	² 53.1	—	88.5	94.3	94.3
Other relatives	—	² 37.6	² 18.9	² 45.5	—	² 64.6	² 66.9	² 76.0	—	² 91.6	97.0	96.5

— Not available.

¹ See the glossary for definitions of center-based programs and kindergarten.

² Interpret with caution; standard errors are large due to small sample sizes.

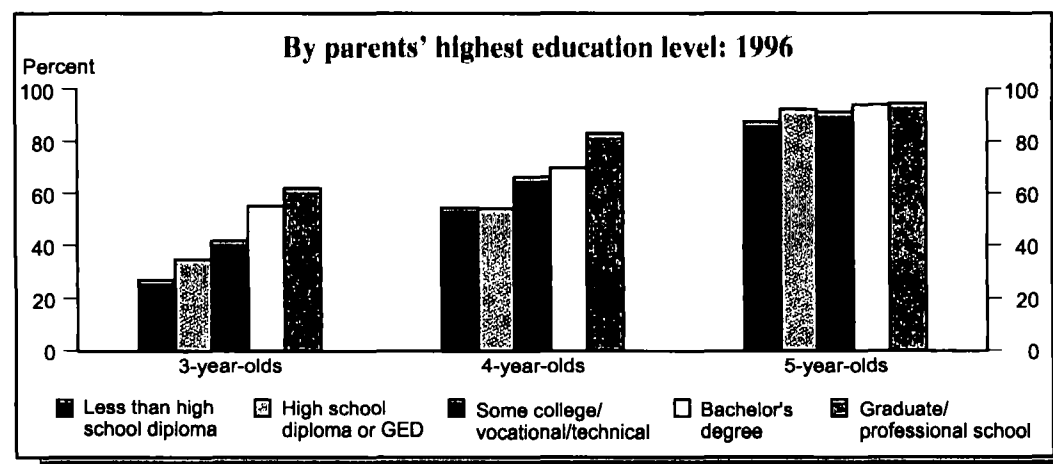
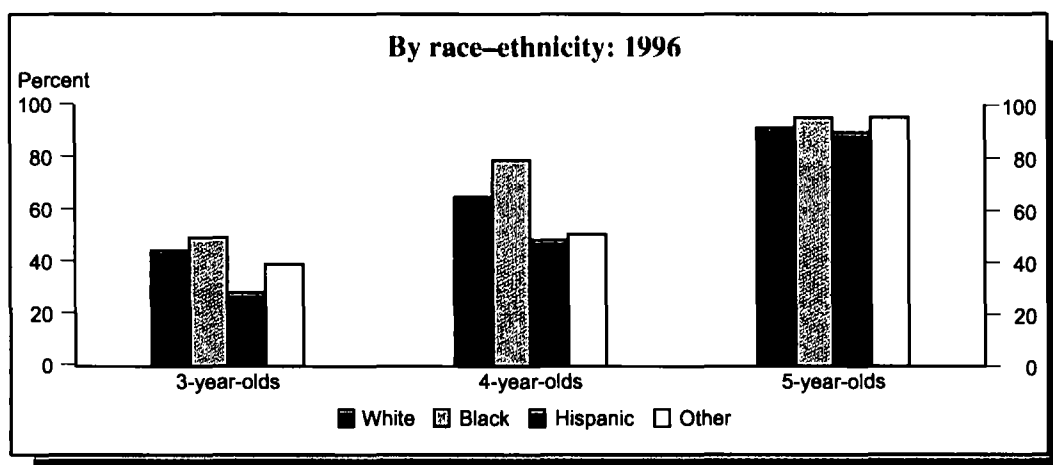
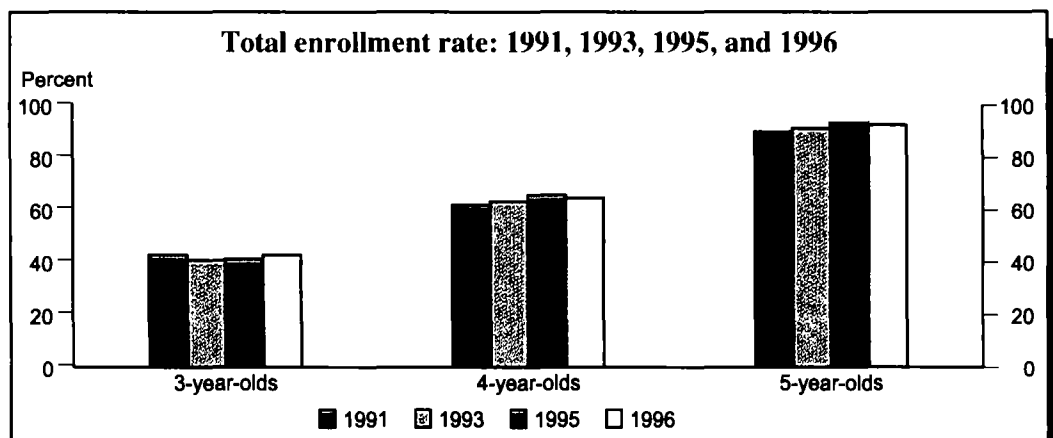
³ Family income data for 1991 are not comparable to data for 1993, 1995, and 1996.

NOTE: Included in the total but not shown separately are children from other types of family structures and racial-ethnic groups. This

analysis includes children ages 3-5 who were not enrolled in first grade. Age is as of December 31 of the prior year. Data are revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), 1995 (Early Childhood Program Participation File), and 1996 (Parent and Family Involvement in Education File).

Percentage of 3-, 4-, and 5-year-olds enrolled in center-based programs or kindergarten*



* See glossary for definitions of center-based programs and kindergarten.

NOTE: Included in the total but not shown separately are children from other racial-ethnic groups. This analysis includes children ages 3-5 who were not enrolled in first grade. Age is as of December 31 of the prior year. Data are revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), 1995 (Early Childhood Program Participation File), and 1996 (Parent and Family Involvement in Education File).

Elementary and secondary school enrollment

School enrollment is one measure of the size of the educational system and of the demand for teachers, buildings, and educational resources. Past trends and projected future changes in the composition of enrollment across levels of education and regions of the country, as well as between public and private schools, indicate the amount of resources the Nation requires.

- Total (public and private) elementary and secondary school enrollment increased considerably during the late 1980s and 1990s, reaching an all-time high of 52.7 million in 1998. This increase followed declining total enrollment in elementary and secondary schools during the 1970s and early 1980s (from 51.3 million in 1971 to 44.9 million in 1984; see supplemental table 45-1).
- Total elementary and secondary school enrollment is projected to increase by 3 percent (to 54.3 million) between 1998 and 2008 (see supplemental table 45-1).
- Secondary school enrollments (grades 9–12) are projected to increase by 11 percent for both public and private schools between 1998 and 2008, while enrollment in prekindergarten through grade 8 is projected to decrease slightly.
- Total public school enrollment is projected to increase in the South and West (by 4 and 11 percent, respectively) but to decrease in the Northeast and Midwest (by 1 and 3 percent, respectively) between 1998 and 2008.

Elementary and secondary school enrollment (in thousands), by control and grade level of school, with projections: Fall 1970–2008

Year/period	Public schools			Private schools ¹		
	Grades PreK–12	Grades PreK–8	Grades 9–12	Grades PreK–12	Grades PreK–8	Grades 9–12
1970	45,894	32,558	13,336	5,363	4,052	1,311
1988	40,189	28,501	11,687	5,241	4,036	1,206
1998	46,792	33,522	13,270	5,927	4,588	1,339
Projected²						
2008	48,201	33,455	14,746	6,067	4,579	1,488
Percentage change						
1970–88	-12.4	-12.5	-12.4	-2.3	-0.4	-8.0
Projected percentage change						
1988–98	16.4	17.6	13.5	13.1	13.7	11.0
1998–2008	3.0	-0.2	11.1	2.4	-0.2	11.1

¹ Beginning in fall 1980, data include estimates for the expanded universe of private schools.

² Enrollment includes students in kindergarten through grade 12 and some nursery school students.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on Common Core of Data) and *Projections of Education Statistics to 2008, 1998*.

Public elementary and secondary school enrollment (in thousands), by region, with projections: Fall 1980–2008

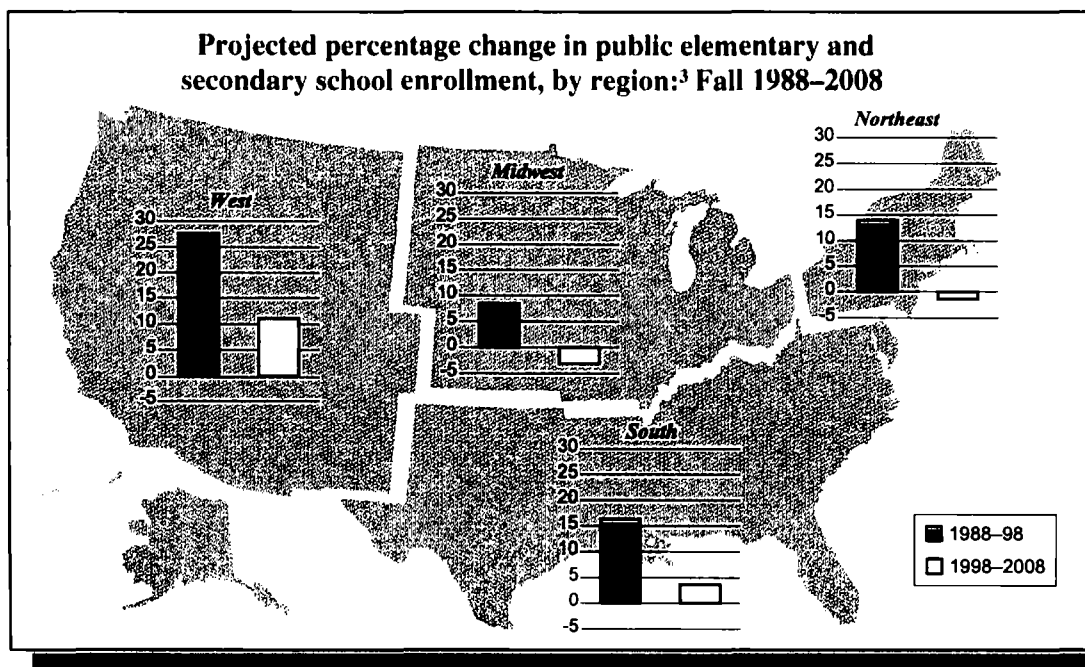
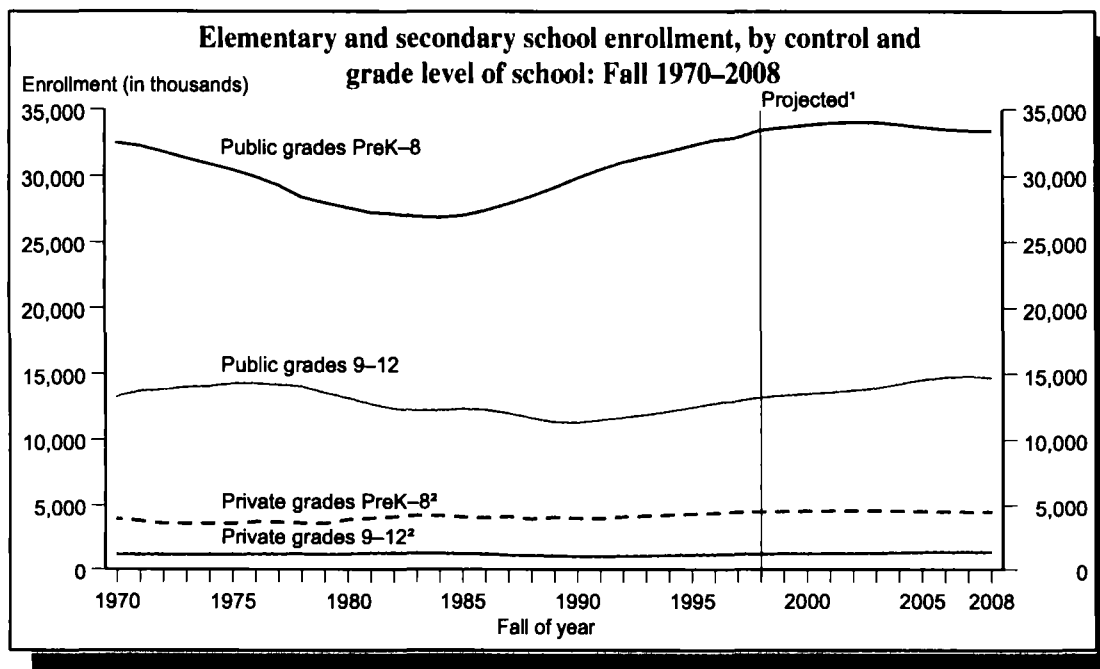
Fall of year	Northeast	Midwest	South	West
1980	8,215	10,698	14,134	7,831
1988	7,208	9,846	14,491	8,644
1990	7,282	9,944	14,807	9,184
1995	7,894	10,512	16,118	10,316
1998*	8,215	10,680	16,864	11,033
2008*	8,100	10,344	17,501	12,257
Projected percentage change				
1988–98	14.0	8.5	16.4	27.6
1998–2008	-1.4	-3.1	3.8	11.1

* Projected enrollment. Enrollment includes students in kindergarten through grade 12 and some nursery school students.

NOTE: See the note in supplemental table 45-2 for a definition of regions. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on Common Core of Data) and *Projections of Education Statistics to 2008, 1998*.

Elementary and secondary school enrollment



¹ Enrollment includes students in kindergarten through grade 12 and some nursery school students.

² Beginning in fall 1980, data include estimates for the expanded universe of private schools.

³ See the note in supplemental table 45-2 for a definition of regions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on Common Core of Data) and *Projections of Education Statistics to 2008*, 1998.

Racial and ethnic distribution of elementary and secondary students

Changes in the racial-ethnic composition of students may alter the degree of heterogeneity of language and culture in the Nation's schools. Although variety in student backgrounds and interests can enhance the learning environment, it can also create new or increased challenges for the schools. Knowledge of the shifting racial-ethnic distribution of public elementary and secondary students can give schools the foresight to plan for these challenges.

- Thirty-six percent of students enrolled in public elementary and secondary schools were considered part of a minority group in 1996, an increase of 12 percentage points from 1976. This increase was largely due to the growth in the percentage of Hispanic students (see supplemental table 46-1).
- Since 1970, black students have accounted for approximately one out of every three students who lived in central cities and attended public schools. In 1996, 10 percent of the students who lived in a metropolitan area outside of a central city and who attended public schools were black, up from 6 percent in 1970.
- In 1996, approximately one out of every four students who lived in a central city and who attended public schools was Hispanic, up from approximately 1 out of every 10 students in 1972.
- The percentage of black and Hispanic students enrolled in private schools increased between 1972 and 1996, rising from 5 percent each for both black and Hispanic students in 1972 to 9 percent for black students and 8 percent for Hispanic students in 1996.

Percentage of students in grades 1-12 who were black or Hispanic, by control of school and place of residence: 1970-96

