DOCUMENT RESUME

ED 258 365 EA 017 907

AUTHOR	Plisko, Valena White, Ed.; Stern, Joyce D., Ed.
TITLE	The Condition of Education. A Statistical Report. 1985 ition.
INSTITUTION	Natio. l Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-85-402
PUB DATE	85
NOTE	287p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.
PUB TYPE	Statistical Data (110) -- Reports - Research/Technical (143)
EDRS PRICE	MF01/PC12 Plus Postage.
DESCRIPTORS	*Charts; Dropouts; Educational Finance; Educational Resources; *Educational Trends; Elementary Secondary Education; Enrollment; *Government School Relationship; Higher Education; High School Graduates; *School Statistics; Special Education; State Programs; Statistical Studies; Statistical Surveys; *Tables (Data); Teacher Characteristics; Teacher Distribution; Teacher Motivation; Teacher Supply and Demand
IDENTIFIERS	*Department of Education

ABSTRACT

This document is the eleventh annual report of the National Center for Education Statistics, issued in response to its continuing mandate to report full and complete statistics on the conditions of education in the United States. The report employs a chartbook format to convey statistical information in a nontechnical way to a general audience. Along with the narrative, each topic entry consists of a table along with a chart highlighting the data in the table. The first part is an overview of trends in (1) elementary/secondary education (enrollment, resources, finance, performance, and state activities to improve performance); and (2) higher education (enrollment, resources, finance, and degrees). Special emphasis is given in subsequent chapters to (1) elementary/secondary school teachers (teacher supply and demand, characteristics of teachers, teacher certification, and teaching incentives); and (2) educating handicapped students (the national perspective and family background as it relates to provision of special education); and (3) the transition from high school (high school dropouts and re-entrants, terminal degree graduates, and postsecondary education participants). An appendix provides data sources and definitions of selected terms, and a cumulative index lists topics and data shown in volumes published from 1982 to 1985 inclusive. (TE)

1985 EDITION

A STATISTICAL REPORT

National Center for Education Statistics

The Condition of Education

On The Inside

Elementary and Secondary Education

- Enrollment in the lower grades is projected to increase beginning in 1986, while in the upper grades it is expected to continue declining throughout the 1980's.

- Forty States and the District of Columbia increased their inflation-adjusted expenditures per pupil between 1980-81 and 1982-83. Fifteen of these States had very large increases of 10 percent or more even after adjustment for inflation.

- About one-third of all graduating black and Hispanic high school students had "D" or "F" averages in basic academic areas such as English, mathematics, natural science, and social science.

- U.S. students consistently scored at or below the average of selected countries on mathematics tests for both the 8th and 12th grades. U.S. 12th grade students fell into the lowest fourth of the countries on algebra, geometry, and number system tests and well below the average on other mathematics tests.

- Nearly two-thirds of the States increased high school graduation requirements between 1980 and 1984.

Higher Education

- The number of 18- to 24-year-olds enrolled in college is projected to decline throughout the rest of the 1980's and into the 1990's, while the number of students 25 years old and over is expected to continue rising.

- Minorities represented about 14 percent of enrollment at 4-year institutions and about 21 percent at 2-year institutions in the fall of 1982, proportions essentially unchanged from 1976. Non-resident aliens made up 4 and 1 percent of students at 4- and 2-year institutions, respectively.

- Of the freshmen entering institutions that offered remedial/developmental courses in 1983-84, about one-fourth enrolled in such courses in reading, writing, and mathematics. About three-fourths of those who enrolled in remedial courses completed them successfully.

- The proportion of Bachelor's degrees conferred in several of the arts and sciences dropped sharply in the decade from 1971-72 to 1981-82. A strong growth trend persisted in most of the job-related majors.

Elementary and Secondary School Teachers

- By the mid 1980's, the demand for additional teachers is projected to exceed the supply of new teacher graduates. Elementary schools with anticipated increases in enrollment are expected to generate two-thirds of the demand.

- Approximately 9 percent of newly hired teachers in the public schools in 1983-84 were not certified to teach in the principal field of assignment. School districts in central cities reported higher-than-average cases of uncertified new hires than school districts in other locations.

Educating Handicapped Students

- More than two-thirds of handicapped children received their instruction in regular classes, and one-fourth did so in special classes within regular schools, proportions little changed from the mid-1970's.

- In constant dollars, Federal funding for the major special education programs rose rapidly to 1979, fell for the next 2 years and has since partially recovered. A similar pattern held for the ratio of Federal expenditures per handicapped child, which stood at about $251 per child in 1983.

The Transition from High School

- High school dropout rates in Catholic schools were substantially lower than rates in public schools. Dropout rates in public schools were more pronounced in the South and West, in urban communities, and in schools with high black enrollments.

- High school graduates who did not continue their education were more likely to have graduated from public schools. When compared to students participating in postsecondary education, a greater proportion of these "terminal degree" graduates were male (53 percent). Postsecondary education participants averaged more years in mathematics, science, and foreign language than did terminal-degree graduates.

- While postsecondary enrollment rates of recent high school graduates remained stable overall between fall 1972 and fall 1980, rates dropped slightly among males and Hispanics and rose among females.

The Condition of Education 1985 Edition

Statistical Report
National Center for Education Statistics

Edited by Valena White Plisko
and Joyce D. Stern

U.S. Department of Education
William J. Bennett, Secretary

Office of Educational Research and Improvement
Chester E. Finn, Jr., Assistant Secretary

National Center for Education Statistics
Emerson J. Elliott, Administrator

National Center for Education Statistics

"The purpose of the Center shall, be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries," —Section 406 (b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

For sale by the Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Administrator's Statement

". . . there shall be established, at the city of Washington, a Department of Education, for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several States and Territories . . ."

—Act of Congress founding the original U.S. Department of Education, 1867

The purpose of the National Center for Education Statistics within today's Department of Education is chiefly to carry on this original mission, established by the Congress 118 years ago, in order that the people of this country, and their leaders, may have an informed basis for debate and decision regarding educational policies and practices. Through its data collection, analysis, and dissemination activities, the Center has attempted to provide accurate and timely statistics pertinent to the key concerns of Federal, State, and local policymakers, educators, and the general public. Although no single report can meet this great responsibility, *The Condition of Education* is the Center's major response to its continuing mandate, most recently expressed in the General Education Provisions Act, amended in 1974, to: "report full and complete statistics on the conditions of education in the United States . . ."

Although it is the smallest of the six Federal general purpose statistical agencies, the National Center for Education Statistics maintains a group of core data collection systems which provide statistics describing the educational enterprise in the United States. In preparing *The Condition of Education,* such additional information as is needed to present issues in an unbiased light is compiled from outside sources and combined with the Center's data. The Center's present budget of $8.7 million provides support for the following major components of the Center's programs:

- Elementary/Secondary Education - data collected annually on public school enrollments, staff and finances; in alternating years, surveys of special attributes of public and private schools; and data collected biennially on teacher demand and shortage.

- Higher Education - data collected annually on institutions, enrollment, degrees, salaries, and finances; cyclical surveys of facilities and the residence and migration of students; and data collected biennially on the employment of recent college graduates.

- Vocational and Adult Education - in accordance with P.L. 98-524, NCES is developing data collection plans for the Department "in consultation with Congress."

- Longitudinal Studies - data collected on the transition from school to work and policy issues from three cohorts of students—1972 seniors (fifth follow-up in 1986), 1980 sophomores and 1980 seniors (second follow-up in 1984 with biennial follow-ups until 1988).

Data are made available to users through a variety of means: publications such as this report, tapes and special tabulations, and responses to inquiries received by the Statistical Information Office. In addition, special data collections on policy issues are provided with the Center's Fast Response Survey System.

The Condition of Education employs a chartbook format to convey statistical information in a nontechnical way to a general audience. Along with the narrative, each entry on a topic consists of a table and a chart presented together. The data highlighted in the chart, and briefly summarized in a statement accompanying the chart, are extracted from the facing table. Data used in the chart appear in boldface type in the table, so that it may be readily consulted for further information. To help readers needing statistics on other topics or more data on a particular issue, a cumulative index lists topics and data shown in volumes published since 1982, as well as in the present edition.

The educational issues of prime interest change from time to time. As no one report could treat all issues, the content of *The Condition of Education* focuses upon different issues from year to year. This year's report, the 11th in the series, for example, highlights elementary/secondary school teachers, special education, and the transition from high school. Current activities at the Center are concentrating on the development of various educational "indicators," so that future editions will be able to report more fully on the relationships between resources, processes, and outcomes of the Nation's educational system.

Emerson J. Elliott

Acknowledgements

The Condition of Education, 1985, Statistical Report, was prepared by the National Center for Education Statistics (NCES) in the Statistical Information and Analysis Branch of the Division of Statistical Services under the supervision of John B. Lyons, Assistant Administrator, Martin M. Frankel, Acting Branch Chief and Jay Noell, Branch Chief.