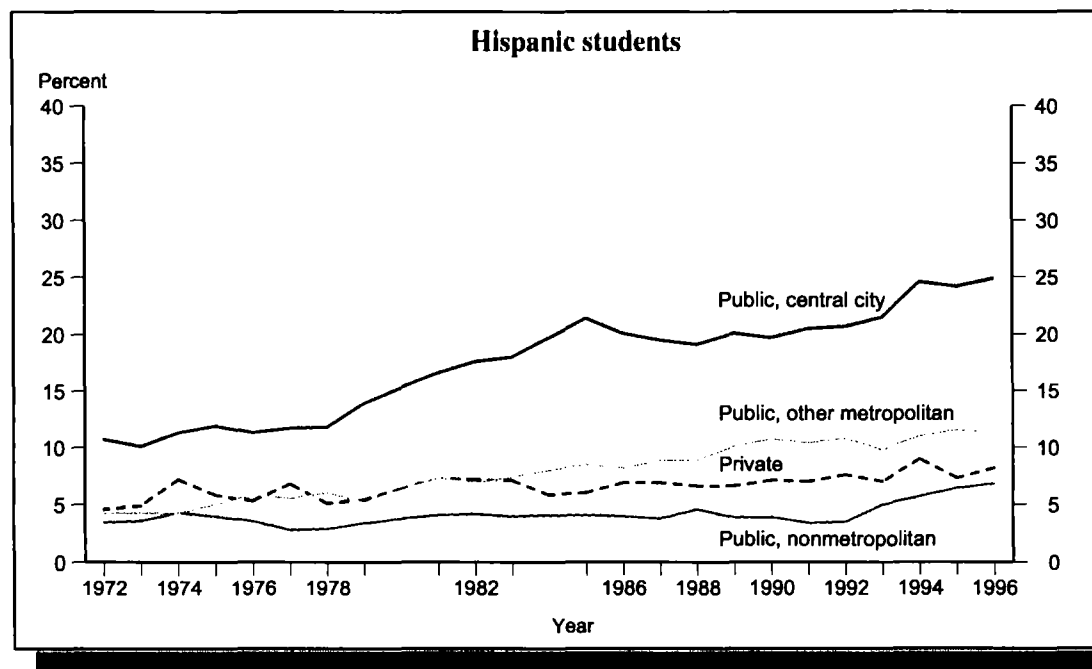
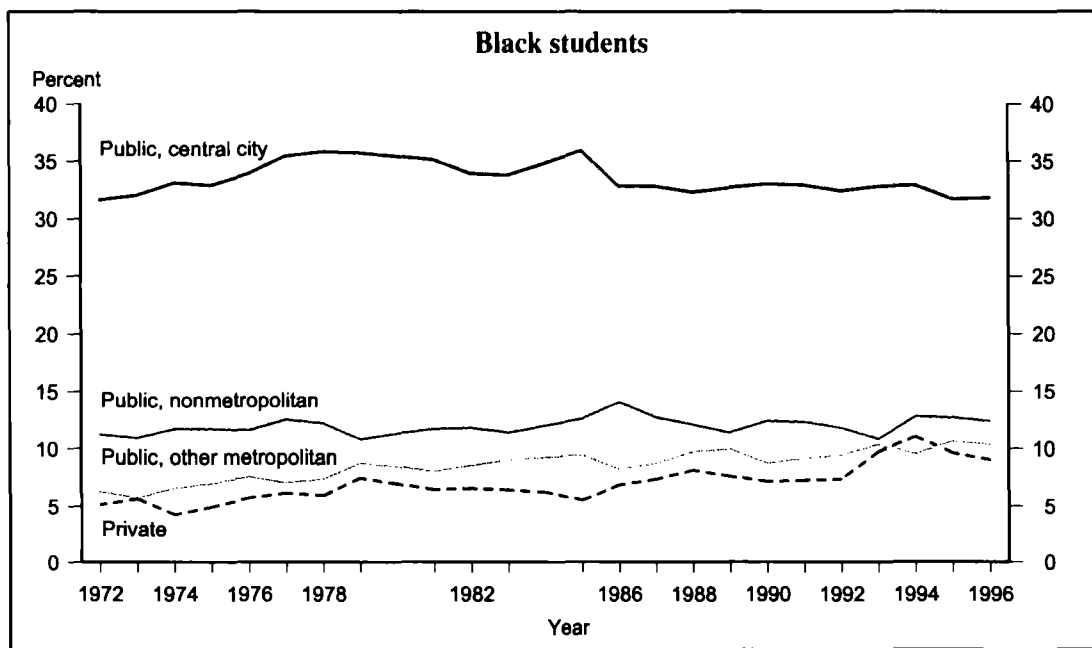
Year	Black					Hispanic				
	Public schools					Public schools				
	Total	Central city	Other metropolitan	Non-metropolitan	Private schools	Total	Central city	Other metropolitan	Non-metropolitan	Private schools
1970	14.8	32.5	6.2	12.0	4.7	—	—	—	—	—
1972	14.9	31.7	6.3	11.3	5.2	5.8	10.8	4.4	3.6	4.7
1974	15.4	33.2	6.6	11.8	4.3	6.2	11.4	4.4	4.4	7.3
1976	16.0	34.0	7.6	11.7	5.8	6.6	11.4	5.9	3.7	5.4
1978	16.1	35.9	7.4	12.3	6.0	6.4	11.9	6.1	3.0	5.2
1979	16.1	35.8	8.8	10.9	7.5	6.8	14.0	5.3	3.5	5.5
1982	16.2	34.0	8.6	11.9	6.6	8.7	17.7	7.0	4.3	7.3
1985	17.0	36.0	9.5	12.7	5.6	10.1	21.5	8.6	4.2	6.1
1986	16.7	32.9	8.3	14.1	6.9	10.6	20.2	8.3	4.1	7.0
1988	16.8	32.4	9.8	12.2	8.2	10.8	19.2	9.0	4.7	6.7
1990	16.5	33.1	8.8	12.5	7.2	11.6	19.8	10.8	4.0	7.2
1991	16.7	33.0	9.2	12.4	7.3	11.7	20.6	10.5	3.5	7.1
1992	16.7	32.5	9.5	11.9	7.4	11.9	20.8	10.9	3.6	7.7
1993	16.7	32.9	10.4	10.9	9.8	11.9	21.6	9.9	5.1	7.1
1994	16.8	33.0	9.6	12.9	11.1	13.4	24.7	11.1	5.8	9.1
1995	17.1	31.8	10.7	12.8	9.7	14.0	24.3	11.6	6.5	7.4
1996	17.0	31.9	10.4	12.5	9.1	14.3	25.0	11.3	6.9	8.3

— Not available.

NOTE: The Current Population Survey (CPS) definition of metropolitan areas in the United States was changed in 1985. For data through 1984, metropolitan areas were defined on the basis of the 1970 census. A small number of students were both black and Hispanic (less than 1 percent). In 1994, the survey instrument for the CPS was changed and weights were adjusted. See the supplemental note to Indicator 51 for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "Level of Enrollment Below College for Persons 3 to 24 Years Old, by Control of School, Metropolitan Status, Sex, Race, and Hispanic Origin," various years; and October Current Population Surveys.

**Percentage of students in grades 1-12 who were black or Hispanic,
by control of school and place of residence: 1972-96**



NOTE: Control of school was not available in 1980. Residence of students was not available in 1984. The Current Population Survey (CPS) definition of metropolitan areas in the United States was changed in 1985. A small number of students (less than 1 percent) were both black and Hispanic. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See the supplemental note to Indicator 51 for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "Level of Enrollment Below College for Persons 3 to 24 Years Old, by Control of School: Metropolitan Status, Sex, Race, and Hispanic Origin," various years; and October Current Population Surveys.

Racial-ethnic isolation of students in public schools

The nine-year period from 1987–88 through 1996–97 saw increasing percentages of minority students among enrollments overall in American public elementary and secondary schools. In the midst of these changes, students from different minority groups may have become more isolated from whites. There are several ways to measure isolation of racial-ethnic groups, one of which is the “exposure index,” the average percentage of students who are white in schools attended by the average black, Hispanic, or Asian student.

- Overall, between fall 1987 and fall 1996, the exposure of minorities to white students decreased. By fall 1996, when white students comprised 64 percent of the nation’s enrollment in elementary and secondary schools, one-third or less of the students in a typical black or Hispanic student’s school were white.
- Black students’ exposure to white students declined most in the border states and the South. Hispanic students’ exposure to white non-Hispanic students was lowest in the South and Northeast, but it declined most in the border states and the West between fall 1987 and fall 1996 (see supplemental tables 47-1 and 47-2).
- Asian/Pacific Islander students were substantially less isolated from white students than were black and Hispanic students. However, between fall 1987 and fall 1996, Asian/Pacific Islander student’s exposure to white students declined by more percentage points than black and Hispanic students.
- Although white enrollment decreased as a percentage of total enrollment in all regions between fall 1987 and fall 1996, in some regions the exposure of certain minority students to white students did not decline by as much as the percentage of students who are white, indicating slightly reduced racial-ethnic group isolation in these regions. In the West, this increased exposure occurred for black students; and in the South and Northeast, it occurred for Hispanic students (see supplemental table 47-2).

Average percentage of white students in a minority student’s school within the 48 contiguous states, by race-ethnicity: Fall 1987–96

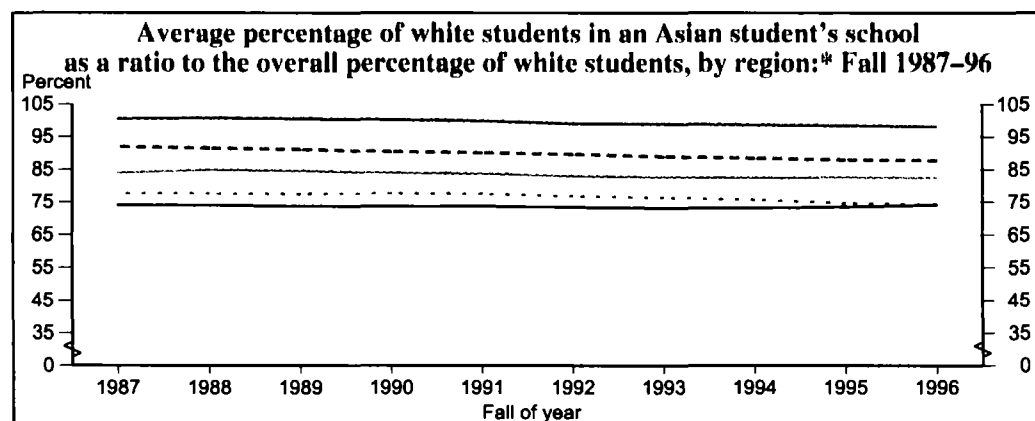
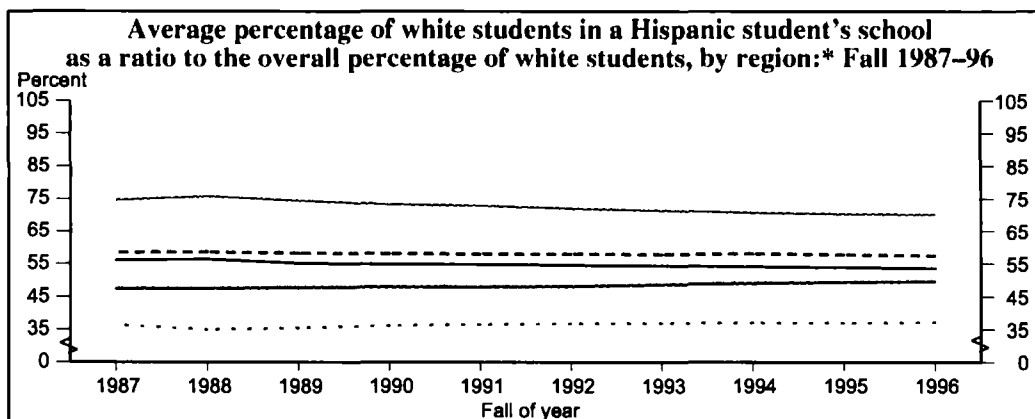
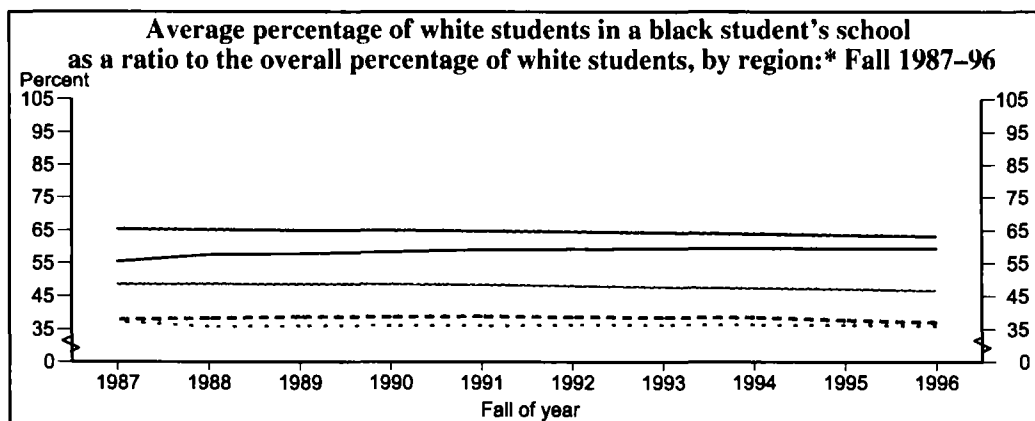
Fall	Total percentage of white students	Average percentage of white students in a minority student’s school*					
		Absolute measure			Relative measure: As a ratio to the overall percentage of white students		
		Black	Hispanic	Asian/ Pacific Islander	Black	Hispanic	Asian/ Pacific Islander
1987	69.6	35.9	33.3	55.2	51.6	47.8	79.3
1988	69.0	35.6	32.9	54.4	51.6	47.7	78.8
1989	68.4	35.4	32.3	53.7	51.8	47.2	78.5
1990	67.8	35.2	31.9	53.0	51.9	47.1	78.2
1991	67.3	35.0	31.6	52.4	52.0	47.0	77.9
1992	66.7	34.7	31.3	51.6	52.0	46.9	77.4
1993	66.1	34.2	31.0	51.0	51.7	46.9	77.2
1994	65.5	33.8	30.7	50.4	51.6	46.9	76.9
1995	64.8	33.2	30.3	49.8	51.2	46.8	76.9
1996	64.1	32.7	29.9	49.3	51.0	46.6	76.9
Percentage point change	-5.5	-3.2	-3.4	-5.9	-0.6	-1.2	-2.4

* The measure for the average percentage of white students in a minority student’s school, or “exposure index,” is presented in this indicator in two ways. The first is an absolute measure, which is the actual exposure index, or percentage of white students in a minority student’s school. The second is a relative measure, which is the ratio of the exposure index to the overall percentage of white students. The relative measure takes into account changing percentages of whites at the regional and national levels that occur simultaneously with changes in the isolation of racial-ethnic groups within schools.

NOTE: Alaska and Hawaii are not included in the calculations for national totals. See the supplemental note to this indicator for further explanations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, Longitudinal Research File (School File).

Average percentage of white students in a minority student's school, by race-ethnicity and region: Fall 1987-96



— South — Border states - - - Northeast - . - Midwest — West

* Alaska and Hawaii are not included. See the supplemental note to this indicator for further explanations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, Longitudinal Research File (School File).

College and university enrollment, by control and type of institution

Colleges and universities under public and private control offering 2- and 4-year programs address different student needs. When selecting a higher education institution, students consider various factors, including the degree programs and services the institution offers, the quality of those programs, and the costs of attendance. Fluctuations in enrollment among the different types of institutions may indicate a shift in student needs and interests.

- Between 1985 and 1992, total enrollment in all higher education institutions generally increased but has remained relatively constant since then (see supplemental table 48-1).
- The distribution of total enrollment between public and private institutions has changed little over the last two decades. Public institutions continue to enroll nearly 8 out of every 10 students. However, enrollments have shifted from 4-year public institutions to 2-year public institutions during this period.
- Between 1981 and the early 1990s, total enrollment at public 2- and 4-year institutions increased. At public 4-year institutions, total enrollment decreased slightly between 1991 and 1996; at public 2-year institutions, total enrollment followed the same pattern, with the exception of a slight increase in 1996 (see supplemental table 48-1).
- Total enrollment in private 4-year institutions increased steadily between 1985 and 1996. In contrast, total enrollment in private 2-year institutions fluctuated between 1985 and 1990, and then decreased between 1991 and 1996 (see supplemental table 48-1).

Index and percentage distribution of total enrollment in higher education, by control and type of institution: Fall 1972-96

Fall of year	Index of total enrollment (1981=100) ¹					Percentage distribution of total enrollment				
	All institutions	Public 4-year	Public 2-year	Private 4-year	Private 2-year	All institutions	Public 4-year	Public 2-year	Private 4-year	Private 2-year
1972	74.5	85.7	58.9	81.5	48.9	100.0	48.1	28.7	22.0	1.3
1974	82.6	91.0	73.3	85.0	50.3	100.0	46.0	32.1	20.7	1.2
1976	89.0	94.9	83.7	89.5	55.9	100.0	44.5	34.1	20.2	1.2
1978	91.0	95.1	86.5	93.2	65.7	100.0	43.6	34.4	20.6	1.4
1980	97.8	99.3	96.6	98.1	83.9	100.0	42.4	35.8	20.2	1.6
1981	100.0	100.0	100.0	100.0	100.0	100.0	41.8	36.2	20.1	1.9
1982	100.4	100.2	100.9	99.5	107.0	100.0	41.7	36.4	19.9	2.0
1984	99.0	100.6	95.5	101.0	106.9	100.0	42.5	35.0	20.5	2.1
1986	101.1	102.6	98.5	101.4	112.9	100.0	42.4	35.3	20.2	2.1
1988	105.5	107.3	103.0	105.8	110.3	100.0	42.5	35.4	20.2	2.0
1990	111.7	113.2	111.5	109.7	103.4	100.0	42.3	36.2	19.8	1.8
1991	116.1	114.3	120.6	112.6	104.9	100.0	41.1	37.6	19.5	1.7
1992	117.1	114.2	122.4	115.1	101.0	100.0	40.7	37.9	19.8	1.6
1993	115.6	113.3	119.1	116.0	97.0	100.0	40.9	37.3	20.2	1.6
1994	115.4	112.8	118.5	117.5	93.9	100.0	40.8	37.2	20.5	1.5
1995	115.3	112.5	117.8	118.7	91.2	100.0	40.8	37.0	20.7	1.5
1996 ²	115.6	112.4	117.9	120.4	90.9	100.0	40.6	36.9	21.0	1.5

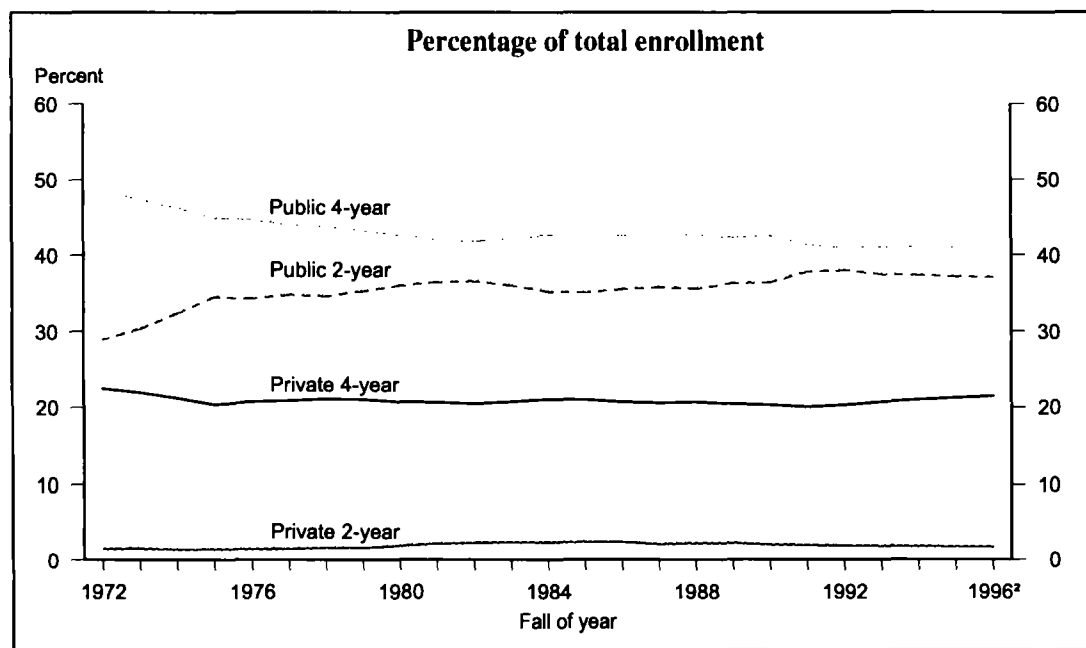
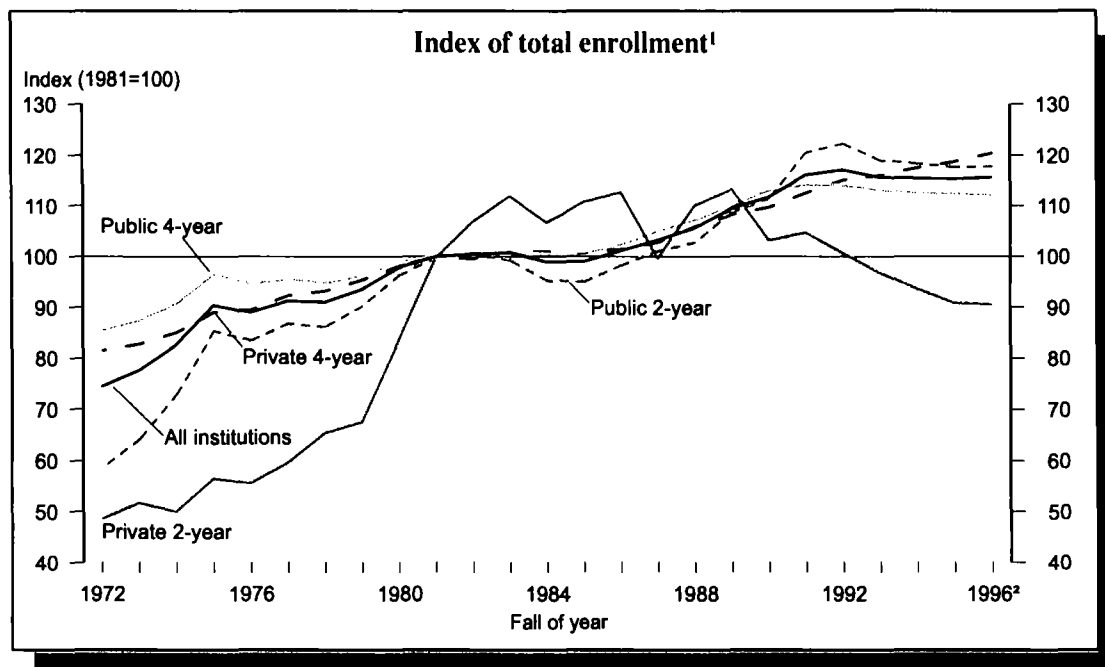
¹ The index of total enrollment in higher education is calculated as the number of students enrolled in higher education institutions in a given year divided by the number of students enrolled in higher education institutions for the year 1981. A value greater than 100 indicates that more students were enrolled in higher education institutions that year than in 1981, while a value less than 100 indicates that fewer students were enrolled that year relative to 1981.

² Preliminary data.

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on IPEDS "Fall Enrollment" surveys).

Total enrollment in higher education, by control and type of institution: Fall 1972–96



¹ The index of total enrollment in higher education is calculated as the number of students enrolled in higher education institutions in a given year divided by the number of students enrolled in higher education institutions for the year 1981. A value greater than 100 indicates that more students were enrolled in higher education institutions that year than in 1981, while a value less than 100 indicates that fewer students were enrolled that year relative to 1981.

² Preliminary data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1998* (based on IPEDS "Fall Enrollment" surveys).

Racial and ethnic distribution of college enrollments

Colleges and universities seek diversity among their student bodies; variety in the backgrounds and interests of students can enhance the learning environment. The racial-ethnic mix of college students is one aspect of a diverse student body. Variations in the racial-ethnic composition of college enrollment suggest differences in the needs, interests, and backgrounds of the student population.

- The student body in the Nation's colleges and universities has become increasingly heterogeneous since the mid-1970s. The percentage of minority students increased from 15 percent of all students in fall 1976 to 25 percent in fall 1996. This increase was due primarily to the growth in the enrollment of Hispanic and Asian/Pacific Islander students, whose enrollment as a percentage of all college students increased about 4 percentage points for each group.
- Black students accounted for 11 percent of the total enrollment at colleges and universities in fall 1996. Hispanics made up 8 percent of enrolled students; Asian/Pacific Islanders, 6 percent; and American Indian/Alaskan Natives, 1 percent.
- In fall 1996, minority students made up a greater proportion of the student body at public 2-year than at all 4-year institutions (30 versus 22 percent, respectively; see supplemental table 49-1).
- In fall 1996, the percentages of public 2-year college students who were black and Hispanic were similar (11 and 12 percent, respectively). However, the percentage of students enrolled in all 4-year institutions who were black was higher than the percentage enrolled who were Hispanic (10 and 6 percent, respectively).

Percentage distribution of total enrollment in higher education institutions, by race-ethnicity and control and type of institution: Fall 1976-96

Fall of year and control and type of institution	U.S. residents ¹						Nonresident alien
	White	Minority					
		Total minority	Black	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native	
				All institutions			
1976	82.6	15.4	9.4	3.5	1.8	0.7	2.0
1978	81.9	15.9	9.4	3.7	2.1	0.7	2.3
1980	81.4	16.1	9.2	3.9	2.4	0.7	2.5
1982	80.7	16.6	8.9	4.2	2.8	0.7	2.7
1984	80.2	17.0	8.8	4.4	3.2	0.7	2.7
1986	79.3	17.9	8.7	4.9	3.6	0.7	2.8
1988	78.8	18.4	8.7	5.2	3.8	0.7	2.8
1990	77.6	19.6	9.0	5.7	4.1	0.7	2.8
1991	76.5	20.6	9.3	6.0	4.4	0.8	2.9
1992	75.1	21.8	9.6	6.6	4.8	0.8	3.1
1993	74.1	22.7	9.9	6.9	5.1	0.9	3.2
1994	73.0	23.8	10.1	7.3	5.4	0.9	3.2
1995	72.3	24.5	10.3	7.7	5.6	0.9	3.2
1996 ²	71.5	25.2	10.5	8.1	5.8	0.9	3.3
				By control and type of institution: Fall 1996 ²			
Public	70.8	26.5	10.6	8.9	5.9	1.0	2.7
Private	74.1	20.9	10.0	5.1	5.2	0.6	5.0
4-year	73.6	22.1	9.9	5.8	5.7	0.8	4.2
Public	73.4	22.9	10.0	6.2	5.9	0.9	3.7
Private	74.2	20.5	9.7	5.0	5.3	0.5	5.3
2-year public	67.9	30.4	11.3	11.9	6.0	1.2	1.7

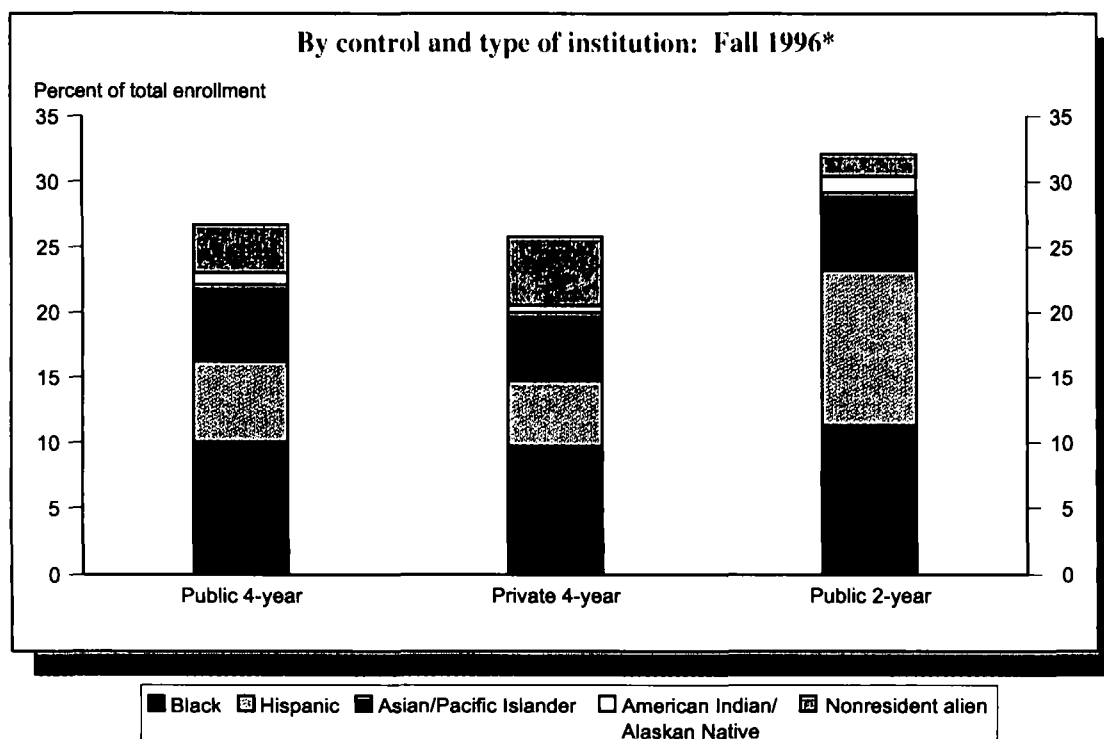
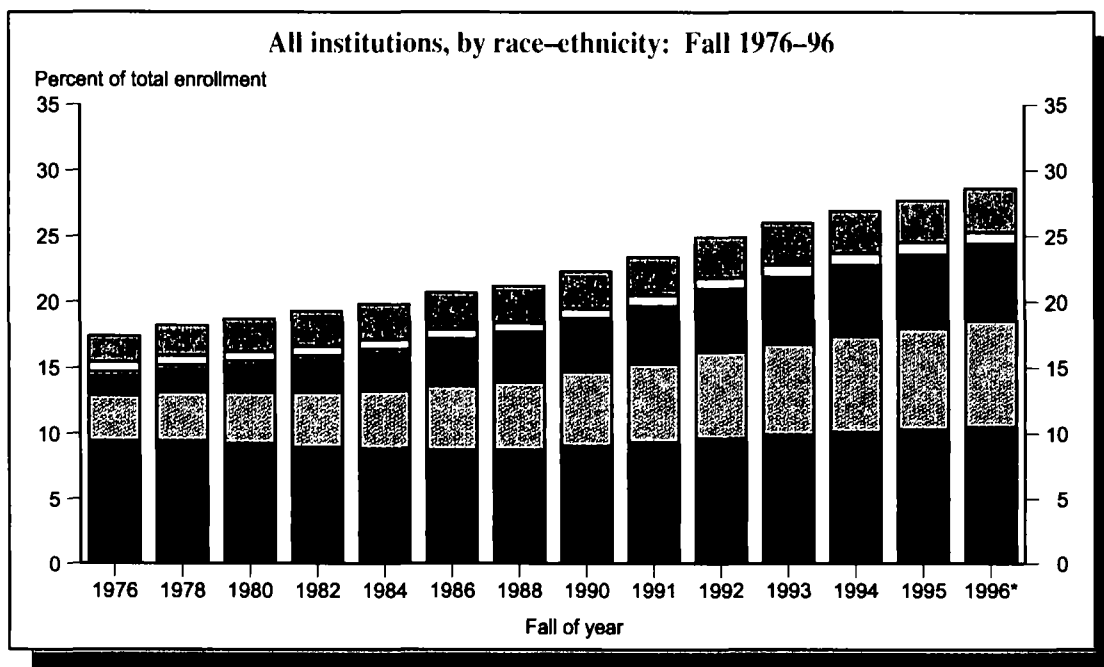
¹ Includes U.S. citizens and resident aliens.

² Estimates based on preliminary data.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on the IPEDS "Fall Enrollment" surveys).

Percentage of minority and nonresident alien enrollment in higher education institutions



* Estimates based on preliminary data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on the IPEDS "Fall Enrollment" surveys).

Enrollment characteristics of graduate and first-professional students

Graduate and first-professional programs constitute an important segment of higher education, with 2.8 million students enrolled during the 1995–96 academic year. Graduate and first-professional students do not constitute a homogeneous group. The enrollment patterns of students in different degree programs illustrate the various ways in which students combine school and work.

- Graduate enrollment at the master's level is primarily a part-time activity. The majority of students seeking MBA degrees, master's degrees in education, and MA/MS degrees in fields other than education enrolled less than full time for the full year in 1995–96. About 85 percent of MBA and education master's students worked while enrolled, and 85 percent of the MBA students and 75 percent of the education master's students who worked considered themselves primarily employees rather than students.
- About half (51 percent) of all PhD students in 1995–96 enrolled full time for the full year. Although 76 percent of all PhD students worked while enrolled, 80 percent of those who worked considered themselves primarily students. In contrast, relatively few EdD students enrolled full time, full-year (16 percent); almost all (98 percent) worked while enrolled; and most of those who worked (82 percent) considered themselves primarily employees.
- Compared with graduate students in the master's and doctor's programs considered here, first-professional students in law and medicine were generally more likely to enroll immediately after earning their bachelor's degrees; more likely to enroll full time, full-year; and less likely to work while enrolled.

Percentage distribution of graduate and first-professional students, by degree program and enrollment characteristics: Academic year 1995–96

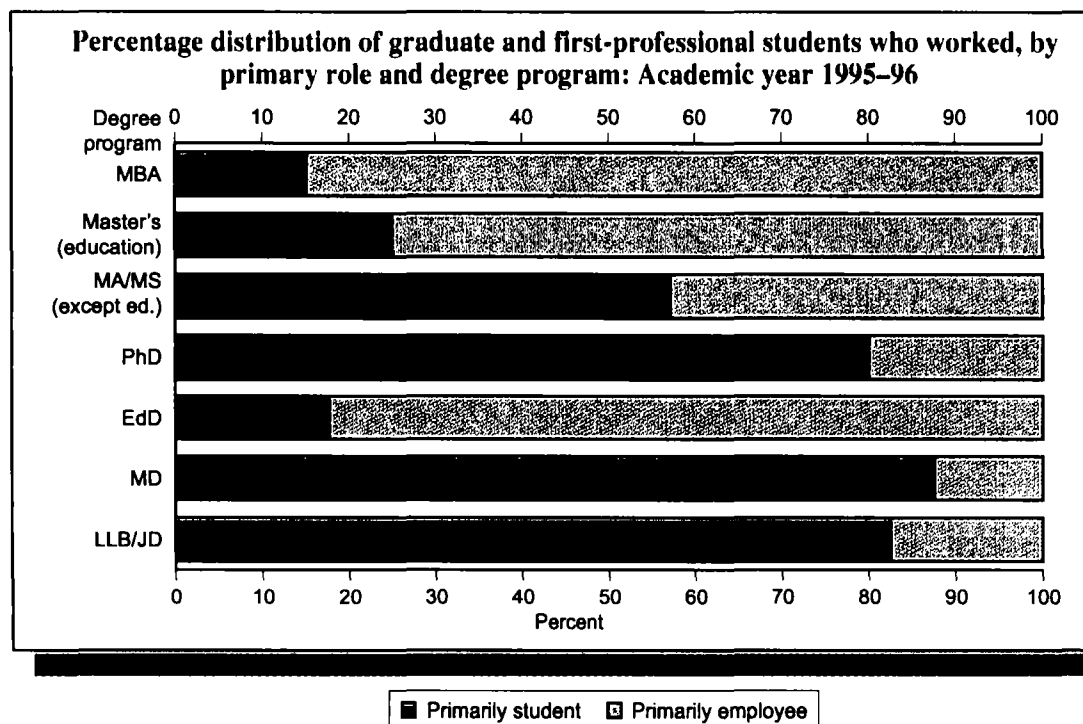
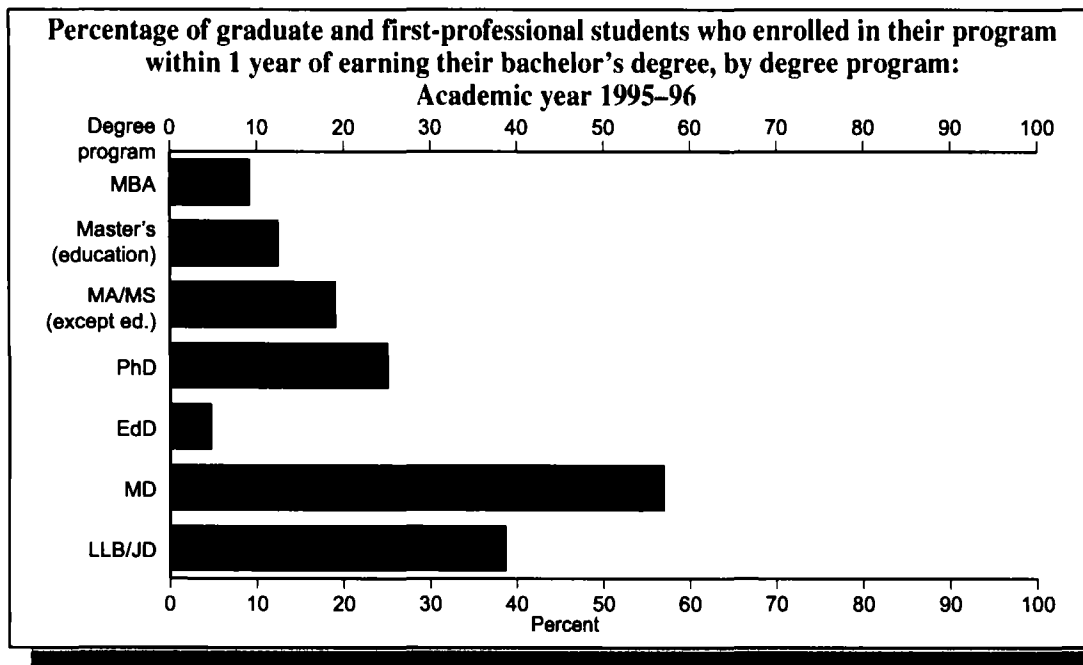
Enrollment characteristics	MBA	MAT, MEd, MA/MS in education	MA/MS (except education)	PhD	EdD	MD	Law (LLB or JD)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Time from bachelor's degree to program enrollment							
Less than 1 year	9.1	12.4	19.0	25.0	4.6	56.9	38.6
1–2 years	29.0	22.9	24.9	26.6	2.7	24.3	33.5
3–6 years	34.1	25.9	29.8	23.3	14.0	8.4	19.1
7 years or more	27.7	38.9	26.3	25.1	78.7	10.5	8.8
Attendance pattern							
Full-time, full-year	24.0	15.9	27.8	51.3	15.7	92.9	77.4
Part-time, full-year	46.7	45.0	39.5	36.3	49.3	1.6	14.3
Part-year	29.3	39.1	32.7	12.4	35.0	5.5	8.3
Employment status							
Worked at all	87.2	85.9	83.2	75.7	97.5	30.8	56.1
Worked full time if worked*	76.3	67.3	47.5	32.3	82.6	15.0	16.9
Primary role if working							
Student working to meet expenses	15.1	25.0	57.1	80.0	17.7	87.5	82.5
Employee enrolled in school	84.9	75.0	42.9	20.0	82.3	12.5	17.5

* Full-time employment is defined as working 35 or more hours per week.