Valena White Plisko was responsible for the development and preparation of the report; Joyce D. Stern took over the completion of the project. Richard E. Whalen assisted on all aspects of the report production, authored Chapter 5, and monitored the computer-graphics contract. Lance Ferderer provided editorial help and assisted with Chapter 4. Philip Carr monitored the typesetting and layout. Thomas Snyder and Vance Grant led the groups which prepared Chapters 1 and 2 of the report. Debra Gerald prepared projections and narrative for the elementary/secondary and higher education chapters. Imelda Smallwood, Fred Beamer, Esther Tron and Audrey Weinberg also lent their expertise. Data processing was provided by Gregory Dennis and William Sonnenberg. Carlyn Lucas typed the manuscript with help from Laquetta Smallwood, LaVerne Holland and Joyce Robertson, and Charlene Hoffman and Celeste Loar proofed copy.

The assistance of many NCES staff outside the Division of Statistical Services is also gratefully acknowledged. Andrew Kolstad, Peter Stowe, and Ricky Takai produced the special tabulations from the High School and Beyond longitudinal study. Data or reviews were provided by Norman Brandt, Susan Broyles, Dennis Carroll, Marjorie Chandler, Theodore Drews, Rosa Fernandez, Susan Hill, Warren Hughes, Andy Kolstad, Patricia Kroe, Stafford Metz, Helen O'Leary, David Orr, Jeffrey Owings, John Sietsema, Leslie Silverman, Peter Stowe, Larry Suter, Esther Tron and Douglas Wright.

Elsewhere in the Department of Education, various offices contributed ideas and reviewed materials. Clifford Adelman of the National Institute of Education provided the data and analysis on trends in graduate school test scores. The Office for Civil Rights contributed data on the enrollment in large cities.

In addition, valuable assistance was provided by several individuals outside NCES. Under contract with NCES, Nicholas Zill of Child Trends, Inc. prepared the report, *The School-Age Handicapped,* from which the chapter on educating the handicapped is primarily derived. Mary Moore of Decision Resources Corporation wrote the narrative for the teacher chapter. Emily Feistritzer of the National Center for Education Information and Susan Gewirtz and Suzanne Edgar of the National Education Association provided valuable data and insights. Stephen Barro of SMB Economic Research, Inc. analyzed data from the High School and Beyond study on high school dropouts. John Gardner of the National Center on Research in Vocational Education analyzed High School and Beyond data on educational aspirations of high school seniors and postsecondary education participation. Theodore Wagenaar of Miami University, Oxford, Ohio, analyzed High School and Beyond data on terminal-degree graduates. Christopher Pipho and Connie Hadley of the Education Commission of the States furnished data on minimum-competency testing. Data was also supplied by John Hood of Market Data Retrieval and Nancy Mead of the Educational Testing Service. Maria Owings prepared narrative and tabulations for Chapter 1.

Table of Contents

Table of Entries

Table of Entries (Continued)

Table of Entries (Continued)

Table of Entries (Continued)

The Condition of Education 1985

Introduction

A thing should be made as simple as possible, but not simpler.

—Albert Einstein

National averages cannot help but be an oversimplication of a very complex reality. In reporting on national trends and developments, we may often lose sight of the very diversity characteristic of American society and its education. Yet to describe the whole of American education in an annual report and a single volume requires that we reduce the profusion of data to a more manageable set of facts and figures. These national statistics provide a broad outline onto which data specific to certain areas or populations can be mapped.

Where data are available and space permits, details are shown to suggest the extent of changes in education in the various regions and sectors of the country. As reported, for example, in the first chapter, public school enrollment declined on average by 4 percent between 1980 and 1983, but this change ranged from a loss of 14 percent in Massachusetts to a gain of 10 percent in Utah. Yet, even State-level disaggregations mask some significant differences. The elementary/secondary chapter reports data on changes in enrollment and minority composition of selected large city school districts in comparison with national or State changes. These data show that many urban school districts shared losses in enrollment and changes in racial/ethnic makeup of a much greater magnitude than those experienced in their respective States. These findings indicate that large central cities may face common concerns that may not apply to the remainder of districts in their States.

Further disaggregations might also reveal that some problems are specific to certain locales only. A preliminary analysis of the teacher shortage data in Chapter 3 suggests that shortages in qualified teachers are confined to certain school districts or teaching assignments and that most school districts reported no shortages in any teaching fields.

This last example raises a question that this current volume of *The Condition of Education* cannot address. Are our survey instruments sensitive enough to record the subtleties surrounding various issues, say, for example, the issue of what is a qualified teacher? In the survey from which the *Condition* draws its estimate of teacher shortages, 'qualified' was defined in terms of State certification alone, not by some measure of teaching effectiveness. Again the *Condition* and the various data sources it uses are better at describing gross numbers of participants, providers, and resources than the performance of students and schools. To its credit, perhaps, the *Condition* has improved its coverage of performance measures by showing the available data on various national testing programs from the elementary through graduate level. Still, data are more abundant on the inputs and resources than on the outcomes of schooling, and this volume reflects that imbalance.

Data on participant counts also raise many questions. In Chapter 4 on educating the school-age handicapped, the data show that participant counts in special education categories have shifted notably over less than a decade. Some of these shifts probably follow reporting procedures allowed by Federal law, but at present not enough data are currently available with which to fully explain the shifts. The limited data we have suggests that the categorical identification of the handicapped is by no means certain. The data also show that, regardless of the definition of handicap used, those students so identified tend to share certain attributes and perform in school differently than students not identified as handicapped.

While mindful of the data limitations, we also recognize that the need for information requires that we report what statistics are available on the major trends and developments in education. To describe the whole of education we have organized the data by dividing the report into three sections. The first provides a broad overview of the trends at the elementary/sedondary and higher education levels. This is followed in the second section with a more detailed focus on two groups of current concern, elementary/secondary school teachers and special education students. The third section links the educational levels by reporting on students' transition from high school to other endeavors.

Overview of Trends in Education

Chapter 1 on elementary/secondary education and Chapter 2 on higher education present data summarizing trends and developments in the major components of education—enrollments, resources, and graduates. The view is from a broad national perspective, surveying changes over the last decade and, where projections are available, forecasting them into the next. To view the impact that these changes have had on various locales and institutions, data are also shown by State at the elementary/secondary level and by institutional type at the higher educational level.

Both chapters document that changing enrollment and resources describe only part of the picture. To profile American education requires that we consider student performance as a key indicator of conditions. In Chapter 1, data are highlighted on changes in standardized test scores over a decade and among one high school class from sophomore to senior year. In addition, this chapter looks at current data on performance in mathematics in the United States as it compares with that in other nations. In Chapter 2, changes in standardized tests for admission to graduate and professional schools are presented suggesting that declining performance was not limited to the elementary/secondary level.

A More Detailed Look

The report also highlights current statistics on two groups in the educational system, concern over which prompts a closer look. Chapter 3 profiles the elementary/secondary teaching force, presenting information on supply and shortages, changing composition and working conditions, and the measures States and localities are taking to insure adequate staffing. Chapter 4 describes national trends in the education of the school-age handicapped and also offers a more detailed portrayal of handicapped students in terms of their background characteristics and school performance.

Drawing the Connection

Chapter 5 explores the link between secondary schooling and subsequent experience, at least in the short-term, by following a recent sophomore class upon leaving high school. Three groups are examined in the years immediately following high school: dropouts; those who graduated but have gone no further in school; and postsecondary education participants. The paths these students take are viewed in relation to personal and family characteristics and to performance while in high school. The data are further disaggregated to describe the characteristics of dropouts who reenter school, highly able graduates who end their education with high school, and graduates who enroll in various types of postsecondary schools.

Chapter 1
Elementary/Secondary Education

This chapter profiles national trends and developments in elementary/secondary education from the 1970's to the present and, where projections are available, into the next decade. The basic components of elementary/secondary education—students, resources, and performances—are each described in turn. Data over time are also presented by State to show the differential impact of changes in enrollments and finances in various locales. New data on private schools also suggest the variety in elementary/secondary education by providing information on staffing and organizational patterns in religious and independent schools. High school graduation ratios and test scores broadly describe trends in performance. The testing data include college aptitude tests, and mathematics, reading, and science achievement tests. International comparisons of mathematics achievement and length of school year are also featured. School discipline and order problems are described by high school seniors. Later chapters present more detailed information on teachers, education of the handicapped, and high school outcomes.

Enrollment

Enrollment in elementary/secondary schools grew rapidly during the 1950's and 1960's and peaked in 1971. From 1971 to 1983, total enrollment decreased steadily, reflecting the decline in the school-age population over that period. After reaching a low of 44.6 million in 1984 (entry 1.1), total enrollment is expected to reverse its downward trend and increase slowly as larger numbers of young children enter school. By 1993, total enrollment is projected to reach 47.9 million, an increase of 3.3 million (7 percent) over 1984.

Elementary and secondary enrollment trends are expected to contrast sharply as enrollments begin increasing in the lower grades and continue falling in the upper grades. Elementary enrollment dropped throughout the 1970's and early 1980's. Enrollment in the lower grades (preprimary to 8th) is projected to decrease to 30.9 million in 1985 and then begin rising in 1986. Elementary enrollment is expected to reach 35.4 million by 1993, a growth of 14 percent from 1985. These gradual increases are anticipated because of slight rises in the number of births in recent years.