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1995–96, Graduate Data Analysis System.

Enrollment characteristics of graduate and first-professional students



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1995-96, Graduate Data Analysis System.

Recent school dropouts

Students who drop out of school have fewer opportunities to succeed in the work force or to assume a fully functional place in society at large than those students who complete high school. The event dropout rate, a measure of the proportion of students who drop out in a single year without completing high school, is one of several ways to define dropout rates.

- In October 1997, 5 percent of students who were in grades 10–12 the previous October were not enrolled and had not completed high school—that is, they had dropped out of high school sometime during the year.
- Between 1972 and 1997, the dropout rates for whites and blacks decreased, while the dropout rate for Hispanics did not change significantly. During this period, the dropout rate for blacks decreased at a faster rate than that for whites.
- Generally, between 1972 and 1997, students in grades 10–12 from low-income families were more likely to drop out of high school than were their counterparts from middle- and high-income families.
- Between 1990 and 1997, students in grades 10–12 whose parents did not complete high school had a substantially higher dropout rate than did those whose parents had attained a bachelor's degree (see supplemental table 51-1).

Event dropout rates¹ for those in grades 10–12, ages 15–24, by sex, race–ethnicity, and family income: October 1972–97

October	Total	Sex		Race–ethnicity ²			Family income ³		
		Male	Female	White	Black	Hispanic	Low	Middle	High
1972	6.1	5.9	6.3	5.3	9.5	11.2	14.1	6.7	2.5
1974	6.7	7.4	6.0	5.8	11.6	9.9	—	—	—
1976	5.9	6.6	5.2	5.6	7.4	7.3	15.4	6.8	2.1
1978	6.7	7.5	5.9	5.8	10.2	12.3	17.4	7.3	3.0
1980	6.1	6.7	5.5	5.2	8.2	11.7	15.8	6.4	2.5
1982	5.5	5.8	5.1	4.7	7.8	9.2	15.2	5.6	1.8
1984	5.1	5.4	4.8	4.4	5.7	11.1	13.9	5.1	1.8
1986	4.7	4.7	4.7	3.7	5.4	11.9	10.9	5.1	1.6
1988	4.8	5.1	4.4	4.2	5.9	10.4	13.7	4.7	1.3
1990	4.0	4.0	3.9	3.3	5.0	7.9	9.5	4.3	1.1
1991	4.0	3.8	4.2	3.2	6.0	7.3	10.6	4.0	1.0
1992	4.4	3.9	4.9	3.7	5.0	8.2	10.9	4.4	1.3
1993	4.5	4.6	4.3	3.9	5.8	6.7	12.3	4.3	1.3
1994 ⁴	5.3	5.2	5.4	4.2	6.6	10.0	13.0	5.2	2.1
1995 ⁴	5.7	6.2	5.3	4.5	6.4	12.4	13.3	5.7	2.0
1996 ⁴	5.0	5.0	5.1	4.1	6.7	9.0	11.1	5.1	2.1
1997 ⁴	4.6	5.0	4.1	3.6	5.0	9.5	12.3	4.1	1.8

— Not available.

¹ The event dropout rate is the percentage of those in grades 10–12, ages 15–24, who were enrolled the previous October, but who were not enrolled and had not graduated in October of the current year.

² Included in the total but not shown separately are dropouts from other racial-ethnic groups.

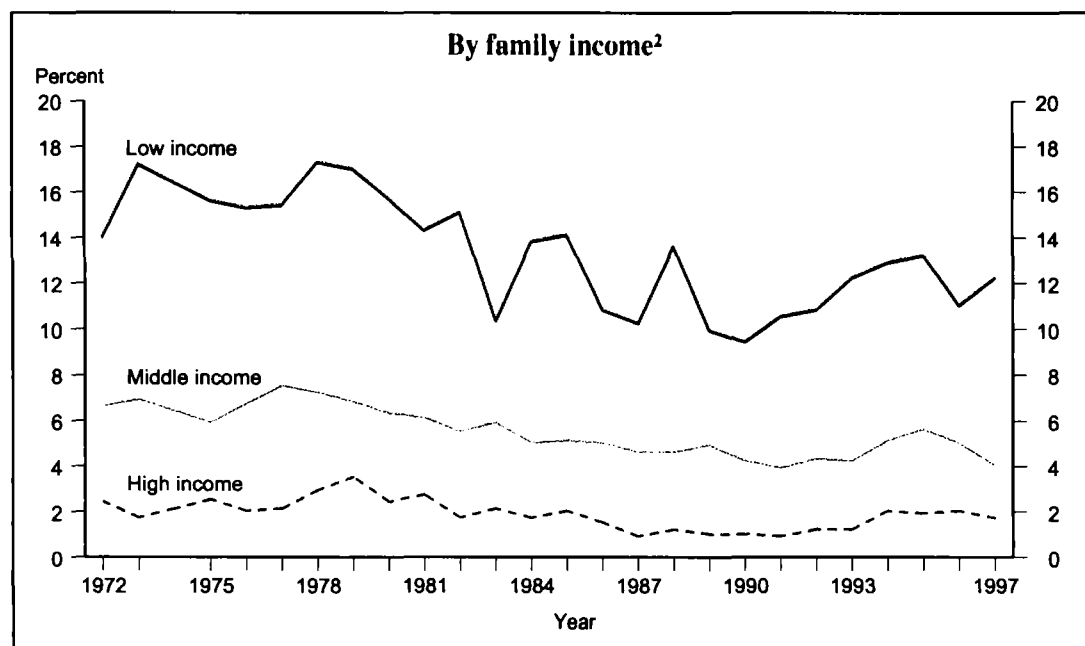
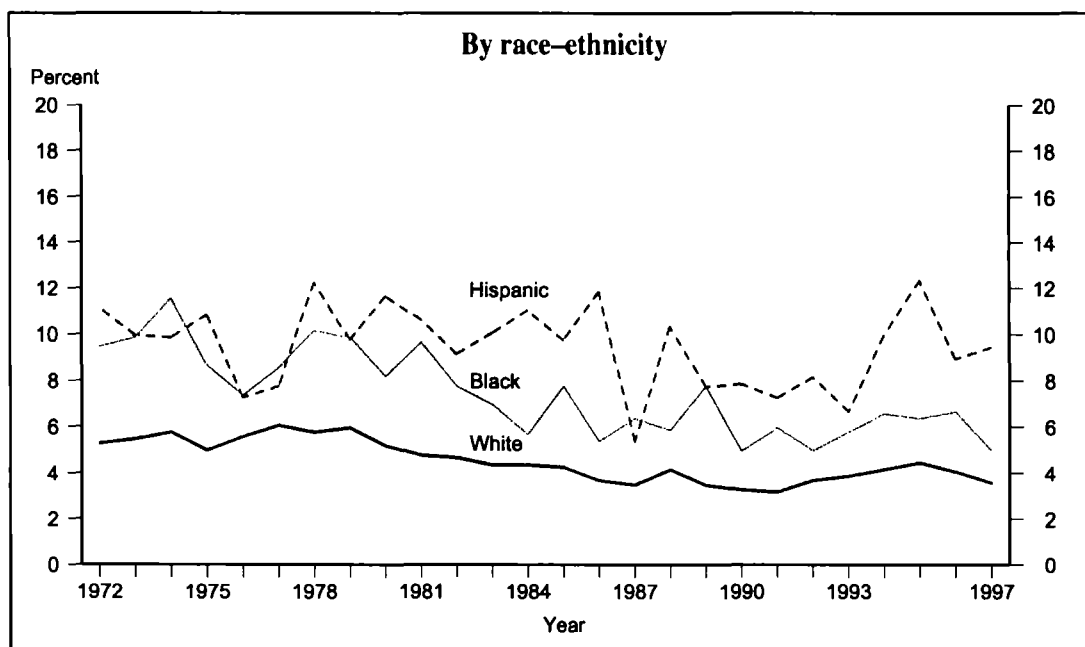
³ Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in between. See the supplemental note to Indicator 53 for further discussion.

⁴ In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See the supplemental note to this indicator for further discussion.

NOTE: Beginning in 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to Indicator 59 for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Dropout Rates in the United States, 1997, 1999* (based on the October Current Population Surveys).

Event dropout rates¹ for those in grades 10–12, ages 15–24: October 1972–97



¹ The event dropout rate is the percentage of those in grades 10–12, ages 15–24, who were enrolled the previous October, but who were not enrolled and had not graduated in October of the current year.

² Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in between. See the supplemental note to Indicator 53 for further discussion. Data on family income were not available for 1974.

NOTE: In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See the supplemental note to this indicator for further discussion. Beginning in 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to Indicator 59 for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Dropout Rates in the United States, 1997, 1999* (based on the October Current Population Surveys).

High school dropouts, by race-ethnicity and recency of migration

As a whole, Hispanics drop out of high school at higher rates and attain lower levels of education than non-Hispanics. The relative recency of migration among Hispanics may at least partially account for this trend. Evidence of the undereducation of Hispanics has implications for developing retention strategies as well as for assessing the educational and training needs of the population. The status dropout rate for an age group (the percentage of that age group that is not enrolled in school and has not completed high school) is one measure of dropping out.

- In 1997, a greater percentage of Hispanics than non-Hispanics ages 16–24 were born outside the United States (see supplemental table 52-1). Among this group, the status dropout rate (39 percent) was higher than it was among first- and later-generation Hispanics (15 and 18 percent, respectively). First- and later-generation Hispanics were two to three times more likely than their non-Hispanic peers to drop out.
- In 1997, the percentage of 25- to 34-year-olds who were dropouts was lower than it was in 1989 or 1979. Similar changes are occurring for all groups. The gaps in dropout rates between non-U.S.-born, first-generation, and later-generation Hispanics and comparable non-Hispanics were generally similar in 1979, 1989, and 1997.

Percentage of 16- to 24-year-olds who were not enrolled in school and had not completed high school, by recency of migration and race-ethnicity: October 1997

Recency of migration	Hispanic				Non-Hispanic			
	Total	Total	Mexican	Other Hispanic	Total	White	Black	Asian/Pacific Islander
Total	11.0	25.3	27.5	21.3	8.6	7.6	13.4	6.9
Born outside 50 states/D.C.	23.5	38.6	44.3	29.6	7.8	5.4	9.2	9.4
First generation	10.0	15.4	17.0	7.9	5.0	5.6	6.2	2.5
Later generation	9.3	17.7	18.3	14.2	9.0	7.8	14.1	5.3

Percentage of 25- to 34-year-olds who were not enrolled in school and had not completed high school, by year and recency of migration and race-ethnicity: November 1979 and 1989 and October 1997

Year and recency of migration	Hispanic				Non-Hispanic			
	Total	Total	Mexican	Other Hispanic	Total	White	Black	Asian/Pacific Islander
1979 Total*	14.9	45.4	51.2	24.6	13.0	11.5	24.1	—
Born outside 50 states/D.C.	34.4	59.9	74.8	30.6	16.1	18.6	15.3	—
First generation	12.3	30.8	35.3	4.3	8.2	7.8	18.1	—
Later generation	13.5	29.9	32.8	18.3	13.1	11.5	24.4	—
1989 Total*	13.1	39.1	45.9	27.6	10.5	9.1	18.9	10.5
Born outside 50 states/D.C.	31.8	51.8	69.9	28.6	11.5	10.2	14.2	12.3
First generation	10.5	25.3	25.2	28.5	4.5	4.0	8.9	5.9
Later generation	11.2	23.0	23.7	19.7	10.8	9.4	19.3	3.9
1997 Total*	11.9	38.5	46.2	27.8	7.7	6.6	12.2	9.3
Born outside 50 states/D.C.	30.8	49.5	60.0	34.2	10.3	7.6	16.7	10.7
First generation	9.5	16.4	22.8	3.2	5.8	5.7	9.9	3.9
Later generation	8.1	24.0	26.8	12.5	7.5	6.6	11.9	3.2

— Not available.

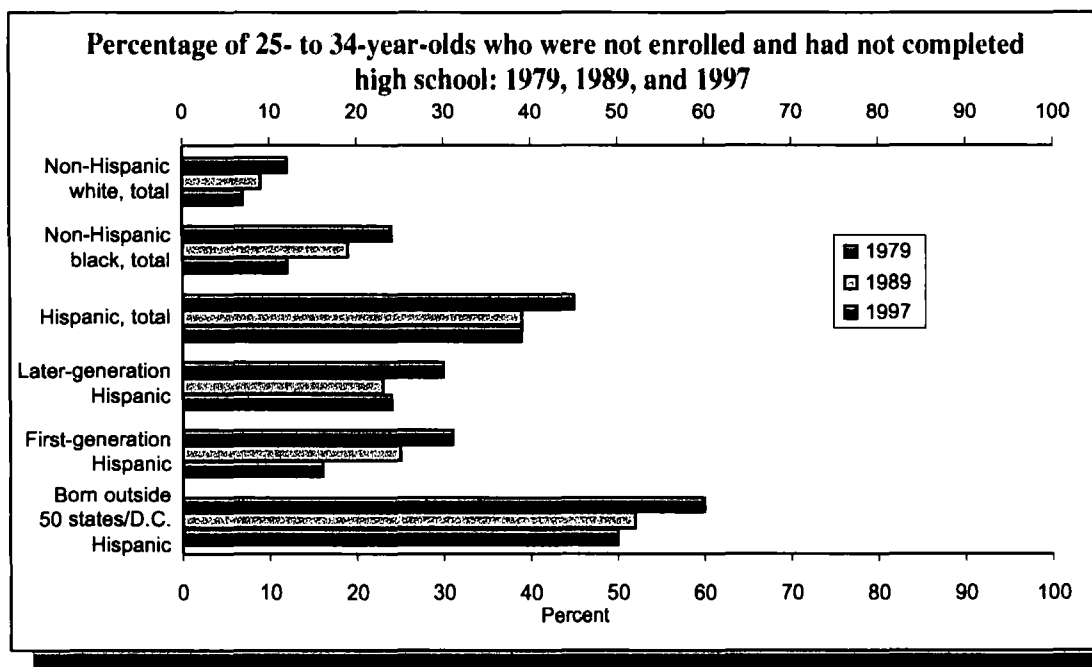
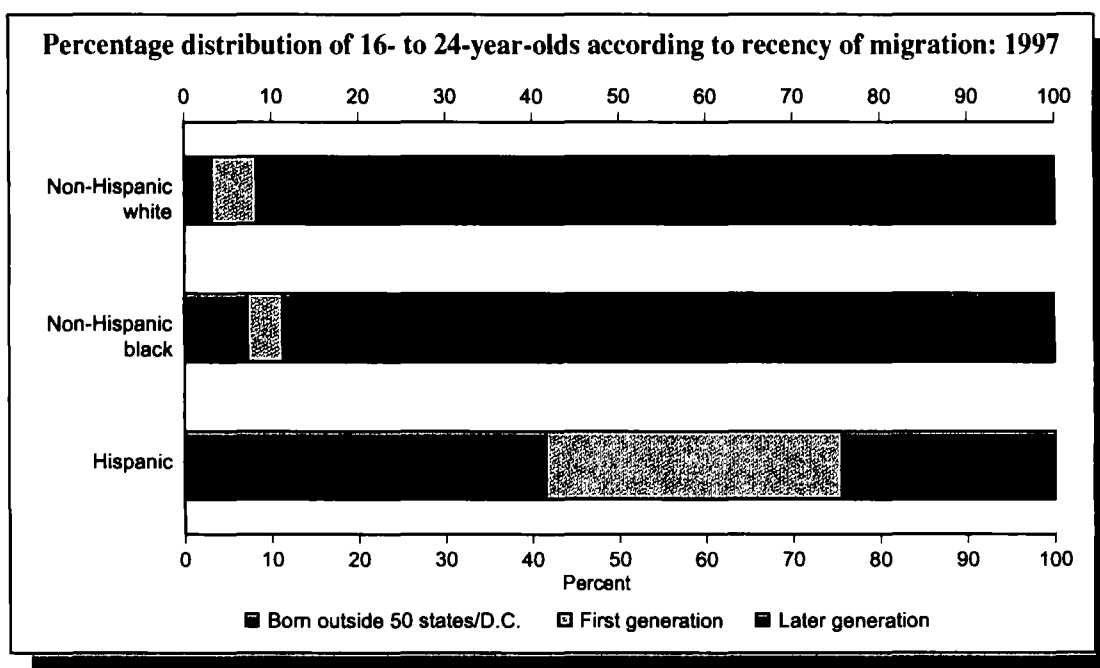
* Total includes a small proportion for whom recency of migration is unknown.

NOTE: People born in Puerto Rico and the U.S. territories are considered born in other countries. Individuals are classified as first generation if they were born in one of the 50 states or Washington,

D.C., and at least one of their parents was not. Later generation includes those who were born in one of the 50 states or Washington, D.C., as were both of their parents.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, November 1979 and 1989, and October 1997.

High school dropouts, by race-ethnicity and recency of migration



NOTE: People born in Puerto Rico and the U.S. territories are considered born in other countries. Individuals are classified as first generation if they were born in one of the 50 states or Washington, D.C., and at least one of their parents was not. Later generation includes those who were born in one of the 50 states or Washington, D.C., as were both of their parents.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, November 1979 and 1989, and October 1997.

Immediate transition from high school to college

Of those who ever attend college, most do so for the first time in the months immediately following their completion of high school. Consequently, knowing the percentage of high school completers who enroll immediately provides an estimate of the proportion of each year's graduating class that will ever attend college. Enrollment rates reflect the accessibility of higher education and the value high school completers place on such an education compared with other pursuits.

- Between 1987 and 1997, the percentage of high school completers ages 16–24 going directly to college increased from 57 to 67 percent.
- The percentage of high school completers ages 16–24 from high-income families who went directly to college increased between 1987 and 1997, while the percentage of their counterparts from low-income families who went directly to college showed no stable pattern. Each year between 1987 and 1997, completers from high-income families were more likely than completers from low-income families to go directly to college.
- While the percentages of both white and black high school completers ages 16–24 who enrolled in college immediately following high school increased between 1973 and 1996, the rate of increase was greater for whites (see supplemental table 53-1).
- Between 1990 and 1997, the higher the education level of a student's parents, the more likely that student was to enroll in college the year after completing high school (see supplemental table 53-2).

Percentage of high school completers ages 16–24 who were enrolled in college the October after completing high school, by type of institution, family income, and race-ethnicity: October 1972–97

October	Total	Type of Institution		Family income ¹				Race-ethnicity ²				
				Low		Middle	High	White	Black		Hispanic	
				3-year		Annual	Annual	Annual	3-year		Annual	Annual
		2-year	4-year	Annual	average				Annual	average		average
1972	49.2	—	—	26.1	(³)	45.2	63.8	49.7	44.6	(³)	45.0	(³)
1975	50.7	18.2	32.6	31.2	(³)	46.2	64.5	51.1	41.7	44.4	58.0	52.5
1979	49.3	17.5	31.8	30.5	31.5	43.2	63.2	49.9	46.7	45.3	45.0	46.4
1983	52.7	19.2	33.5	34.6	34.0	45.2	70.3	55.0	38.2	37.9	54.2	47.3
1987	56.8	18.9	37.9	36.9	37.8	50.0	73.8	58.6	52.2	44.5	33.5	44.9
1990	60.1	20.1	40.0	46.7	44.7	54.4	76.6	63.0	46.8	48.9	42.7	51.7
1991	62.5	24.9	37.7	39.5	42.3	58.4	78.2	65.4	46.4	47.2	57.2	51.6
1992	61.9	23.0	38.9	40.9	43.6	57.0	79.0	64.3	48.2	50.1	55.0	58.1
1993	61.5	22.4	39.1	50.4	44.1	56.9	79.3	62.9	55.6	51.5	62.2	55.4
1994	61.9	21.0	40.9	41.0	41.9	57.8	78.4	64.5	50.8	52.5	49.1	55.0
1995	61.9	21.5	40.4	34.2	41.3	56.1	83.4	64.3	51.2	52.6	53.7	51.2
1996	65.0	23.1	41.9	48.6	46.6	62.7	78.0	67.4	56.0	55.2	50.8	56.7
1997	67.0	22.8	44.3	57.0	(³)	60.8	82.2	68.2	58.5	(³)	65.6	(³)

— Not available. Data for type of institution were not collected until 1973.

¹ Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in between. See the supplemental note to this indicator for further information.

² Included in the total but not shown separately are high school graduates from other racial-ethnic groups.

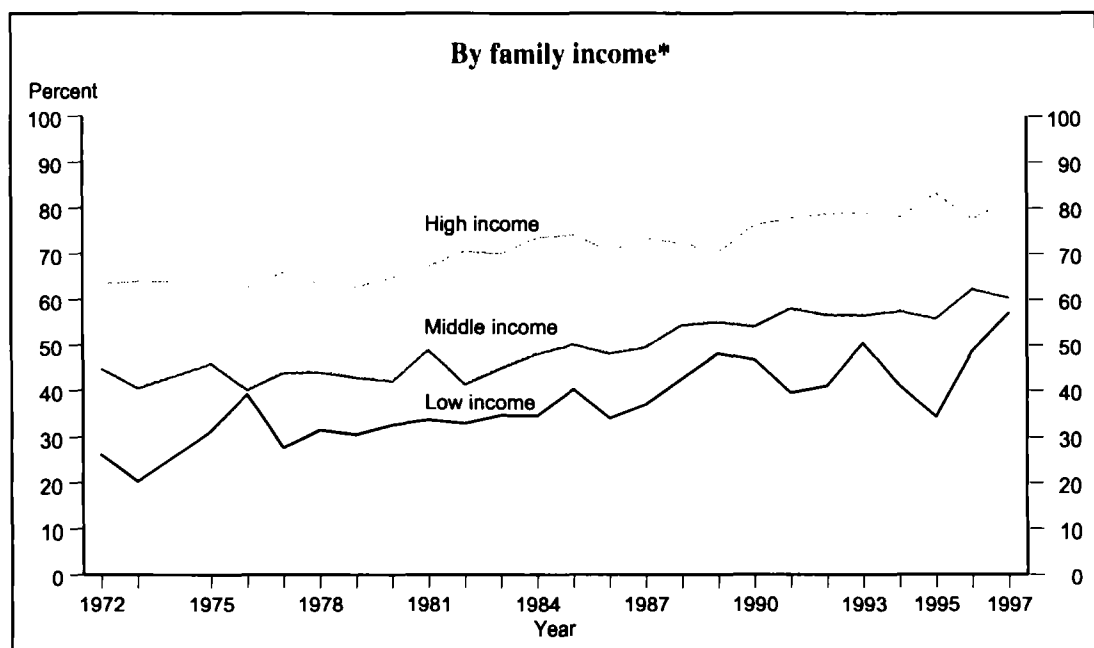
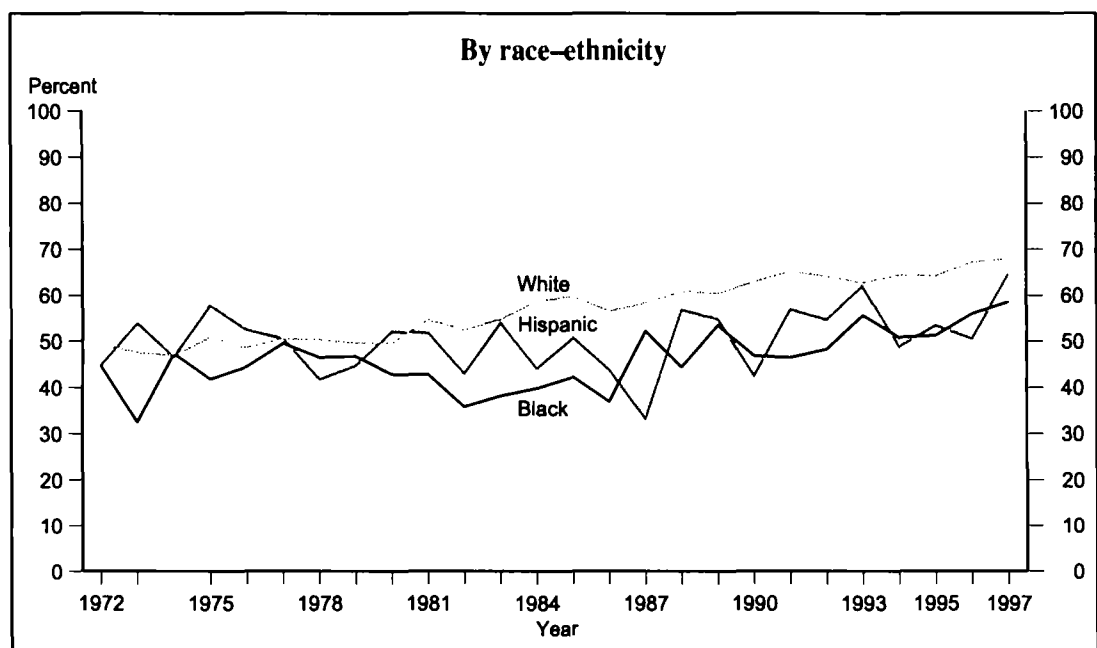
³ Due to small sample sizes for the low-income, black, and Hispanic categories, 3-year averages were also calculated for each category. For example, the 3-year average for blacks in 1973 is the average

percentage of black high school completers ages 16–24 who were enrolled in college the October after completing high school in 1972, 1973, and 1974. Thus, 3-year averages cannot be calculated for 1972 and 1997, and for groups of 3 years in which some data are not available (e.g., 1973–75 for the low-income category).

NOTE: In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further discussion. Details may not add to totals due to rounding.

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

**Percentage of high school completers ages 16-24 who were enrolled in college the October after completing high school, by race-ethnicity and family income:
October 1972-97**



* Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in between. See supplemental note to this indicator for further discussion. Data on family income were not available in 1974.

NOTE: In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further discussion.

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

Racial and ethnic differences in the transition to college

Racial and ethnic differences in college enrollment rates reflect differences in access to and persistence in higher education for groups with varying social and economic backgrounds. Differing enrollment rates are also an indicator of future differences in the earnings and productivity associated with postsecondary education. The college enrollment rates for 18- to 24-year-olds are influenced by the number who enroll immediately after completing high school, the number who delay entry, and the number of years individuals in both these groups stay in higher education.

- In 1997, white high school completers ages 18–24 were more likely to be enrolled in college (46 percent) than their black and Hispanic counterparts, although blacks and Hispanics ages 18–24 showed similar rates of college enrollment (39 and 36 percent, respectively). In contrast, in the mid- to late 1970s, white, black, and Hispanic completers showed similar rates of college enrollment.
- The percentage of high school completers ages 18–24 who were enrolled in college was higher in 1997 than in 1972. In 1997, college enrollment rates for whites, blacks, and Hispanics were 14, 12, and 10 percentage points higher, respectively, than they were in 1972.
- In 1997, college enrollment rates in 2-year institutions were similar for white, black, and Hispanic high school completers ages 18–24. In contrast, black and Hispanic high school completers ages 18–24 were less likely than their white counterparts to be enrolled in 4-year institutions (see supplemental table 54-1).
- In 1997, college enrollment rates were similar for white, black, and Hispanic high school completers ages 25–34 (9 percent for both whites and blacks and 8 percent for Hispanics). The college enrollment rates of high school completers age 35 and older showed a different pattern, however, with black high school completers in this age group being slightly more likely to be enrolled in college than their white peers.

Percentage of high school completers enrolled in college, by age and race-ethnicity: October 1972–97

October	Ages 18–24				Ages 25–34				Age 35 or older			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic	Total	White	Black	Hispanic
1972	31.9	32.6	27.2	25.8	8.4	8.4	8.8	7.5	—	—	—	—
1974	30.5	30.6	26.2	32.3	9.3	9.1	10.8	10.0	—	—	—	—
1976	33.1	32.8	33.4	35.9	9.6	9.2	11.9	11.0	2.3	2.1	4.1	3.9
1978	31.4	31.3	29.6	27.1	9.1	8.8	10.8	10.2	2.4	2.2	3.8	4.2
1980	31.8	32.1	27.6	29.9	8.9	8.7	9.6	9.2	2.1	2.0	3.4	2.9
1982	33.0	33.3	28.1	29.2	8.9	8.7	9.6	9.7	2.2	2.1	2.7	2.9
1984	33.2	33.9	27.2	29.9	8.6	8.4	8.0	9.9	2.1	2.0	2.7	1.8
1986	34.0	34.5	28.6	29.4	8.3	7.9	7.9	10.4	2.4	2.2	3.3	3.4
1988	37.0	38.4	27.8	30.8	8.0	7.8	7.5	7.8	2.7	2.6	3.3	3.4
1990	39.0	40.3	32.4	28.4	8.6	8.7	5.9	7.0	2.7	2.6	2.9	3.9
1991	40.8	42.3	30.8	33.9	9.0	8.7	8.1	8.6	2.7	2.6	3.4	2.9
1992	41.6	42.5	33.4	36.1	8.6	8.5	6.7	8.5	2.5	2.5	2.6	2.7
1993	41.0	42.0	32.2	34.9	8.5	8.2	8.1	9.5	2.6	2.4	3.3	3.1
1994	42.2	43.6	35.5	32.9	9.5	9.1	9.7	10.1	2.7	2.5	3.5	4.3
1995	42.1	43.7	35.2	34.9	9.4	9.3	9.1	8.0	2.6	2.4	3.5	3.8
1996	43.3	45.0	35.7	33.8	9.7	9.1	10.9	9.8	2.6	2.4	3.7	3.4
1997	44.9	46.4	39.3	35.8	9.4	9.1	9.0	7.5	2.6	2.4	3.7	2.5

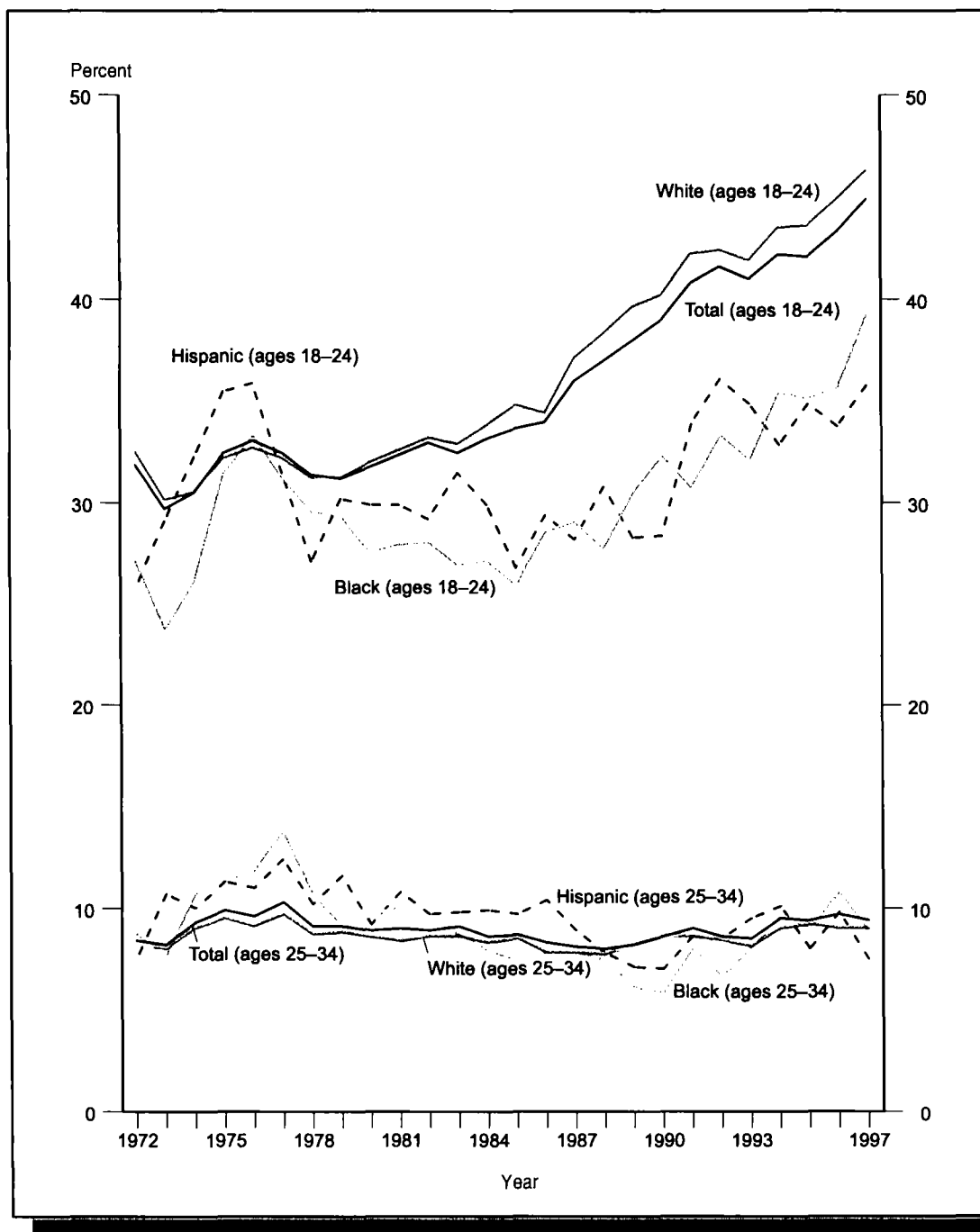
— Not available.