Enrollment in the upper grades shows a different pattern. After peaking in the late 1970's, 8th to 12th grade enrollment began to decline. Between 1980 and 1985, high school enrollment is expected to drop 6 percent and is projected to decline a further 12 percent between 1985 and 1990. After falling to a low of 12.1 million in 1990, small enrollment increases are expected in the early 1990's.

Different trends in private and public school enrollments have emerged in recent years. In contrast to the decreases in public school enrollment, a recent NCES study indicates that private school enrollment rose from 5.3 million in 1980 to 5.7 million in 1983, an increase of 7 percent. Some of this increase may be attributed to larger numbers of preprimary children entering school, since most of the nursery school children attend private institutions. Private school enrollment is projected to continue rising from 5.7 million in 1983 to 6.2 million in 1993.

Change in Public School Enrollment, by State

Between fall 1970 and fall 1980, 41 States and the District of Columbia experienced public school enrollment declines (entry 1.2). Four States—Delaware, North Dakota, South Dakota and Rhode Island—and the District of Columbia had enrollment declines of more than 20 percent. In contrast, four other States recorded large enrollment rises—Nevada and Arizona at 17 percent and Utah and Wyoming at 13 percent. Most of the State enrollment declines between 1970 and 1980 were concentrated at the elementary school level. In fact, 28 of the States had increases in secondary school enrollment compared to only 7 States with growth in elementary school enrollment. Thus, a number of States faced enrollment increases at the secondary school level and at the same time enrollment decreases at the elementary school level. This situation led to difficulties in allocating resources, such as schools, which will be discussed below.

The pattern reversed in the early 1980's. Although public school enrollment continued to decline overall, high school enrollment dropped faster than elementary school enrollment. Between fall 1980 and fall 1983, preprimary through grade 8 enrollment fell 2.5 percent, while grade 9 through 12 enrollment fell 7 percent. All the States except Alaska and Utah had decreases in high school enrollment between 1980 and 1983. In contrast, 16 States had increases in elementary school enrollment, albeit generally small ones. These enrollment changes corresponded to regional trends. All of the Northeast States and the North Central States, except Kansas and North Dakota had enrollment declines larger than the national average. All of the Western States and the Southern States, except Alabama and Virginia, either experienced enrollment declines smaller than the national average or had enrollment increases. All of the 9 States with enrollment increases were located West of the Mississippi.

Trends in Preprimary Education

One area that experienced considerable enrollment growth during the 1970's was preprimary education. Over the past decade, enrollments in nursery schools and kindergartens increased significantly. From 1970 to 1983, public and private preprimary enrollment increased from about 4.3 million to 5.7 million, a rise of 33 percent (entry 1.3). This increase occurred despite the 5 percent decline in the 3- to 5-year-old population over this period because of rapidly rising proportions of young children attending school. This population decline is projected to turn around, spurring further growth in preprimary enrollment, which is expected to swell to approximately 7.2 million by 1993, an increase of 25 percent from 1983.

Preprimary enrollment increased from 1970 to 1983 in both public and private nursery schools and kindergartens. Public enrollment grew from about 3.0 million in 1970 to 3.5 million in 1983, a rise of 18 percent. By 1993, this number is expected to reach 4.4 million, an increase of 24 percent from 1983. Private enrollment climbed even faster, from 1.3 million in 1970 to 2.2 million in 1983, an increase of 69 percent. Some of this surge may be attributed to the greater availability of full-day programs at private schools. In 1993, private preprimary enrollment is projected to reach about 2.8 million, an increase of 28 percent. For both public and private schools, enrollment growth due to increases in participation rates are anticipated only for 3- and 4-year-olds, since the participation of 5-year-olds is already approaching 100 percent.

The increasing employment of mothers with preschoolers has contributed to these trends and may continue to affect enrollment in the future. In addition, a growing recognition of the importance of early education may also be contributing to the increased numbers, as well as the growing availability of nursery and kindergarten classes. The increase in children of preprimary age, which began in 1980, is expected to boost these numbers still further.

Enrollment in Large City School Systems

Large city school systems generally sustained much larger enrollment declines than other districts in their States during the 1970's and early 1980's (entry 1.4). From 1970 to 1982, only 2 of 33 selected cities, New York and Philadelphia, had public school enrollment declines that were less than the averages for the remaining districts in their States. During this 12-year period, public school enrollment dropped by an average of 14 percent, but enrollment in the selected large city school systems dropped much faster. Of the 33 selected cities, only the Charlotte-Mecklenburg county system in North Carolina declined at a slower rate than the national average. About half of these larger city school systems had enrollment declines of 30 percent or more. Some, such as Minneapolis, St. Louis, and Cleveland, had declines of over 40 percent. These comparatively large enrollment drops in city school systems may have contributed to eroding financial support for urban school systems during the late 1970's.

There is some indication that this enrollment pattern may be changing. Although nearly all the selected cities had declines between 1970 and 1980, there was a significant change after 1980. Between 1980 and 1982, 10 of the cities had enrollment increases, and 4 others had declines less than average for the districts in their States. Six cities—Milwaukee, Nashville-Davidson, Norfolk, Philadelphia, Pittsburgh, and Seattle—had enrollment increases of more than 6 percent between 1980 and 1982.

Minority Enrollment in Public Elementary/ Secondary Schools

Minority enrollment as a percent of total enrollment in public elementary/secondary schools increased during the 1970's, particularly in large city school systems (entry 1.5). Nationally, minority enrollment as a percent of the total rose from 21 percent in 1970 to 27 percent in 1980. Many of the Nation's larger city school systems exhibited faster increases in minority representation during this period. Of a second group of 24 cities, 5—Boston, Denver, Portland, San Diego, and Seattle—doubled the percentage of minority students enrolled in their systems. In 1970, only 6 of these cities had minority enrollments amounting to more than two-thirds of the total city enrollment. By 1982, 17 of the 24 cities had more than two-thirds minority students. Four cities—Atlanta, the District of Columbia, Newark and San Antonio—had enrollments that were more than 90 percent minority. During the 1970 to 1982 period, only one of the cities had a decrease in the percent of minority students: Mobile, whose minority enrollment dropped from 45 percent in 1970 to 44 percent in 1982.

Resources

Schools

Change in Number of Public Schools

In 1982-83, public elementary/secondary schools numbered 84,700, representing more than a 6 percent decline from 1970-71 (entry 1.6). This decrease resulted from continued consolidations, school closings, and fewer school openings as enrollments declined. Despite the contraction in numbers, the organizational diversity of schools that existed in 1970-71 was maintained. Both the 1970-71 and 1982-83 surveys show almost every possible combination of grades in public schools. Conceivably, some of these atypical grade spans may have resulted from misclassification of schools. In many districts, however, school administrators have restructured traditional grade patterns to cope with enrollment changes in an efficient yet nonconventional manner. In any case, considerable variety is evident in the data.

Between 1970-71 and 1982-83, the number of elementary schools dropped 14 percent. This was more than twice the percentage decrease for all public schools. In schools organized from preprimary (or 1st) to 6th grade, the most typical elementary grade span, the decrease was even larger, 21 percent. Schools with grade spans of preprimary (or 1st) to 7th and preprimary (or 1st) to 8th also showed large declines. In contrast, the number of schools with preprimary (or 1st) to 5th grade sharply increased by 72 percent. These changes coincided with the merger of the 6th with the 7th and 8th grades in many school systems and with the growth of the middle school. Overall, there were fewer public elementary school systems in 1982-83 than at any time in the previous decade, and the average enrollment size declined as well.

At the junior high or middle school level, the overall increase in the number of schools may be primarily attributed to the growth of schools with middle level grade spans: 5th to 8th and 6th to 8th. The numbers with middle grade spans may have grown for both pedagogic and pragmatic reasons. In the 1960's, many educators, supported by research on the preadolescent, began to promote a distinctive instructional program for this age group. This educational basis for middle schools was further bolstered by the pragmatic need to establish new schools to relieve overcrowding as numbers in this age group swelled in the late 1960's. In the later 1970's, as enrollments declined, the middle school grade spans were used to consolidate grades into adequately sized units. In 1970-71, the junior high with a 7th to 8th grade span was the most prevalent at the intermediate level, but this category declined by 33 percent between 1970-71 and 1982-83. In 1982-83, middle schools with 6th to 8th grade spans were the most common intermediate school having increased 129 percent between 1970-71 and 1982-83. The average enrollment size for all categories of junior high or middle schools, except for 7th to 8th grade schools, was smaller in 1982-83 than in the previous decade. Schools spanning from 7th to 9th grade had an average enrollment size larger than schools with other grade spans at the junior high and middle school level.

While the number of elementary schools dropped from 1970-71 to 1982-83, the number of secondary schools grew by 4 percent. Schools with 9th to 12th grade spans, the most prevalent type, grew by 29 percent, while secondary schools with 7th to 12th grade spans, 8th to 12th grade spans, and 10th to 12th grade spans declined. The decrease in the number of secondary schools with 7th and 8th grades reflects the increase in the number of junior high and middle schools including these grades. The average enrollment size increased only in 9th to 12th grade high schools, but remained highest for 10th to 12th grade schools. Combined elementary/secondary schools, which comprised less than 2 percent of all public schools, increased during the period by 11 percent. However, these schools served fewer children and had a smaller average enrollment size in 1982-83 than in 1970-71. The number of schools with unclassified lowest and highest grades increased from 2,248 to 2,701 between 1970-71 and 1982-83. A majority of these schools served special education students.