NOTE: In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See the supplemental note to Indicator 51 for further discussion. Included in

the total but not shown separately are high school completers from other racial-ethnic groups.

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

**Percentage of high school completers enrolled in college,
by age and race-ethnicity: October 1972-97**



NOTE: In 1994, the survey instrument for the Current Population Survey (CPS) was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further discussion. Included in the total but not shown separately are high school completers from other racial-ethnic groups.

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

Persistence and attainment of first-year college stopouts

A majority of undergraduates who successfully complete their first year in college earn a postsecondary degree. The outcomes for students who leave in their first year and return to college later (stopouts) are less well known. Tracking the academic path of these stopouts can help identify and understand students who are at risk for leaving.

- In 1989–90, 29 percent of undergraduates left college during their first year or failed to re-enroll the following year. A greater percentage left public 2-year institutions (42 percent) than 4-year colleges and universities (16 percent). About half of those leaving public 2-year institutions and about two-thirds of those leaving 4-year institutions returned to college by 1994 (that is, were stopouts). The rest remained out of college through 1994.
- By 1994, stopouts from private, not-for-profit 4-year institutions who returned to their original institution were more likely than their counterparts from public 4-year institutions to have earned a degree or certificate (63 versus 20 percent) and less likely to not be enrolled in college (22 versus 49 percent; see supplemental table 55-1).
- Within the public 2-year sector, stopouts who transferred to another institution were more likely to earn a degree or certificate by 1994 (48 percent) than were those who returned to the same institution (27 percent). In fact, stopouts who transferred had attained some degree or certificate by 1994 at a rate similar to that of students who did not leave in their first year (48 and 50 percent, respectively; see supplemental table 55-1).

Percentage distribution of 1989–90 beginning postsecondary students by their persistence or departure status in 1989–90, by type of first institution attended

Type of first institution	Attained certificate	Persisted to 1990–91	Left in 1989–90 without certificate		
			Total	Stopped out ¹	Stayed out through 1994
Total²	1.2	69.5	29.4	15.9	13.5
Institution in 1989–90					
Public 2-year	2.1	55.5	42.4	21.5	21.0
All 4-year	0.2	83.9	15.9	10.1	5.8
Public	0.2	82.3	17.5	10.9	6.6
Private, not-for-profit	0.2	87.3	12.5	8.3	4.2

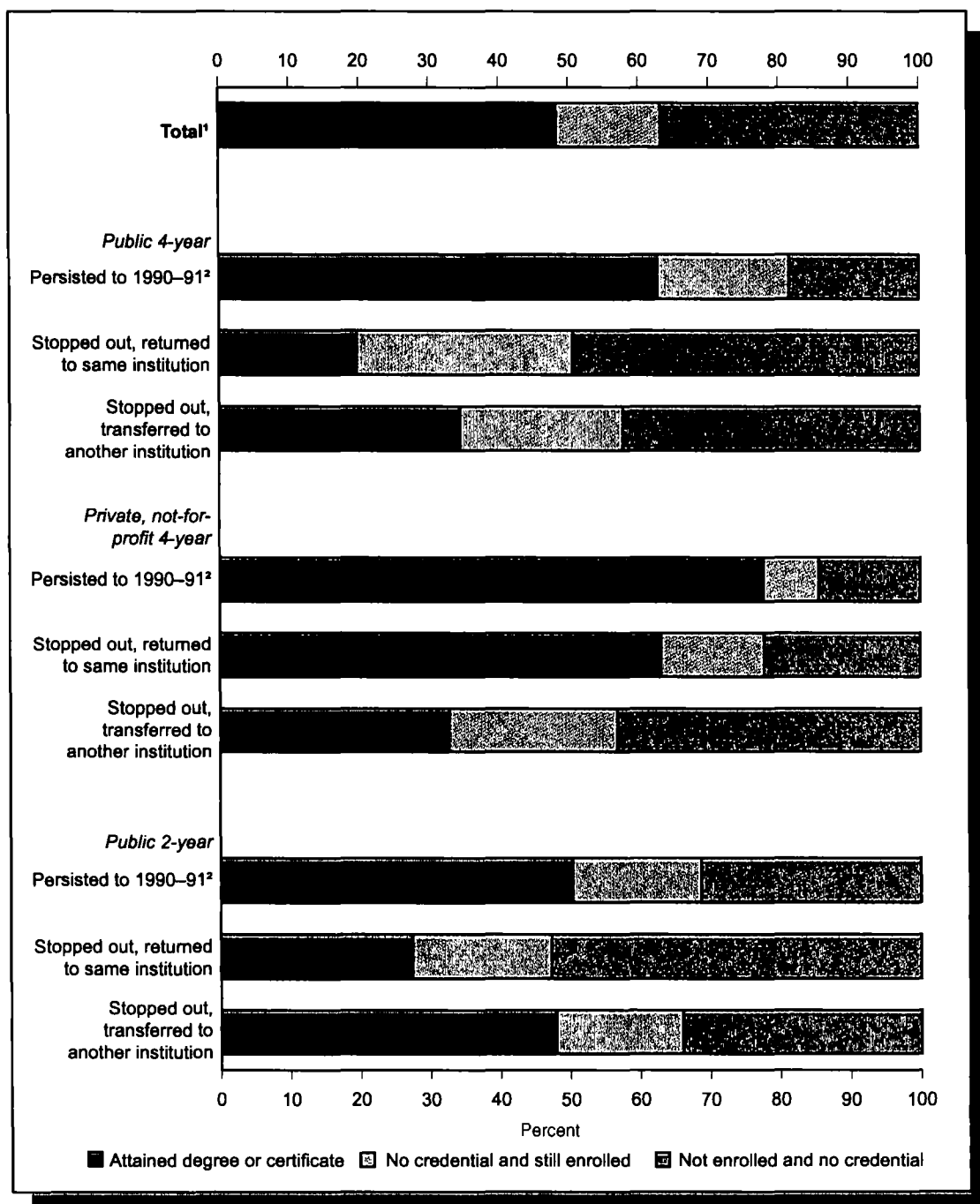
¹ Stopouts returned to college by 1994, but may have left again without earning a degree or certificate.

² Does not include students in private, for-profit institutions; public less-than-2-year institutions; or private, not-for-profit less-than-4-year institutions (about 14 percent of beginning students).

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1989–90 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94), Data Analysis System.

Percentage distribution of 1989-90 beginning postsecondary students according to attainment status in 1994, by persistence and departure status



¹ Does not include students in private, for-profit institutions; public less-than-2-year institutions; or private, not-for-profit less-than-4-year institutions (about 14 percent of beginning students).

² Includes a small percentage who attained a certificate in 1989-90.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1989-90 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94), Data Analysis System.

Persistence and attainment of first-generation students

Enrolling in college after completing high school is an expected next step for many young people, especially those whose parents attended college. For students whose parents never attended college (first-generation students), going to college may signify an attempt to improve their social, economic, and occupational standing. Yet these students can encounter a variety of obstacles in their path toward enrollment and degree attainment.

- Among those who began their postsecondary education in 1989–90, first-generation students were more likely than those whose parents had higher levels of education to be 25 years or older, be married, have dependents, be financially independent of their parents, and start at public 2-year institutions (see supplemental tables 56-1 and 56-2).
- By 1994, about half (55 percent) of 1989–90 first-generation beginning students had earned a degree or were still enrolled in college. However, they were more likely than other students to have not earned a degree or be enrolled in 1994. As parental education level increased, so did the likelihood that students persisted in college.
- First-generation students who initially enrolled in private, not-for-profit 4-year institutions were more likely than those who started in public 4-year institutions to attain a bachelor's degree by 1994. The same was true for students whose parents had higher levels of education.

Percentage distribution of 1989–90 beginning postsecondary students according to persistence and attainment status as of 1994, by first-generation status and control and type of first institution

First-generation status ¹	Persisted			No degree or certificate, not enrolled	Highest degree attained			
	Attained degree or certificate	No degree or certificate, enrolled	Total		No degree or certificate	Certificate	Associate degree	Bachelor's degree
All institutions ²								
Total	50.0	13.3	63.2	36.8	50.1	12.5	11.4	26.1
First generation	44.2	10.7	55.0	45.1	55.3	16.9	11.7	16.0
Parents have some college	50.6	14.5	65.1	34.9	49.8	10.6	11.9	27.7
Parents have bachelor's or advanced degree	58.8	16.9	75.7	24.3	41.2	6.0	11.8	41.0
Public 4-year								
Total	54.8	18.4	73.2	26.8	45.2	3.2	4.7	47.0
First generation	46.4	19.8	66.1	33.9	53.6	5.9	5.7	34.7
Parents have some college	53.3	17.4	70.7	29.3	46.7	1.5	5.0	46.8
Parents have bachelor's or advanced degree	62.3	18.3	80.7	19.3	37.7	2.0	3.6	56.7
Private, not-for-profit 4-year								
Total	71.9	8.6	80.5	19.5	28.1	2.3	3.0	66.6
First generation	62.9	8.2	71.1	28.9	37.1	2.5	2.8	57.6
Parents have some college	70.6	8.5	79.2	20.9	29.4	3.8	4.4	62.4
Parents have bachelor's or advanced degree	77.9	8.6	86.5	13.5	22.1	1.6	2.5	73.8
Public 2-year								
Total	36.7	14.7	51.4	48.6	63.3	12.9	17.5	6.3
First generation	35.4	10.8	46.2	53.8	64.6	14.6	15.1	5.7
Parents have some college	36.8	17.5	54.3	45.7	63.2	10.6	19.3	6.9
Parents have bachelor's or advanced degree	42.2	22.2	64.4	35.6	57.8	9.6	24.5	8.1

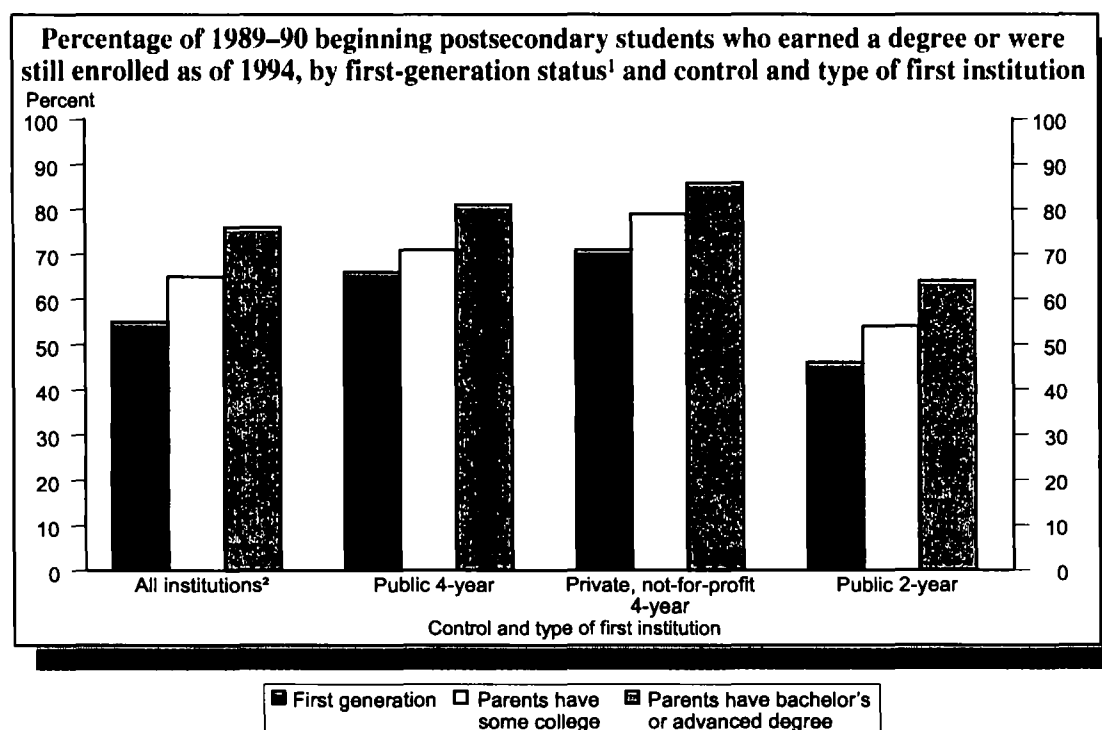
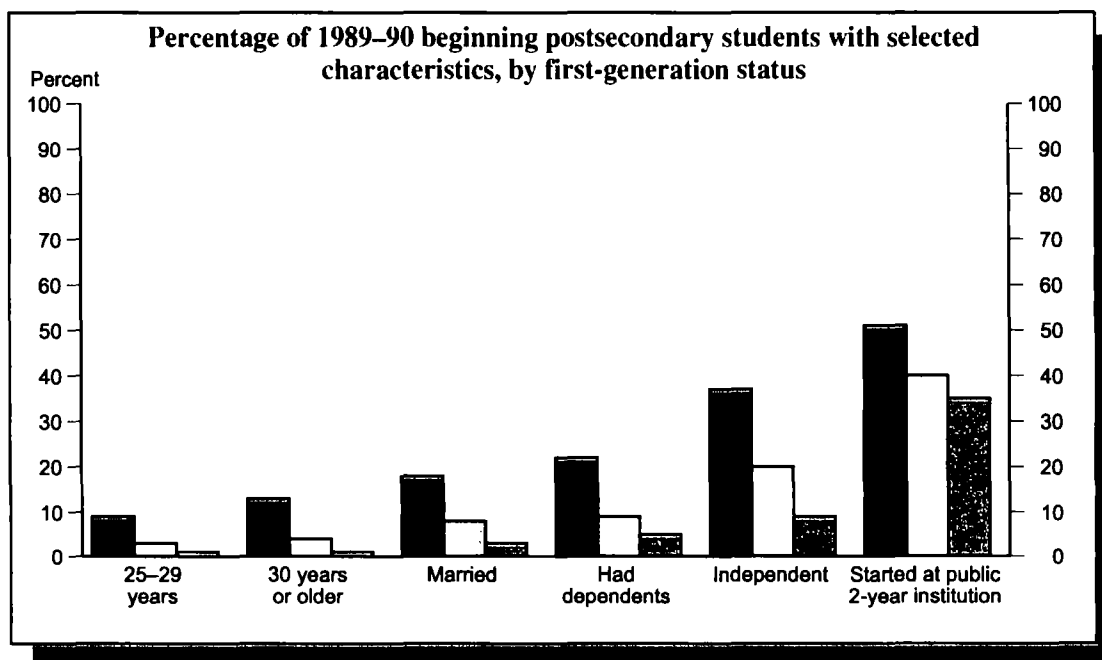
¹ The highest educational attainment of either parent was no college for 43 percent of students, some college for 23 percent of students, and a bachelor's or advanced degree for 34 percent.

² Includes students at all types of postsecondary institutions, including types not shown separately.

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1989–90 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94), Data Analysis System.

Persistence and attainment of beginning postsecondary students, by first-generation status



¹ The highest educational attainment of either parent was no college for 43 percent of students, some college for 23 percent of students, and a bachelor's or advanced degree for 34 percent.

² Includes students at all types of postsecondary institutions, including types not shown separately.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1989–90 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94), Data Analysis System.

Bachelor's degrees conferred, by field of study and race-ethnicity

Changing opportunities within the job market affect the fields in which students choose to major. In turn, the majors that students choose affect the demand for courses and faculty as well as the supply of new graduates in different fields. Trends in the number and proportion of bachelor's degrees conferred in different fields, as well as the distribution of these degrees across racial-ethnic groups, help not only to identify changing conditions in the supply and demand of the job market but also to provide some insight into the diversity of the Nation's future work force.

- After declining for several years, the number of bachelor's degrees conferred in the humanities and the social and behavioral sciences has grown since the mid-1980s. Combined with business management degrees, these three types of degrees have constituted more than half of all degrees conferred since 1971.
- Following a sharp decline between 1986 and 1992, the number of degrees conferred in computer sciences and engineering leveled off between 1993 and 1996.
- Between 1977 and 1996, increasing proportions of black students earned bachelor's degrees in physical sciences, mathematics, computer sciences and engineering, and business management. These increases led to a narrowing of the black-white disparity in the physical sciences and mathematics and to a widening of the black-white disparity favoring blacks in business management since the late 1970s (see supplemental table 57-1).
- After remaining relatively unchanged between 1977 and 1991, the Hispanic-white disparity in physical sciences widened so that in 1996, the Hispanic field concentration ratio was 0.56. In contrast, the proportions of Hispanics, relative to whites, who earned bachelor's degrees in computer sciences and engineering increased between 1977 and 1992 and then decreased to a level of near parity between Hispanics and whites (see supplemental table 57-1).