Enrollment, Number, and Staff of Private Schools

More than 5.7 million students attended some 27,700 private elementary/secondary schools in fall 1983 (entry 1.7). As outlined above, this new private school survey conducted by the National Center for Education Statistics was designed to reduce the undercount of private school data which occurred in earlier surveys. For this reason, these data are not directly comparable to previously collected and published data. According to these new 1983 survey results, private school students accounted for about 13 percent of the total elementary/secondary school enrollment, which is slightly higher than the 1980 estimate of 12 percent. Much of this rise is due to larger numbers of preschool children counted in the 1983 private school survey. The number of children in this age group is growing, and most nursery school children attend private schools.

The number of students in Catholic schools has been declining for many years. About 55 percent of all private school students were enrolled in Catholic schools in 1983. The proportion was particularly high in secondary schools, where more than 4 out of 5 students attended Catholic schools. Private elementary schools were also predominantly Catholic, with about 70 percent of the students in Catholic schools. In contrast, most of the students at combined elementary/secondary schools were enrolled in other religiously affiliated or non-religiously affiliated schools.

Private schools tend to show different organizational patterns than public schools. Private schools were much more likely to offer both elementary and secondary grades in the same school. Almost 19 percent of all private schools offered instruction at both the elementary and secondary school levels compared with less than 2 percent of public schools. In addition, a much higher percentage of private schools offered only special education or alternative programs.

Private schools reported an average enrollment size of 206 students, which is less than half the size of their public school counterparts. Among private elementary and secondary schools, Catholic schools tended to be the largest, with more than twice as many students as other religiously affiliated or non-religiously affiliated schools.

Some differences in staffing ratios are evident between public and private schools as well as among various types of private schools. In fall 1981, there were approximately 100 school staff members at the public school and school district levels for every 1,000 students. In 1983, private schools had about 95 staff members for every 1,000 students. Although these staff ratios were not markedly different, there was considerable variation in the composition of these staffs. A somewhat higher proportion of the total staff at private schools was made up of teachers (62 percent) than was the case at public schools (53 percent). Public schools tend to provide more school-related services, which require greater numbers of education specialists, as well as cafeteria workers and bus drivers. Public schools also have proportionately more high school students in smaller classes, and more specialty teachers and more guidance counselors.

The 1983 private school survey found that Catholic schools had the fewest teachers (46) and by far the fewest total staff (69) per 1,000 students. Yet, Catholic schools also had the highest percentage of their staff in teaching positions. The other religiously controlled schools employed about the same number of staff (103) per 1,000 students as the public schools, but a higher proportion of their staff was composed of teachers (63 percent). The non-religiously controlled schools had the highest staffing ratio, 156 per 1,000 students. Although these schools also had the highest number of teachers per 1,000 students, they had the lowest percentage of their staffs employed as teachers (55 percent), except for public schools. Apparently the administrative and non-teaching support staff ratios for non-religiously affiliated private schools were higher than those for public schools. This finding is consistent with the small average size and special mission of many of these schools, which may preclude small support staff ratios.

Teachers

Trends in Number of Teachers

In the 1970's, enrollment declines were not immediately followed by decreases in the number of teachers employed. In the public schools, increased staffing needs in special and bilingual education programs partially offset the reduced demand for classroom teachers. In the private schools, where enrollment declines wavered, increased hiring of teachers caused staffing ratios to improve markedly.

In the late 1970's, severe budgetary constraints in the public schools slowed further improvement in teacher-pupil ratios and the expansion of student services. The number of public school teachers fell to 2.2 million in 1980 and declined a further 2 percent between 1980 and 1983 (entry 1.8). Most of the early 1980's decline in public school teachers occurred at the secondary school level. In contrast to the trends in public schools, the number of teachers employed by private schools jumped by 12 percent between 1980 and 1983.

The number of public and private teachers is expected to increase through the later 1980's and early 1990's. Between 1983 and 1993, the number of school teachers is projected to rise 11 percent. The increase is expected to be concentrated at the elementary school level, with the number of teachers expected to rise from 1.4 million in 1983 to 1.7 million in 1993, an increase of 20 percent. In contrast, the number of secondary school teachers is anticipated to decline through 1990 and then increase slowly in the early 1990's. The total

number of classroom teachers is expected to reach an all-time high of 2.7 million in 1993.

Trends in Teachers Per Thousand Pupils

Relationships between the number of teachers and students are expressed in teacher-pupil ratios. During the early 1970's, the number of teachers per 1,000 pupils grew rapidly. In recent years, the increase in the teacher-pupil ratio slowed in the public schools. Between 1980 and 1983, the number of teachers per 1,000 pupils in public schools rose from 48.7 to 49.7 in elementary schools and from 58.5 to 60.6 in secondary schools (entry 1.9). The teacher-pupil ratios in private schools rose more rapidly. The ratio for private elementary teachers increased from 53.1 in 1980 to 55.7 in 1983, while the ratio for secondary school teachers increased from 66.5 to 69.3. Some of the changes in the private school ratios may be attributable to the decline in enrollment at Catholic schools, with traditionally lower teacher-pupil ratios, and increases in enrollment at other private schools with higher teacher-pupil ratios.

Projections for public elementary teacher-pupil ratios indicate a modest increase from 49.7 in 1983 to 51.5 in 1993. In contrast, ratios at public high schools are expected to rise more rapidly from 60.6 to 64.4 during the same time period. In general, the increases in teacher-pupil ratios at public schools are expected to occur at a slower rate in the 1980's than in the 1970's.

Finance

Changes in School Revenues, by Source

During the 1970's, State revenues rose above local revenues to become the principal source of funds for public schools. In 1970-71, States provided, on the average, 39 percent of public school revenues (entry 1.10). A decade later, this share had increased to 47 percent and in 1982-83 was 48 percent. Federal revenues had increased from 8 percent of the total in 1970-71 to 9 percent in 1980-81, but then slipped to 7 percent in 1982-83. Federal funds still remained an important funding source, particularly for Southern States, which received a much higher-than-average portion of their education funds from the Federal Government.

The growing dependence on State revenues has pronounced significance for school funding. The principal sources of State revenues are sales and income taxes, the proceeds of which can vary substantially with the business cycle. These variations influence the amount of State aid provided annually to local school districts. In addition, State education aid is often tied to school counts, so that declining enrollment causes States to reduce school funds to their school districts. On the other hand, local revenues are largely derived from property taxes, which tend to be a more stable source of revenues, much less subject to cyclical variations or enrollment changes. The greater reliance on State revenues can, however, reduce intrastate differences in per pupil expenditures that are often related to the wealth of local school districts.

The largest shift in funding sources occurred in California, where State funds replaced most local revenues following the adoption of the Proposition 13, a referendum measure which substantially reduced local property tax revenues in that State. In Washington, the local property tax was converted to a State-wide tax that accounts, in part, for the rapid rise in the State share there. In many States, the passage of school finance reform laws between 1970-71 and 1980-81 was accompanied by increased financial participation by the States. Expenditures during these years did not always rise as a result, and in four States, despite increased State shares of 15 percentage points or more, per pupil expenditures dropped compared to the U.S. average, specifically in California, Indiana, Maine, and Nevada.

Distribution of Federal Elementary/Secondary Education Grants to the States

Between fiscal years 1970 and 1983, major Department of Education programs for elementary/secondary education increased 136 percent (entry 1.11). This rise amounted to about 5 percent after adjustment for inflation. In 1983, the Federal government distributed approximately $5.8 billion to the States and outlying areas for elementary/secondary education grants. The largest program, Grants for the Educationally Disadvantaged (Chapter I, Education Consolidation and Improvement Act), accounted for 55 percent of the total. This was followed by Education for the Handicapped (18 percent), Vocational Education (12 percent), Special Programs (8 percent, and School Assistance in Federally Affected Areas (7 percent). The most populous States received the largest share of Federal elementary/secondary education funds in 1983. Grants to California amounted to 10 percent of the total, followed by New York (8 percent), Texas (7 percent), Illinois (5 percent), and Pennsylvania (4 percent). Vermont was the smallest grants recipient with only 0.2 percent of the total grants.

Between 1970 and 1983, the growth in special education funds provided the most dramatic shift in the composition of elementary/secondary grants to States, rising from $29 million to $1,043 million, or from 1 percent to 18 percent of total funds. School Assistance in Federally Affected Areas (SAFA) was the only major program that showed an absolute decline in dollars. As a share of all grants, SAFA fell from 21 percent in 1970 to 7 percent in 1983. Grants for the disadvantaged maintained about the same share of total grants, with 55 percent in 1983 and 54 percent in 1970. Modest declines occurred in the share comprised by grants for special programs and vocational education.