Index of the number of bachelor's degrees conferred and percentage distribution of total bachelor's degrees conferred, by field of study: Academic years ending 1971-96

Field of study	1971	1976	1981	1986	1991	1992	1993	1994	1995	1996
Index of the number of degrees (1981=100)										
All fields	89.8	99.0	100.0	105.6	117.0	121.5	124.6	125.0	124.1	124.6
Humanities	107.1	112.4	100.0	99.0	128.6	138.7	145.1	145.1	143.5	144.0
Social/behavioral sciences	136.7	124.8	100.0	95.0	129.8	139.5	143.0	143.3	141.4	141.1
Natural sciences	104.4	117.1	100.0	98.5	90.6	95.0	101.0	107.1	113.1	119.3
Computer and information sciences	15.8	37.4	100.0	277.0	165.9	162.4	160.0	160.0	161.4	159.4
Engineering	70.9	60.7	100.0	120.4	97.2	96.7	97.9	98.3	98.5	98.1
Engineering technologies	44.0	67.8	100.0	165.9	146.2	139.5	137.3	136.6	135.0	130.8
Education	163.1	142.9	100.0	80.6	102.5	99.9	99.7	99.6	98.2	97.6
Business management	57.7	71.4	100.0	119.3	125.3	129.0	129.1	124.0	117.8	114.1
Health sciences	39.6	84.8	100.0	101.2	92.8	97.0	105.4	116.9	125.5	132.0
Other technical/professional	43.2	86.6	100.0	*97.4	109.2	119.4	124.7	127.6	128.6	131.8
Percentage distribution of total degrees										
All fields	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Humanities	17.1	16.3	14.3	13.4	15.7	16.3	16.7	16.6	16.6	16.6
Social/behavioral sciences	23.0	19.1	15.1	13.6	16.8	17.4	17.4	17.4	17.3	17.2
Natural sciences	9.8	9.9	8.4	7.8	6.5	6.6	6.8	7.2	7.7	8.1
Computer and information sciences	0.3	0.6	1.6	4.2	2.3	2.2	2.1	2.1	2.1	2.1
Engineering	5.3	4.1	6.8	7.7	5.6	5.4	5.3	5.3	5.4	5.3
Engineering technologies	0.6	0.9	1.3	2.0	1.6	1.4	1.4	1.4	1.4	1.3
Education	21.0	16.7	11.6	8.8	10.1	9.5	9.3	9.2	9.1	9.1
Business management	13.7	15.3	21.3	24.0	22.8	22.6	22.0	21.1	20.2	19.5
Health sciences	3.0	*5.8	6.8	6.5	5.4	5.4	5.8	6.4	6.9	7.2
Other technical/professional	6.2	11.2	12.8	11.8	12.0	12.6	12.9	13.1	13.3	13.6

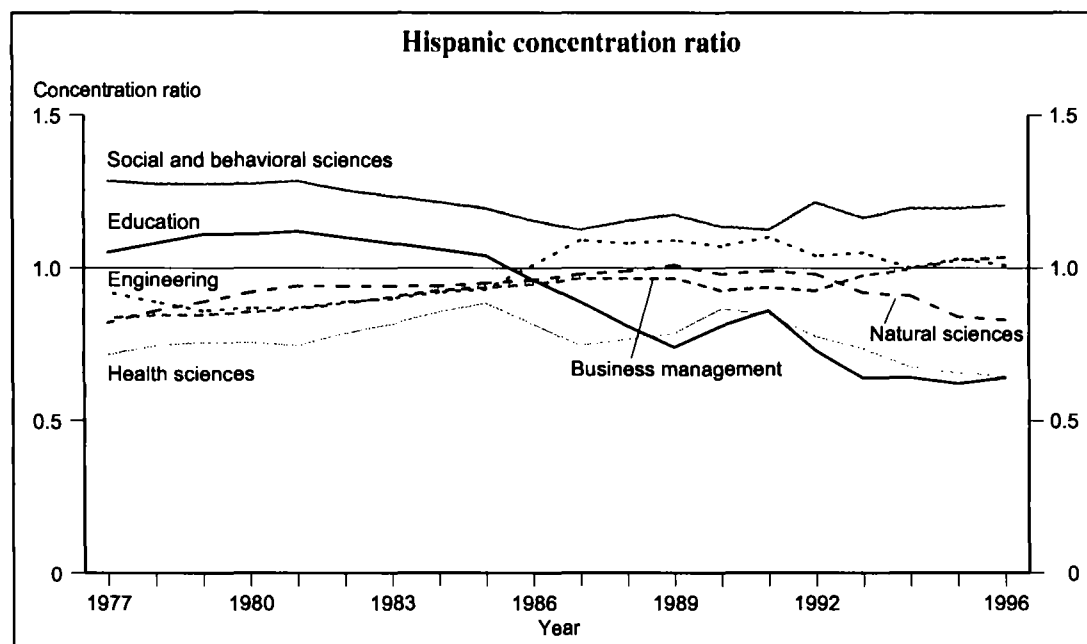
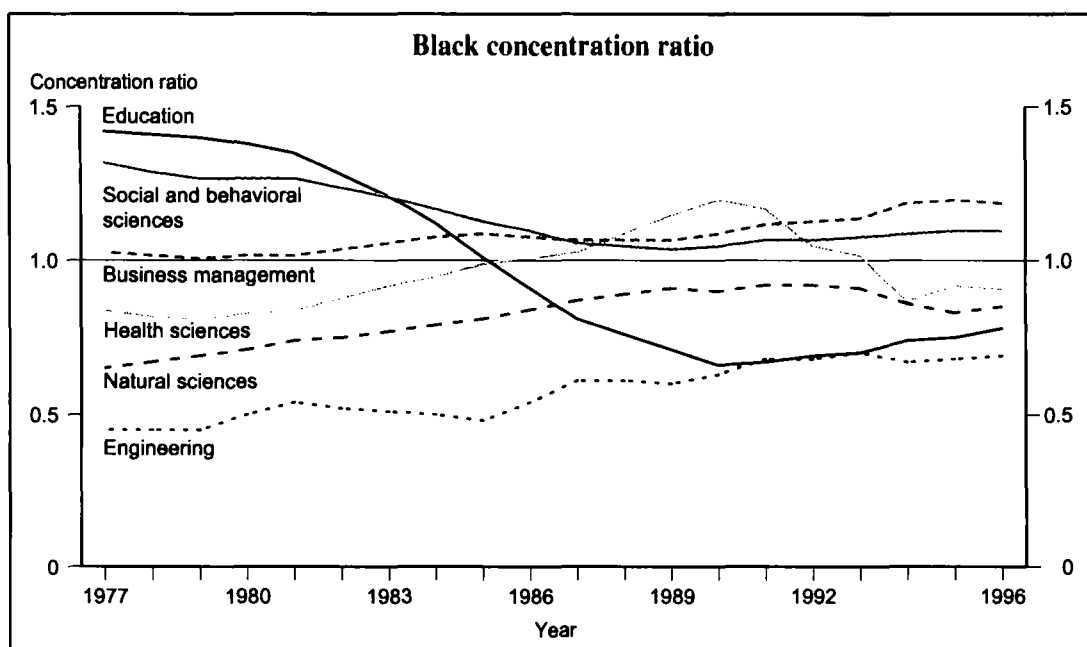
* Revised from previously published figures.

NOTE: The index of the number of bachelor's degrees conferred is calculated as the number of degrees conferred in a given field of study divided by the number of degrees conferred in the same field in 1981. A value greater than 100 indicates that more bachelor's degrees were conferred in that field of study in that year than in 1981, whereas a value less than 100 indicates that fewer bachelor's

degrees were conferred in that field in that year than in 1981. Details may not add to totals due to rounding. See the supplemental note to this indicator for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS "Completions" surveys).

**Minority field concentration ratio* at the bachelor's degree level,
by selected fields of study: Academic years ending 1977-96**



* The minority field concentration ratio is calculated as the percentage of a minority group earning bachelor's degrees who majored in a selected field of study divided by the percentage of whites earning bachelor's degrees who majored in the same field. For example, the 1996 black to white concentration ratio for education = $0.78/10.1 = 0.78$. A value greater than 1 indicates that minority graduates are more likely to major in that field than whites.

whereas a value less than 1 indicates that minority graduates are less likely to major in that field than whites.

NOTE: See the supplemental note to this indicator for a description of fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS "Completions" surveys).

Graduate field of study, by sex and race-ethnicity

Changing opportunities within the job market affect the fields in which male and female graduates and graduates from different racial-ethnic groups choose to earn a graduate degree. The female field concentration ratio shows how much the fields studied by females differ from those studied by males. The minority field concentration ratio shows how much the fields studied by various minority groups differ from those studied by whites. Changes in the ratio show whether differences in field preferences of males and females and of minorities and whites are narrowing or widening and may also indicate changes in the occupations and earning potential of females and minorities.

- In 1996, a substantially higher proportion of females than males earned master's degrees in education and health professions. In contrast, a higher proportion of males than females earned master's degrees in the natural sciences, computer sciences/engineering, and business management.
- From 1971 to 1983, a higher proportion of males than females earned master's degrees in the social and behavioral sciences. In contrast, from 1984 to 1996, a higher proportion of females than males earned master's degrees in this field. At the doctor's level, females have been consistently more likely than males to earn a degree in the social and behavioral sciences since 1971 (see supplemental tables 58-1 and 58-3).
- Between 1979 and 1996, the proportion of black and Hispanic master's degree recipients who earned degrees in the natural sciences and computer sciences/engineering increased. In 1996, black recipients were 44 and 31 percent less likely than whites to earn degrees in the natural sciences and computer sciences/engineering, respectively; however, Hispanics were 28 and 2 percent less likely than whites to earn degrees in these fields (see supplemental table 58-2).

Female field concentration ratio¹ and dissimilarity index² of graduate degrees conferred, by field of study and degree level: Academic years ending 1971-96

Field of study and degree level	1971	1974	1977	1980	1983	1986	1989	1992	1993	1994	1995	1996
Master's degrees												
Humanities	1.58	1.34	1.17	1.08	1.06	1.12	1.07	1.08	1.08	1.09	1.07	1.03
Social/behavioral sciences	0.69	0.67	0.76	0.88	0.99	1.08	1.07	1.05	1.08	1.10	1.12	1.12
Natural sciences	0.48	0.43	0.44	0.43	0.48	0.53	0.56	0.54	0.55	0.55	0.55	0.57
Computer sciences and engineering	0.03	0.05	0.07	0.11	0.15	0.20	0.19	0.19	0.19	0.19	0.19	0.19
Education	1.92	1.99	2.18	2.42	2.64	2.66	2.84	2.85	2.81	2.75	2.65	2.53
Business management	0.06	0.09	0.19	0.30	0.41	0.45	0.47	0.46	0.47	0.48	0.48	0.47
Health professions	1.85	2.00	2.37	2.66	3.01	3.16	3.30	3.32	3.31	3.19	2.96	2.96
Other technical/professional ³	1.56	1.24	1.04	1.10	1.22	1.27	1.30	1.34	1.35	1.33	1.34	1.28
Dissimilarity index ²	37.90	35.95	35.13	35.34	34.89	34.76	35.32	35.59	35.83	35.05	34.52	33.59
Doctor's degrees												
Humanities	1.89	1.71	1.41	1.10	1.09	1.08	1.05	1.13	1.13	1.09	1.10	1.16
Social/behavioral sciences	1.29	1.28	1.29	1.30	1.38	1.42	1.48	1.51	1.57	1.54	1.55	1.62
Natural sciences	0.67	0.63	0.56	0.56	0.59	0.58	0.64	0.69	0.70	0.68	0.69	0.69
Computer sciences and engineering	0.04	0.08	0.11	0.11	0.11	0.15	0.18	0.19	0.18	0.21	0.22	0.22
Education	1.60	1.52	1.61	1.86	1.99	2.10	2.33	2.48	2.36	2.48	2.51	2.48
Business management	0.17	0.24	0.21	0.41	0.41	0.52	0.65	0.51	0.63	0.63	0.57	0.61
Health professions	1.19	1.24	1.46	1.91	1.57	1.94	2.36	2.33	2.19	2.25	2.13	1.97
Other technical/professional ³	0.76	0.70	0.88	0.87	0.83	1.00	0.98	1.01	1.09	1.07	1.05	1.09
Dissimilarity index ²	28.31	25.99	24.08	24.23	25.70	26.41	27.71	28.89	29.20	28.78	28.07	29.14

¹ The female field concentration ratio is calculated as the percentage of females earning degrees who majored in a specific field divided by the percentage of males earning degrees who majored in the same field. For example, the 1996 female to male concentration ratio for a master's degree in education = $35.72/14.11 = 2.53$. A value greater than 1 indicates that females are more likely to earn a graduate degree in that field than males, whereas a value less than 1 indicates that females are less likely to earn a graduate degree in that field than males. Includes degrees conferred to U.S. and non-U.S. citizens.

² The dissimilarity index represents the percentage distribution of female students who would need to switch fields of study to match the percentage distribution of male students across fields of study.

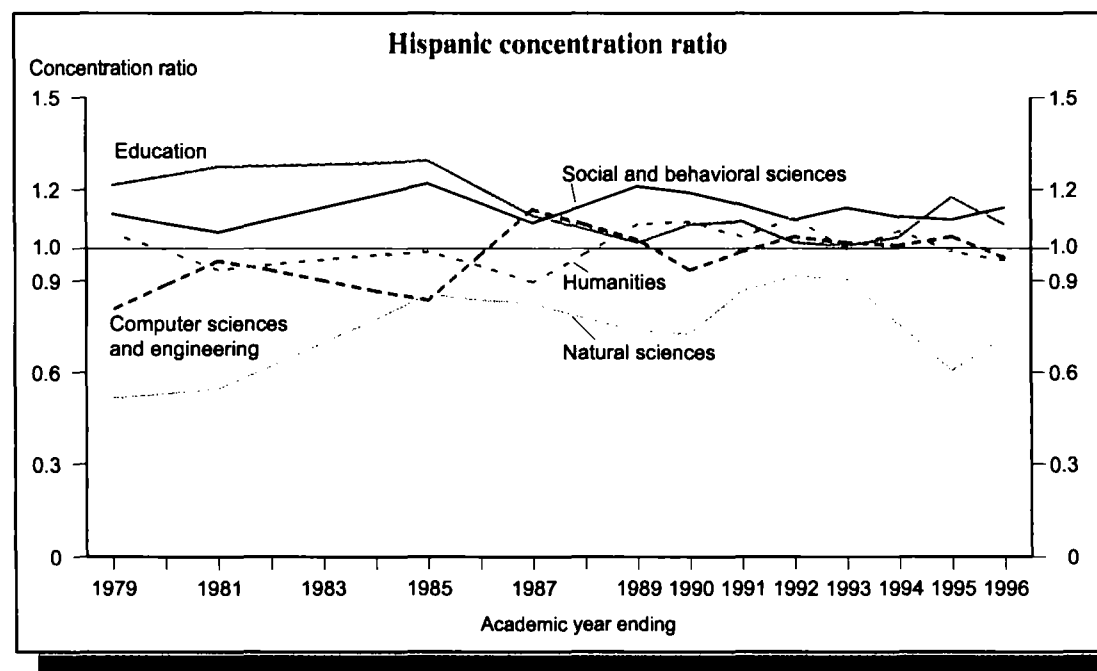
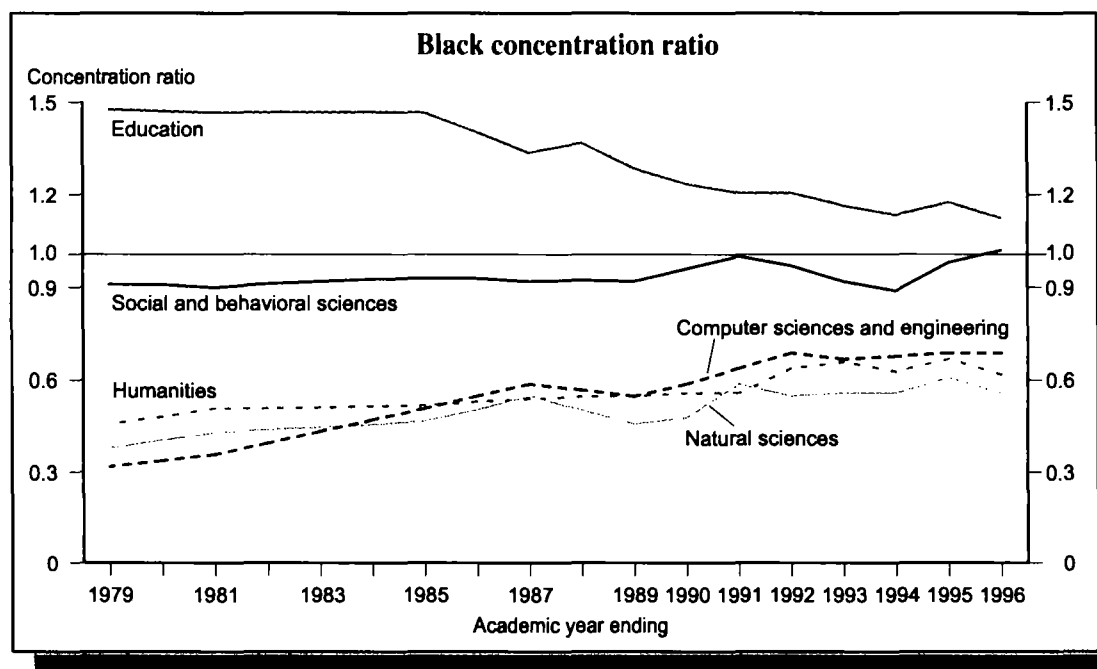
It is calculated as the sum of the absolute difference between the percentages of male and female students majoring in each field divided by 2.

³ Principally composed of public administration at the master's degree level and agriculture and natural resources at the doctor's degree level.

NOTE: Data for 1988 through 1995 are revised from previously published figures. See the supplemental note to Indicator 57 for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS "Completions" surveys).

Minority field concentration ratio* of master's degrees conferred: Academic years ending 1979-96



* The minority field concentration ratio is calculated as the percentage of a minority group earning master's degrees who majored in a selected field of study divided by the percentage of whites earning master's degrees who majored in the same field. For example, the 1996 black-to-white concentration ratio for education = $33.2/29.3 = 1.13$. A value greater than 1 indicates that minority graduates are more likely to major in that field than whites, whereas a value less than 1 indicates that minority graduates are less likely to major in that field than whites.

NOTE: See the supplemental note to *Indicator 57* for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, various years (based on IPEDS "Completions" surveys).

Educational attainment

Changes in educational attainment over time indicate fluctuations in the demand for skills and knowledge in the work force as well as societal changes. An increase in the overall level of educational attainment can reflect the increasing emphasis society places on completing high school and college. Completing high school or college is an important educational accomplishment that yields many benefits, such as better job opportunities and higher earnings.

- The educational attainment of 25- to 29-year-olds increased between 1971 and 1998. The percentage with a high school diploma or equivalency certificate rose from 78 to 88 percent; the percentage of high school completers with some college rose from 44 to 66 percent; and the percentage of high school completers with a bachelor's degree or higher rose from 22 to 31 percent.
- The educational attainment of blacks ages 25–29 increased across all education levels between 1971 and 1998. During this period, the rates of high school completion became more similar for blacks and whites. In 1971, blacks ages 25–29 completed high school at a rate that was 72 percent of the rate of whites, while in 1998 the high school completion rate for blacks was 94 percent of the rate of whites. In contrast, the gaps in attainment between white and black high school completers with some college remained about the same, and the gap for those with a bachelor's degree or higher widened.
- The educational attainment of Hispanics ages 25–29 increased across all levels between 1971 and 1998. However, despite these increases, the gaps in attainment between Hispanics and whites remained similar at every attainment level during this period.
- In 1971, females ages 25–29 had lower rates of attainment at every education level than their male peers. However, between 1971 and 1998, the educational attainment of females increased at a faster rate than that of males, and by 1998, the attainment rate of females surpassed that of their male peers (see supplemental tables 59-1, 59-2, and 59-3).

Percentage of 25- to 29-year-olds who completed high school and percentage of high school completers with some college or a bachelor's degree or higher, by race-ethnicity: March 1971–98

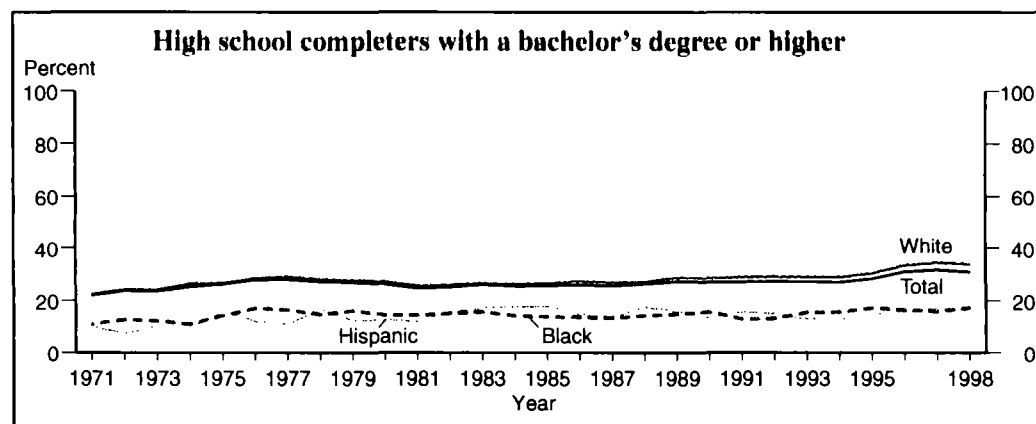
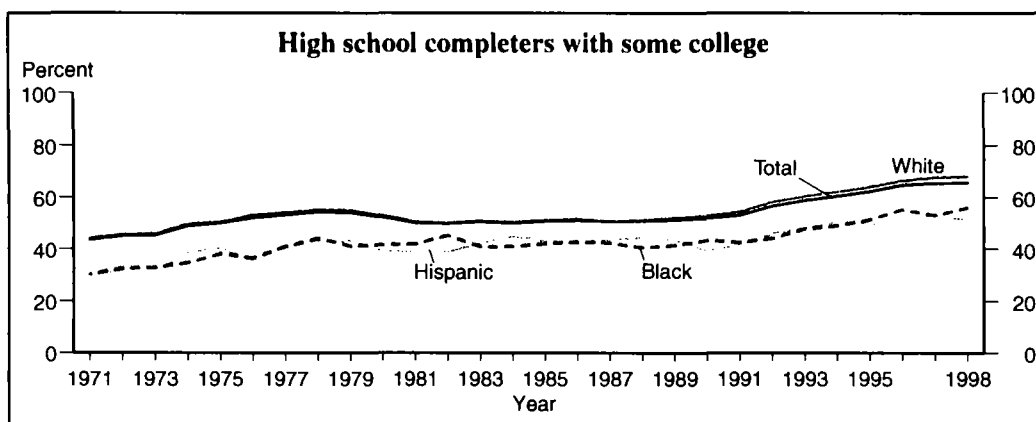
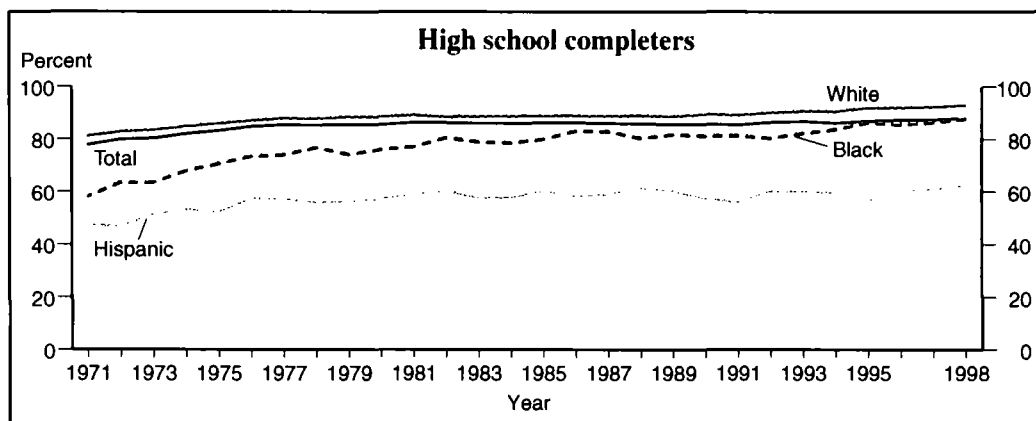
March	Diploma or equivalency certificate				High school completers with:							
	Total	White	Black	Hispanic	Some college				Bachelor's degree or higher			
					Total	White	Black	Hispanic	Total	White	Black	Hispanic
1971	77.7	81.7	58.8	48.3	43.6	44.9	30.9	30.6	22.0	23.1	11.5	10.5
1973	80.2	84.0	64.1	52.3	45.3	46.6	33.5	31.6	23.6	24.8	12.7	10.8
1975	83.1	86.6	71.1	53.1	50.1	51.2	38.7	41.1	26.3	27.5	14.7	16.6
1977	85.4	88.6	74.5	58.0	53.2	54.8	41.7	41.1	28.1	29.8	16.9	11.5
1979	85.6	89.2	74.7	57.1	54.1	55.7	41.7	44.0	27.0	28.6	16.6	12.9
1981	86.3	89.8	77.6	59.8	50.1	51.2	42.5	39.6	24.7	26.3	14.9	12.5
1983	86.0	89.3	79.5	58.4	50.6	51.6	41.6	42.9	26.2	27.4	16.2	17.8
1985	86.2	89.5	80.5	61.0	50.8	51.8	42.7	44.2	25.7	27.3	14.4	18.2
1987	86.0	89.4	83.5	59.8	50.7	51.4	43.0	44.6	25.6	27.6	13.8	14.5
1989	85.5	89.3	82.3	61.0	51.3	52.8	42.1	44.3	27.3	29.5	15.4	16.5
1991	85.4	89.8	81.8	56.7	53.1	54.9	43.2	42.2	27.2	29.7	13.4	16.3
1992	86.3	90.6	80.9	60.9	56.7	58.8	44.7	46.8	27.3	30.0	13.7	15.6
1993	86.7	91.2	82.7	60.9	58.9	61.0	48.4	48.8	27.3	29.8	16.1	13.6
1994	86.1	91.1	84.1	60.3	60.5	62.7	49.6	51.5	27.0	29.7	16.2	13.3
1995	86.9	92.5	86.8	57.2	62.2	64.6	52.0	50.3	28.4	31.2	17.8	15.5
1996	87.3	92.6	86.0	61.1	64.7	67.0	55.9	50.9	31.1	34.1	17.0	16.4
1997	87.4	92.9	86.9	61.8	65.4	68.2	53.7	53.9	31.8	35.2	16.4	17.8
1998	88.1	93.6	88.2	62.8	65.6	68.5	56.6	51.7	31.0	34.5	17.9	16.5

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. See the supplemental note to this indicator for further discussion. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further

discussion. Included in totals but not shown separately are other racial-ethnic groups.

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

Percentage of 25- to 29-year-olds who completed high school and percentage of high school completers with some college or a bachelor's degree or higher, by race-ethnicity: March 1971-98



NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. See the supplemental note to this indicator for further discussion. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See the supplemental note to *Indicator 51* for further

discussion. Included in totals but not shown separately are other racial-ethnic groups.

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

International comparisons of educational attainment, by age

The percentage of the population completing secondary and higher education in different countries may be used to compare the skill level of the U.S. work force with that of its economic competitors. In addition, contrasting the educational attainment of the general population with the attainment of younger age cohorts provides a means of comparing progress in the rates of high school and college completion.

- In the United States, the United Kingdom, Germany, and Canada, at least 80 percent of adults ages 25–34 had completed secondary education in 1996. In comparison, only in the United States and Germany had 80 percent or more of adults ages 45–54 completed secondary education. The similarities in secondary educational attainment rates for those ages 25–34 indicate that other countries have gradually caught up to or surpassed the United States in terms of the percentage of their populations completing secondary education (see supplemental table 60-1).
- The United States still ranks first among the large, industrialized countries in terms of higher educational attainment. For both the younger and older generations, adults in the United States had higher rates of higher educational attainment than adults in other countries in 1996. The United States is still likely to retain a lead in higher education over other countries in the future.
- However, while the percentages of the younger generation completing higher education were generally higher than those for the older generation in most of the countries, this was not true for the United States. In the United States, those ages 45–54 had higher educational attainment rates that were slightly greater than the rates of those ages 25–34, which may be due to a more flexible education system in which adults may enroll in and complete higher education at any age.
- About 24 percent of female adults ages 25–64 in the United States completed higher education in 1996 (see supplemental table 60-1). Females ages 25–34 in the United States were also more likely to complete higher education than their female and male peers in other large, industrialized countries (with the exception of males ages 25–34 in Japan).
- Males ages 25–34 in Japan were much more likely to complete higher education than males of the same age in the other large, industrialized countries. Males of the same age in the United States ranked second.

Percentage of the population in large, industrialized countries who completed secondary and higher education, by age, sex, and country: 1996

Country	25–34 years old						25–64 years old	
	Total		Male		Female		Total	
	Secondary education ¹	Higher education	Secondary education ¹	Higher education	Secondary education ¹	Higher education	Secondary education ¹	Higher education
Canada	84.9	20.1	82.9	19.4	86.9	20.8	76.4	17.3
France ²	74.3	12.4	73.6	11.7	74.9	12.9	60.2	9.7
Germany	86.4	12.9	88.3	14.1	84.4	11.6	81.5	13.1
Italy	52.1	8.3	50.0	8.0	54.3	8.7	38.2	8.1
Japan ³	90.6	22.9	89.3	34.2	91.8	11.5	69.7	13.3
United Kingdom	86.6	15.2	87.5	16.5	85.6	13.8	76.3	12.8
United States	86.9	26.5	85.9	25.9	87.9	27.1	85.7	25.8

¹ Includes individuals who have completed at least secondary education.

² The allocation for individual education level for France was revised in 1996. The result is a reduction in the number of people with upper secondary level qualification and an increase in the number with lower secondary level qualification.

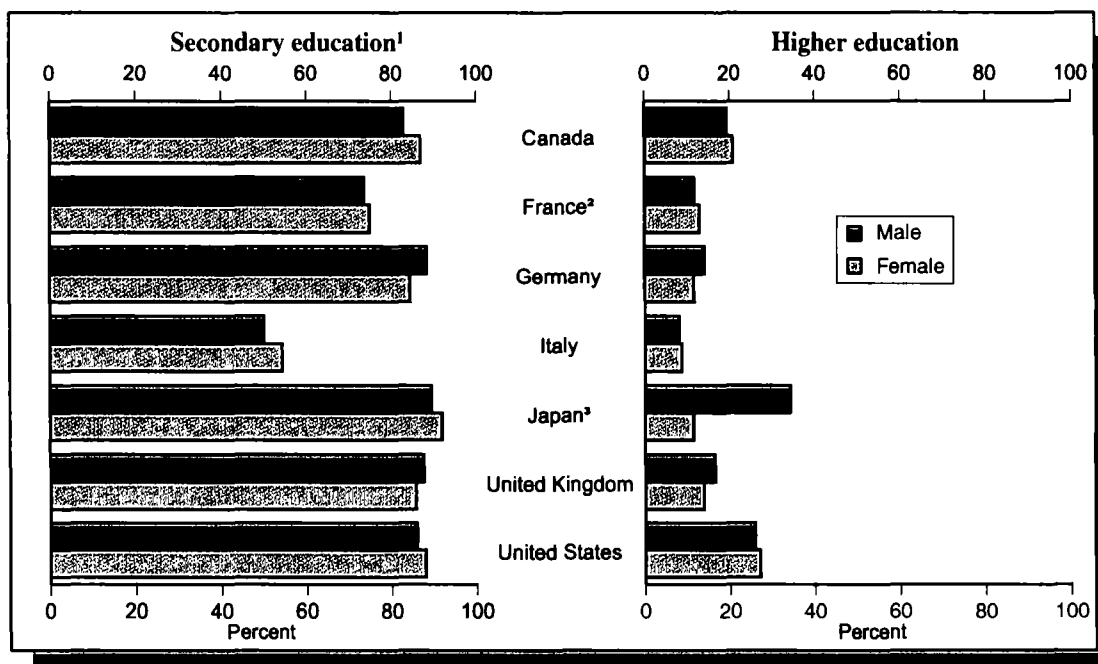
³ Data are for 1989.

NOTE: In the United States, completing secondary education is defined as graduating from high school or earning a GED; completing higher education is defined as earning a bachelor's degree or higher. Individuals for whom educational attainment is unknown are excluded from the analysis.

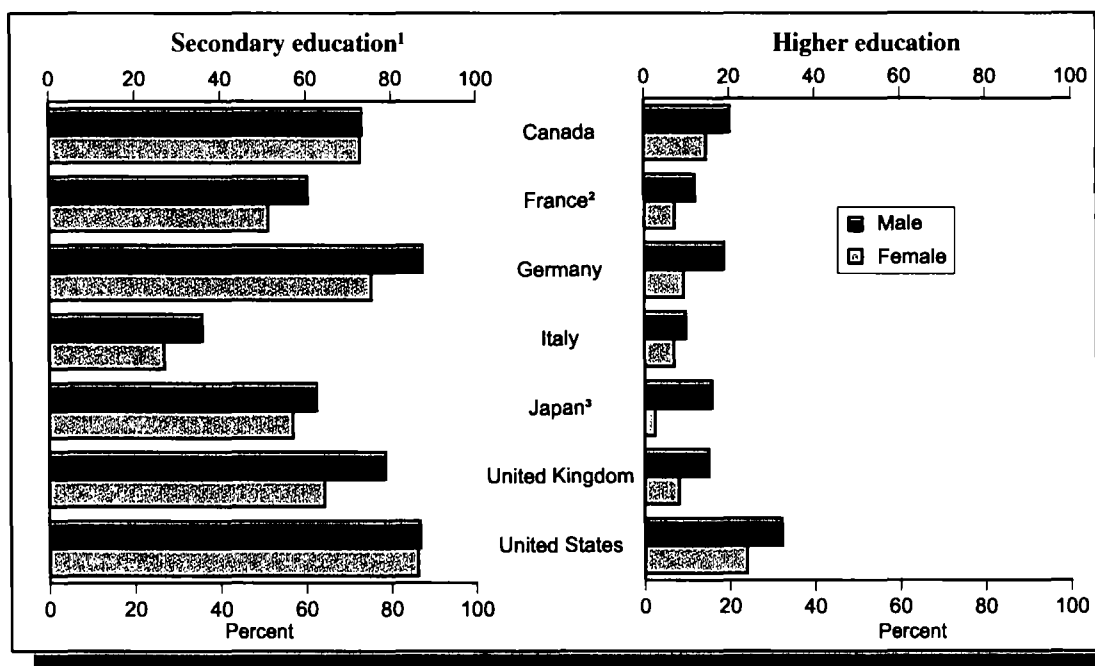
SOURCE: Organisation for Economic Co-operation and Development, INES Project, International Indicators Project.

Percentage of the population in large, industrialized countries who have completed secondary and higher education, by age, sex, and country: 1996

25-34 years old



45-54 years old



¹ Includes individuals who have completed at least secondary education.

² The allocation for individual education level for France was revised in 1996. The result is a reduction in the number of people with upper secondary level qualification and an increase in the number with lower secondary level qualification.

³ Data are for 1989.

NOTE: In the United States, completing secondary education is defined as graduating from high school or earning a GED; completing higher education is defined as earning a bachelor's degree or higher. Individuals for whom educational attainment is unknown are excluded from the analysis.

SOURCE: Organisation for Economic Co-operation and Development, INES Project, International Indicators Project.