As the relative importance of these programs shifted, the distribution of grants to States also changed because of differences in entitlement calculations. A group of Southern States and New York were the principal shares losers between 1970 and 1983, with shares of total Federal grants declining by 0.5 percentage point or more in each State. The losing Southern States were Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Virginia. New York had the largest relative decline in funds, amounting to a loss of 1.8 percentage points. The six gaining States fell into no particular region. Their shares of total Federal grants increased in each case by 0.5 percentage point or more. These States were Arizona, California, Florida, Illinois, Michigan, and Texas.

In most of the major losing States, declines in Chapter I funds (Grants for the Educationally Disadvantaged) equaled or exceeded those States' total declines. Other grant programs also showed decreases. New York's falling shares were particularly pronounced in Chapter I (-3.7 percentage points) and in special education (-2.4 percentage points). The major gaining States generally showed percentage rises in all programs except for SAFA. However, as SAFA funds became a relatively smaller part of total Federal grants, these losses were more than offset by gains in other programs.

Trends in Expenditures per Pupil, by State

The United States increased its expenditures per pupil for public elementary and secondary schools every year during the 1970's. After adjustment for inflation, there was an increase of 25 percent in current expenditures per pupil between 1970-71 and 1980-81 (entry 1.12). Most of the increase in adjusted spending occurred during the early and mid-1970's. Spending in adjusted dollars actually declined slightly in 1979-80 and 1980-81. However, between 1980-81 and 1981-82, adjusted expenditures per student rose again about 1 percent. From 1981-82 to 1982-83, with a lower rate of inflation, the rise was even sharper at 4 percent. This increase brought current expenditures per pupil to an all-time high of $2,948 in 1982-83.

Between 1980-81 and 1982-83, the States varied considerably in their inflation-adjusted expenditures per pupil. Some of these changes may be affected by different reporting practices among the States and within States over time. Percentage changes ranged from increases of more than 20 percent in Texas and Wyoming to decreases of more than 3 percent in Alabama, Michigan, and North Carolina. Forty States and the District of Columbia recorded real increases. In some cases, changes were strongly affected by drops or rises in enrollment. For example, Utah's increase in per pupil spending was below the national average, but its increase of 8 percent in average daily attendance during the 3 years was larger than that of any other State. Other States, such as Wyoming and Texas, not only had large rises in per pupil spending, but also had increases of about 3 percent in student attendance. In Massachusetts, school attendance fell 13 percent, which, despite level funding, enabled the State's expenditure per pupil to keep pace with inflation.

Differences among the regions were not well defined, but in general, the States in the Far West, with the exception of Nevada and Washington, had modest increases. Also, most of the Great Lakes States and the Southern States had relatively small increases. Many of the larger increases were concentrated in the Northeastern States and the Western Plains States. Even when adjusted for inflation, the increases in most of the States translated into real growth in spending for public elementary/secondary education.

A ranking of States according to their expenditures per pupil reveals some important findings regarding the differences between high- and low-spending States. Between 1980-81 and 1982-83, high-spending States tended to increase their expenditures more than States that had been spending lesser amounts. Not only were the actual dollar changes larger among high-spending States, but on the average, the percentage increases were greater as well. In 1980-81, the top five States spent an average of 118 percent more per pupil than the bottom five; in 1982-83, the top five spent 140 percent more. Thus, the disparity in per pupil spending among the States appears to be growing.

Selected Fiscal and Demographic Features of States

An examination of State fiscal and demographic features can help identify patterns that influence school spending and may account for some of the differences in school expenditures among States. To a large extent, variations in per pupil expenditures among States reflect wealth (and price) differences as measured by per capita incomes. Other important factors are changes in school enrollment and school tax efforts.

State fiscal changes during the early 1980's were characterized by small decreases in State fiscal efforts and education's share of State and local budgets (entry 1.13). However, enrollment declines more than offset these funding decreases and led to significant rises in per pupil spending for elementary/secondary education. Between the 1980-81 and 1982-83 school years, public school enrollment dropped more than 3 percent. At the same time, as a percent of the total population, it declined from 18 percent to 17 percent. The total labor force grew, increasing the total personal income during these years, even though per capita persona' income barely maintained pace with inflation. The larger tax base gave States more flexibility in dealing with school budgets. Despite a large number of new initiatives for education between 1980-81 and 1982-83, education's share of State budgets declined slightly from 25 percent to 24 percent. In general, the trend for State governments to take increasing responsibility for education funding was maintained. The net effect of these developments was a growth of some 5 percent in per pupil expenditures after adjustment for inflation.

Many of the States did not follow these general trends. Some States, such as Idaho, Oklahoma, Utah, and West Virginia, faced an increasing burden of student enrollment in contrast to other States. Oklahoma and West Virginia were able to increase their expenditures per pupil compared to other States by raising their school tax efforts and education's share of State and local government expenditures. On the other hand, Idaho and Utah experienced declines in per capita income and per pupil expenditures compared to the other States.

Use of Computers in Schools

In addition to staff and finances, technology represents another resource for schools. Recent advances in microcomputer technology and reduced costs of equipment have prompted increasing numbers of schools to acquire computers as administrative and instructional tools. Between fall 1981 and fall 1984, the percentage of public elementary/secondary schools using microcomputers rose dramatically (entry 1.14). In 1981, 18 percent of public schools used microcomputers; but by fall 1984, more than 85 percent had computers. Typical uses of computers included remedial instruction, mathematics and language drills, word processing, data processing, and computer literacy training.

Although the use of computers rose rapidly at all types of public schools, the increase was most pronounced in elementary schools. In 1981, only 11 percent of the elementary schools used computers compared with 82 percent in 1984. However, despite this rapid rise, other types of public schools are still more likely to have microcomputers, though the gap is narrowing. In 1981, 26 percent of the junior high schools and 43 percent of the senior high schools used computers. By 1984, 93 percent of the junior high schools and 95 percent of the senior high schools used computers.

Similar large increases in the use of computers occurred at private elementary/secondary schools. Between the 1982-83 and 1983-84 school years, the percent of Catholic schools using computers jumped from 23 percent to 63 percent. Their use at other private schools rose at a slower rate, from 25 percent to 46 percent.

Besides the large jump in computer use, there were also significant increases in the number of computers acquired by schools which already had some computers. According to new data released by Market Data Retrieval, the total number of microcomputers used by elementary/secondary schools increased by 75 percent in one year, from 325,000 in 1983 to 570,000 in 1984. At the same time, the average number of computers at schools using computers rose from 5.8 to 8.2 per school, and the number of students per computer at these schools dropped from 92 to 64.

Instructional Periods

Another measure of the resources devoted to elementary/secondary education is the amount of time spent on classroom instruction. A recent international survey of 16 countries and provinces found that school systems typically have about 10 years of compulsory education (entry 1.15). All of the countries required between 9 and 11 years except Hong Kong and Thailand, which required only 6 years.

The United States had a shorter school year than most other countries surveyed. At the 8th and 12th grade levels, U.S. school systems generally required about 180 days. Among the selected countries and provinces, only Belgium required fewer days. Sweden also required 180 days. The countries with the longest school year for 8th graders were Japan, with 243 days, and Israel and Luxembourg, with 216 days each. At the 12th grade level, Japan and Israel again had the longest school year, with 216 and 210 days, respectively.

Even though the average school year in the U.S. was generally shorter than in other countries, mathematics courses in this country often had more hours than did those in other countries. For the 8th graders, the United States had an average of 144 hours of mathematics instruction per class each year. Only French Belgium, with 150 hours, and Scotland, with 147 hours, provided more instructional time per class. The median 12th grade mathematics instructional time per class of 150 hours was very close to the U.S. average of 153 hours. On the surface, it appears that U.S. students received instructional time comparable to their counterparts in other countries, but these data must be interpreted with some caution. Students in other countries may take a greater number of mathematics courses than students in the United States. In any case, as is reported later in this chapter, U.S. students scored lower on standardized tests than students from other countries.

Performance

High School Coursetaking

In 1983, the National Commission on Excellence in Education expressed concern that students were taking insufficient coursework in basic academic areas such as English, mathematics, social studies, natural sciences, and foreign languages. The Commission recommended increased high school graduation requirements, which included expanding the curriculum to include at least 4 years of English, 3 years each of mathematics, social sciences, and natural sciences, and one-half year of computer science. In addition, it urged that college-bound students be required to take 2 years of foreign language. Data on recent high school graduates indicate that these coursework requirements have not been met by most graduates, and certain groups of students are more deficient than others.

The High School and Beyond survey obtained transcripts on the courses taken by graduates over the 4 years of high school. These transcripts provided data on the Carnegie course units earned and the grades received. (One Carnegie unit is equivalent to 1 year or 2 semesters of coursework in a given subject.) The transcripts were analyzed to determine the average number of credits earned in five academic areas, two vocational areas, arts, and one miscellaneous category which included home economics, personal and social development, and computer courses.

The average graduate in 1982 earned 21.0 Carnegie units in all courses taken during the high school years (entry 1.16). Over half (56 percent) of the total number of credits earned were in five basic academic subjects. More specifically, an average of 18 percent (3.7 credits) of the total was earned in English, 12 percent was earned in mathematics (2.5 credits) and in social sciences (2.6 credits), 9 percent in natural sciences (1.9 credits), and about 5 percent in foreign languages (1.0 credits). Twelve percent of all credits were in vocational courses, and 7 percent were earned in arts courses. The remaining 26 percent of total credits (5.4 credits) were earned in courses classified as "other."

Although the differences were not large, female high school students earned more total credits than male students. This difference is attributable to a greater number of credits earned by females in foreign languages, business, and arts courses.

Generally the racial/ethnic group differences in total coursetaking were small, but substantial differences occurred in specific subject areas. Asian students earned more credits than any of the other groups in mathematics, natural sciences, and foreign languages. In mathematics, the mean number of Carnegie units earned by Asians was 3.1, whereas for whites it was 2.6, for blacks 2.4, for Hispanics 2.2, and for American Indians/Alaskan Natives 2.0. In natural science courses, the means for the respective groups were 2.4, 2.0, 1.6, 1.5 and 1.6. The number of credits in foreign languages ranged widely from 1.9 for Asians to 0.4 for American Indians. However, Asian graduates earned fewer credits than other groups in business and trade and industry.

As might be expected, students at higher test performance levels tended to earn more Carnegie units than those classified at lower levels. Those in the highest performance category earned an average of 22.0 credits, while those in the lowest level averaged 20.0 credits. This indicates that high test performance students averaged an extra semester course in each year of high school. Further, students in the highest group earned an average of 65 percent of their total credits

in basic academic areas, whereas, for those in the lowest group, this proportion was 46 percent. This difference reflects the greater number of credits earned by students in the highest group in courses such as mathematics (3.3 vs. 1.9 for the highest and lowest groups, respectively), natural sciences (2.7 vs. 1.2), and foreign languages (1.9 vs. 0.3).

Students in the lower performing groups earned more credits in trade and industry and in courses classified as "other." Students in the lowest performance group earned almost a third of their total credits in "other" courses. Students in the highest performance group earned only a fifth of their total credits in these "other" courses.

Other differences in coursework participation were evident among students who attended different types of high schools. In particular, students who attended Catholic schools averaged 23.4 credits compared with 20.4 for other private school students and 20.9 for students in public schools.

High School Students' Grades

The distribution of course grades received by 1982 high school graduates varied both across the different subject matter areas and among various student groups (entries 1.17 and 1.18). In general, more students received A's and D's or F's in their coursework. Overall, one-fourth of high school graduates received A's in their total coursework, whereas one-sixth averaged D's or F's. In general, grades in basic academic subjects were lower than in nonacademic courses. Also, higher grades were assigned in foreign language and arts courses than in the basic academic subjects.

In all subject areas, females earned more A's and received fewer D's and F's than males. In total coursework, 28 percent of the females received A's as compared with 22 percent of the males. In contrast, 21 percent of the males had D or F averages in their coursework compared to only 14 percent for females.

Asians consistently outperformed other racial/ethnic groups. Over a third (36 percent) of Asians received A averages in their total coursework, compared with 27 percent of whites, 18 percent of Hispanics, and 16 percent of blacks. In contrast, over a fourth of black and Hispanic high school graduates had a D or F average, while only 14 percent of whites and 12 percent of Asians had low averages. It is important to note that these data were based only on students who had graduated from high school.

As might be expected, students with higher scores on the performance tests received better grades than those whose scores were lower. Indeed, 42 percent of those in the highest test performance group earned A's in their overall coursework, as compared with only 13 percent of those in the lowest test performance group. Conversely, nearly a third (31 percent) of students in the lowest group received D's or F's, whereas only 6 percent of students in the highest group did.

It is also not surprising that larger proportions of A's were associated with students who had higher postsecondary educational aspirations and who spent more time on their homework. The differences were most pronounced in basic academic subject areas.

The differences in earned grades were more striking among different groups of students rather than among students at different types of schools. There was little difference among public, Catholic, and other private schools in the proportions of students who received A's in overall coursework. A somewhat higher proportion of students in public schools received unsatisfactory or failing grades.

Reading Proficiency of 4th, 8th, and 11th Graders

A 1983-84 National Assessment of Educational Progress (NAEP) will be providing information on the reading performance of 4th, 8th, and 11th graders. Although only limited data were available at the time of publication of this report, some observations are apparent. The assessment results in table 1.19 indicate that the average reading ability for females is above the national average and that of males is below the national average at grades 8 and 11.

Blacks and Hispanics in all three assessed grades performed below the national average. Children in Spanish-speaking households did not read (English) as well as other students. Regional differences in reading performance appeared to be minimal.

The students were asked how much time they spent on homework during the previous day. Approximately 63 percent of the 4th graders, 74 percent of the 8th graders, and 67 percent of the 11th graders reported doing homework on the previous day. Students who reported not doing their assigned homework tended to have reading performance scores below the national average. Students who completed 1 to 2

hours of homework tended to perform above the national average at all three age levels.

The National Assessment also asked students how much time they spent watching television. More than half of the 4th graders said they watched television for 4 or more hours per day. Older students reported fewer hours of television watching. At all three age levels, students who reported to watch 6 or more hours of television a day performed below the national average in reading. Students who watched only 1 to 2 hours of television performed above the national average at all three age levels.

Test Performance in Reading, Science, and Mathematics

The High School and Beyond survey of high school students also tested student achievement in reading, science, and mathematics (entries 1.20 and 1.21). For sophomores, these tests were administered in the spring of 1980 and again in the spring of their senior year, 1982. The results of these tests provide a basis for examining changes in test performance from 10th to 12th grade. Two different methods for gauging change were used, and both are presented in the tables which follow. Simple gain scores were computed based on the difference between the average score on the 1980 test in each subject area and the corresponding average score on the 1982 retest. The alternate method computed the percent of items answered incorrectly in 1980 which were answered correctly on the 1982 test. This percentage is referred to as "proportion corrected."

The results of these assessments indicate that, in all three subject areas, the average sophomore improved his or her test performance by the senior year. The greatest gains were made in basic mathematics skills, and the smallest gains were on the more complex mathematics test. However, even though performance improved on all tests, the extent of change for all categories of students and schools was not uniform.

Male and female high school students did not differ appreciably in their performance on the reading test, according to the High School and Beyond data. This finding differs from that of the more extensive National Assessment of Educational Progress (NAEP) studies. The NAEP assessment test indicates that 11th grade females have a higher reading proficiency than males. The reasons for the slightly differing test results are not yet known. On the science retest, males maintained the lead they had established in 1980 by obtaining a mean score of 10.9 as compared with 9.6 for females. Yet, the gains made by each sex over the 2-year period did not differ substantially.

Significant differences did occur, however, among various racial/ethnic groups. The most pronounced of these differences were between Asian and white students on the one hand and black and Hispanic students on the other. The means scores obtained on the 1982 reading test by Asian and white students were 8.9 and 9.4, respectively, compared to means for black and Hispanic students of 5.4 and 5.6, respectively. Similarly, Asian and white students made greater improvements in reading performance between the sophomore and senior years. The proportion corrected for Asian and white students was over 40 percent, but for black and Hispanic students it was about 30 percent. The science tests reflected similar patterns.

On both of the mathematics tests, males scored higher than females and also made greater gains from 1980. The mean scores for males and females on the mathematics retest of basic skills were 13.0 and 11.7, respectively, and on the applications part, they were 3.4 and 2.9, respectively. On the retest, males answered correctly a higher percentage of their 1980 incorrect answers than females. Specifically, on the basic skills test, the proportion corrected for males was 45 percent, compared with 40 percent for females. In higher-level mathematics skills, the proportion corrected was 38 percent for males and 33 percent for females.

Differences among the racial/ethnic groups on the mathematics tests were even more striking. On both the computational and higher-level parts of the tests, Asians clearly outperformed all other groups, and Hispanic and black students scored significantly below both Asian and white students. The means on the computational retest were 16.1 for Asians, 13.9 for whites, 8.3 for American Indians, 7.2 for Hispanics and 6.8 for blacks. The mean score on the mathematical applications test ranged from 4.4 for Asians to 1.6 for blacks.

Variations in test performance among students in different types of curricular programs were not surprising in light of the differing emphasis of each of the programs. Students who reported that they were in an academic program performed better and also made greater gains between their sophomore and senior years than those who said they were in a general or vocational program. And, though the differences were not marked, general program students did slightly better than vocational students on all the tests.

The findings from the High School and Beyond assessments indicate that students who reported spending more time on their homework performed better than those who said they spent less time. In fact, as time spent on homework increased, so did 1982 retest scores on all four tests.

Students who attended public high schools performed below those in Catholic and other private schools in the 1982 retests in all subject areas. Similarly, improvements made between the sophomore and senior years by public school students were less substantial than those made by Catholic and other private school students on all four tests.

Students who attended high schools in suburban areas outperformed those in urban and rural schools on the High School and Beyond tests. Suburban students also made greater improvements by the senior year on each of the four tests. However, these differences were not large, averaging less than 5 percentage points among the groups.

On all four 1982 retests, high school students in the Southern region of the United States performed below those in the Northeast, North Central, or Western regions. Similarly, southern students made smaller improvements over the 2-year period, as indicated by their performance on all four tests. The most notable regional differences arose on the mathematics tests, particularly the basic skills part of the test. The average scores in 1982 were 13.9 for students in the Northeast, 13.3 for those in the North Central region, 13.0 for those in the West, and 10.0 for students in the South.

International Comparisons of Mathematics Achievement

During the 1981-82 school year, a series of international mathematics achievement tests were administered by the International Association for Evaluation of Educational Achievement in a group of 20 cooperating countries and provinces. While data on individual participants have not been released, except for Japan and British Columbia, the U.S. average can be compared to the international median score, the point at which half of the countries scored better and half worse. Results from this survey reveal the relatively mediocre performance of U.S. students compared with their counterparts in other countries (entry 1.22).

While U.S. 8th grade students performed somewhat better than U.S. 12th grade students compared to students in other countries, international comparisons show deficiencies in both groups. On 3 out of 5 tests, the U.S. 8th graders scored at the median for the 20 countries and provinces. Thus, half of the countries scored above the Unitd States on the 8th grade arithmetic, algebra, and statistics tests and half of the countries scored below the United States. The U.S. 8th graders scored somewhat lower on the geometry and measurement tests, placing the United States in the lowest fourth of the countries. One of the difficulties the U.S. students may have had with the measurement test was their relative inexperience with the metric system.

Direct comparisons of the U.S. 8th graders with those of Japan and British Columbia show larger discrepancies. Although Japanese students scored higher than the U.S. students in each test, the difference was particularly notable in the measurement, algebra, and geometry sections. In the algebra section, Japanese students outscored U.S. students 60 percent to 43 percent, and on the geometry section by 58 percent to 38 percent. Even though British Columbia's 8th graders did not score as high as Japan's in any test section, they were consistently 4 or more points ahead of the U.S. on all tests.

A comparison of the mathematics test of the precollege 12th graders suggests that the U.S. students fall even further behind their international peers as they reach the higher grades. In addition, it appears that U.S. students were tested on a more selective basis than were students in other countries. On 3 of 6 tests, U.S. 12th graders placed in the lowest fourth of the countries (lowest fourth data for one of the 7 tests was not available). The U.S. 12th graders did not even approach the international mean percent correct on any of the 7 tests.

Although the U.S. students performed slightly better on most of the 12th grade tests than their peers in British Columbia, they remained far below the scores of the Japanese students. In particular, U.S. students scored higher than students from British Columbia on the elementary functions/calculus and the sets and relations tests. However, Japanese students achieved dramatically higher scores than the U.S. or British Columbian students. For example, on the 12th grade elementary functions/calculus and finite mathematics tests, Japanese students had a mean percent correct that was more than double that of the United States. On the algebra section, Japan had 76 percent correct compared to 43 percent for the United States. In no section was the U.S. average closer than 24 points to the Japanese average.

Trends in College Aptitude Tests

In recent years, considerable attention has been directed towards the changes in Scholastic Aptitude Test (SAT) and American College Testing Program (ACT) scores. Although these tests are far from ideal measures of student achievement because of shifts in the test-taking population and the self-selection of test-takers, they do provide some useful information. Between 1972 and 1980, there was a small, but steady, decline in the SAT scores and also some downward drift in the ACT scores (entry 1.23).

The decline in SAT scores was particularly abrupt between 1972 and 1975, when about two-thirds of the total 1972-to-1980 drop occurred. By 1980, the SAT verbal average had declined 6 percent and the SAT mathematics average had dipped 4 percent. The decline began to slow in the late 1970's, and the scores stabilized in the early 1980's. In 1984, the scores averaged 426 on the verbal portion and 471 on the mathematics portion.

The percentage of students with high and low SAT scores generally mirrored the trends of the average scores, but were somewhat more volatile. Between 1972 and 1980, the percent of students with scores less than 350 on the verbal portion rose from 17 percent to 25 percent and declined only slightly to 24 percent in 1984. Similarly, the percent with mathematical scores below 350 rose from 13 percent in 1972 to 17 percent in 1980 and then declined to 16 percent in 1984. Conversely, the percent with verbal scores above 600 fell somewhat erratically from 11 percent in 1972 to 7 percent in 1981 and has not exhibited a steady rise since then. On the other hand, the percent of students with high mathematics scores has increased from its 1981 low of 14 percent to 17 percent in 1984.

The ACT scores have generally shown similar patterns. After a decline in the early and mid-1970's, the scores stabilized in 1978 but began to dip very slightly after 1981. Looking at the high and low percentages tends to reinforce these observations, since the percentage of low-scoring students rose slightly in 1982 and 1983, while the percentage of high-scoring students remained constant. Examined over the entire period, the SAT and ACT scores reveal a consistent trend. Between 1972 and 1983, both tests show a drop of more than 4 percent in the composite averages, with most of the downswing occurring in the early and mid-1970's.

Discipline and Order Problems

The social climate in American high schools has drawn more concern recently because of heightened public awareness and media focus on misbehavior and delinquency among high school students. The High School and Beyond study asked students to report on their own misbehavior and to give their perceptions of discipline problems in their schools. An analysis of these students' reports reveals that proportionately few American high school students posed serious discipline problems that resulted in academic or disciplinary suspension. However, a more substantial number reported that they had engaged in less serious types of misbehavior, such as class-cutting or not completing their homework. Further, a fairly widespread perception existed among students that their schools had problems with poor attendance, class-cutting, and students fighting. They held this perception regardless of their own misbehavior and discipline problems (entry 1.24). Poor attendance was cited as a problem by over half the students. Nearly two-thirds felt that class-cutting was a problem. Although 29 percent of the students reported fighting as a school problem, only 5 percent thought threats or attacks on teachers were a problem. Overall, about 1 in 14 American high school students did not feel safe at school.

Perceptions of school climate were not, however, uniformly shared by the various student groups. Poor attendance was more likely to be seen as a problem by female students, those in lower socioeconomic status groups, and students who said they were in general and vocational curricula. Although class-cutting was seen as a school problem more frequently by females and students in nonacademic programs, the differences were not large. This suggests a fairly uniform perception of class-cutting by most students. Black and Hispanic students were more likely than other racial groups to perceive more violent forms of misbehavior, such as students fighting and threats or attacks on teachers, as problems at their schools. Lower socioeconomic status groups, lower test performance groups, and students who identified themselves as being in general vocational programs also shared this perception. In general, minority, disadvantaged, and lower performance students were less likely than their counterparts to feel safe at school.

In contrast to reports of personal discipline problems and misbehavior, perceptions of school climate were strikingly divergent among students from different types of schools. Public school students were twice as likely as Catholic or other private school students to perceive poor attendance as a problem. Over half of public school students cited poor attendance as a school problem, compared with only 18 percent of students in Catholic schools and 25 percent in other

private schools. Similarly, for 68 percent of public school students, class-cutting was a school problem, compared with 27 percent for Catholic school students and 39 percent for students in other private schools. Further, nearly a third of public school students saw fighting as a school problem, but the comparable figure for other private and Catholic school students was under one-seventh. Threats or attacks on teachers were seen as problems by 6 percent of public school students, while this perception was held by only 2 percent of Catholic school students and 1 percent of students in other private schools. Given the greater perception of more violent forms of misbehavior on the part of public school students, it is not surprising that they were nearly twice as likely as students in Catholic and other private schools not to feel safe at school.

The view of school climate did not differ substantially among students in different types of communities. However, the perception of misbehavior and discipline problems was slightly greater among students in urban schools, as compared with their suburban and rural counterparts. Similarly, urban students were more likely than suburban and rural students to feel unsafe at school.

On the average, about one in seven American high school students reported having discipline problems, and one in eight reported having been suspended for disciplinary reasons (entry 1.25). One in 25 reported that they had been suspended for academic reasons, and 1 out of 20 reported experiencing serious trouble with the law. Less serious forms of misbehavior, however, were more frequently reported. Two-fifths of all high school students nationwide reported that they had cut classes, and over a fourth said they had attended class without their homework completed. In some cases, the incidence of discipline problems varied greatly among different student groups.

Male high school students, for example, were more likely than females to pose discipline and behavior problems. In particular, males were about twice as likely as females to report having discipline problems of any kind or being suspended from school for disciplinary reasons. They were also three times as likely as females to have been suspended for academic reasons and four times as likely to have had serious trouble with the law. Further, while 46 percent of males reported cutting classes, 38 percent of females did. In addition, over a third of males reported attending class without their homework completed, whereas about a fifth of females did.

Differences among racial/ethnic groups in self-reported disciplinary problems were neither pronounced nor consistent across the groups. A higher proportion of Hispanic and black students than white students reported having discipline problems (20 percent, 18 percent, and 12 percent for each group, respectively). Asian students were the least likely of the groups to have been suspended for disciplinary reasons, whereas white students were the least likely to have been suspended for academic reasons. No significant differences occurred among the groups in the proportions of students who reported having had serious trouble with the law, except American Indians. About 1 in 8 American Indian students reported having serious trouble with the law compared with about 1 in 20 for other students.

A slightly greater incidence of disciplinary problems took place among students in lower socioeconomic status (SES) groups. However, no difference arose among the SES groups in the proportions who had been in serious trouble with the law. Low SES students were more likely than high SES students to attend class without completing their homework. However, high SES students were more likely to cut classes.

Students who performed at the lowest test levels tended to have more discipline problems than those whose scores were higher. The lowest performance group was twice as likely as the highest test group to report having had disciplinary problems and being suspended for disciplinary reasons. Furthermore, students in the lowest group were more than twice as likely as those in the highest to have had serious trouble with the law. And, conversely, those in the highest test group were less likely than others to cut classes or attend class without completing their homework.

Differences in the frequency of self-reported discipline and behavior problems seemed to be more related to personal characteristics of students rather than to characteristics of schools. For example, no appreciable differences emerged in the self-reported misbehavior and discipline problems among students in public, Catholic, or other private schools, or among students in urban, suburban, or rural high schools. A notable exception: only 24 percent of Catholic school students reported cutting class, compared with 43 percent of public and non-Catholic private school students.

State Activities to Improve Performance

Minimum-Competency Testing

In an effort to improve the quality of education in public schools, many States have adopted provisions requiring minimum-competency testing of students. By 1984, 38 States required such testing to insure students meet a designated level of proficiency as determined by State or local authorities, or both (entry 1.26). Most of the States requiring minimum-competency testing set standards at the State level. Twenty-five States tested students below the 5th grade level, and nearly all 38 States reported testing above the 8th grade. Seven States expected to use competency testing for grade promotion. At the same time, most of the States planned to use testing as part of their high school graduation requirements, to identify students needing remediation, or for other purposes. Seventeen States had already begun using testing for their graduating classes, and seven more had plans to do so.

Course Requirements

In 1984, 46 States and the District of Columbia required a designated number of course units for high school graduation, according to data released by the Education Commission of the States (entry 1.27). A comparison of 1980 and 1984 data shows that five States had enacted State-level requirements where there were none and more than three-fifths added to existing requirements. In a few States, all requirements were determined by the local school boards. Some States that already required a minimum of 16 to 20 course units did not enact any changes.

Five States—California, Connecticut, Florida, Illinois, and Wisconsin—approved course requirements for high school graduation where no State-level requirements had existed before. California approved a total of 13 units in core subjects while Wisconsin approved 13½ units in addition to electives chosen by local school districts. Connecticut, Florida, and Illinois set requirements at 20, 24, and 16 units, respectively. Several States approved additional units to be required later in this decade. Utah graduates will need 9 additional units in 1988 and Pennsylvania graduates will need 8 additional units beginning in 1989. Minnesota approved 5 additional units, beginning in 1982. An additional 4 units will be required in Arizona, Arkansas, Missouri, Montana, North Carolina, South Dakota, Texas, and Virginia.

A number of States have added mathematics, science curriculum, and computer literacy requirements for high school graduation since 1980. Kentucky and Virginia approved 1 additional unit of mathematics or science. Louisiana and Rhode Island each approved an additional ½ unit in computer literacy. New Mexico has required that in 1984, all students must be computer literate before graduation. In other States, task forces are studying the possibility of an advanced diploma and changes for career-bound and college-bound curriculums.

High School Graduates

The number of high school students graduated each year grew at a slow but steady rate between 1970-71 and 1976-77, amounting to an increase of about 7 percent (entry 1.28). After peaking at 3.2 million in 1976-77, the annual number of high school graduates fell 8 percent to 2.9 million in 1982-83. A further drop of 10 percent is anticipated between 1982-83 and 1985-86. These declines in high school graduates are primarily due to decreasing numbers of young people in the 17- and 18-year-old age group. After falling to 2.6 million in 1985-86, the number of high school graduates is expected to increase slightly in 1986-89 and then continue dropping. Between 1988-89 and 1991-92, the number of high school graduates is expected to decrease from 2.7 million to 2.3 million, a decline of 15 percent. After 1991-92, the number of high school graduates is expected to stabilize.

Public and private schools exhibited similar trends in the number of high school graduates during the 1970's and early 1980's. The proportion of high school graduates from private schools remained constant at about 10 percent from 1970-71 to 1982-83. No major shifts in this proportion are anticipated in the late 1980's or early 1990's.

Besides demographic changes, another reason for the decline in the number of high school graduates during the late 1970's is the fall in graduation ratios. These ratios have been computed by comparing the number of public and private high school graduates with the 18-year-old population. This computation does not include students who obtain high school equivalency credentials. Between 1970-71 and 1978-79, the graduation ratio dropped from 76 percent to 72 percent. This drop in the ratios accounts for the loss of about 150,000 potential graduates in 1982-83. Small dips in the ratio occurred in 1979-80 and 1980-81, before rising very slightly in 1981-82 and 1982-83.

Data on the proportion of young adults who have completed high school have been collected by the U.S. Bureau of

the Census. The Bureau's data count high school equivalency certificates as high school completions. Data for 18- and 19-year-olds include significant numbers of students still enrolled in school. Trend comparisons of the completion rates of 18- and 19-year-olds show a modest decline from 64 percent in 1974 to 61 percent in 1980 (entry 1.29). In 1981, the rate rose slightly to 62 percent. This trend tends to corroborate previous comparisons of high school graduates and the 18-year-old population. Both sets of data show some increase in the graduation percentage in the early 1980's.

The completion rates for the 20- to 24-year-olds have remained remarkably steady from 1974 to 1982, in contrast to the rates for 18- to 19-year-olds. Because more people have been earning equivalency certificates in recent years, the divergence in the graduation percentages of the 18- and 19-year-olds and the 20- to 24-year-olds is not surprising. One explanation is a growing propensity for obtaining high school equivalency certificates instead of traditional diplomas.

Young minority adults have lower high school completion rates than whites, although the gap appears to be narrowing. The percentage of white 20- to 24-year-olds completing high school fluctuated around 85 percent during the 1974 to 1982 period. In contrast, the percentage of black 20- to 24-year-olds completing high school increased from 72 percent in 1974 to 77 percent in 1982. The Hispanic completion rates were much lower than the completion rates for black or white young adults. The high school completion rate for Hispanic 20- to 24-year-olds increased from 56 percent in 1974 to 60 percent in 1982, but there were many fluctuations in the intervening years. The Hispanic group is growing much more rapidly than that of either the black or white 20- to 24-year-olds. The influx of a relatively large number of Hispanic immigrants with lower educational attainment may thus be responsible for some of these graduation rate fluctuations.

Conclusion

Recent trends in elementary and secondary education reveal continuing problems and new challenges. Public schools that coped with declining enrollments must now adjust for increasing numbers of elementary school students. School systems may be called upon to extend their program down to the preschool level as the number of children and the need for primary care continues to rise. At the same time, enrollments in the upper grades are expected to continue falling, which may cause resource allocation problems among different types of schools. Achievement tests and grades of high school students expose the disturbing academic deficiencies of many students, notably minority youths. The relatively poor performance of all U.S. students, particularly 12th graders, on international mathematics tests poses concern for the future. Yet, on balance, some measures indicate reasons for optimism. Per pupil expenditures, for example, have been increased in most States. States have also been active in adding high school graduation requirements and mandating minimum-competency tests. Finally, high school graduation rates appear to be stabilizing and perhaps increasing.

Table 1.1

Past and Projected Trends in Elementary/Secondary School Enrollment, by Control of School and Grade Level: United States, Fall 1980 to Fall 1993

(In Thousands)

Fall of Year	Total Enrollment			Public School Enrollment			Private School Enrollment		
	Preprimary to 12th Grade	Preprimary to 8th Grade	9th to 12th Grade	Preprimary to 12th Grade	Preprimary to 8th Grade	9th to 12th Grade	Preprimary to 12th Grade	Preprimary to 8th Grade	9th to 12th Grade
1980	46,318	31,666	14,652	40,987	27,674	13,313	5,330	3,992	1,339
1981	45,600	31,345	14,255	40,099	27,245	12,855	[1]5,550	4,100	1,400
1982	45,252	31,356	13,896	39,652	27,156	12,496	[1]5,600	4,200	1,400
1983[2]	45,043	31,288	13,754	39,328	26,973	12,354	5,715	4,315	1,400
				Projected[3]					
1984	44,625	30,946	13,679	38,925	26,646	12,279	5,700	4,300	1,400
1985	44,677	30,936	13,741	38,977	26,636	12,341	5,700	4,300	1,400
1986	44,775	31,187	13,588	39,075	26,887	12,188	5,700	4,300	1,400
1987	44,873	31,693	13,180	39,173	27,293	11,880	5,700	4,400	1,300
1988	44,944	32,183	12,761	39,244	27,783	11,461	5,700	4,400	1,300
1989	45,244	32,809	12,435	39,444	28,309	11,135	5,800	4,500	1,300
1990	45,669	33,525	12,144	39,869	28,925	10,944	5,800	4,600	1,200
1991	46,341	34,157	12,184	40,441	29,457	10,984	5,900	4,700	1,200
1992	47,078	34,825	12,253	41,078	30,025	11,053	6,000	4,800	1,200
1993	47,913	35,376	12,537	41,713	30,476	11,237	6,200	4,900	1,300

[1]Estimated.

[2]Preliminary.

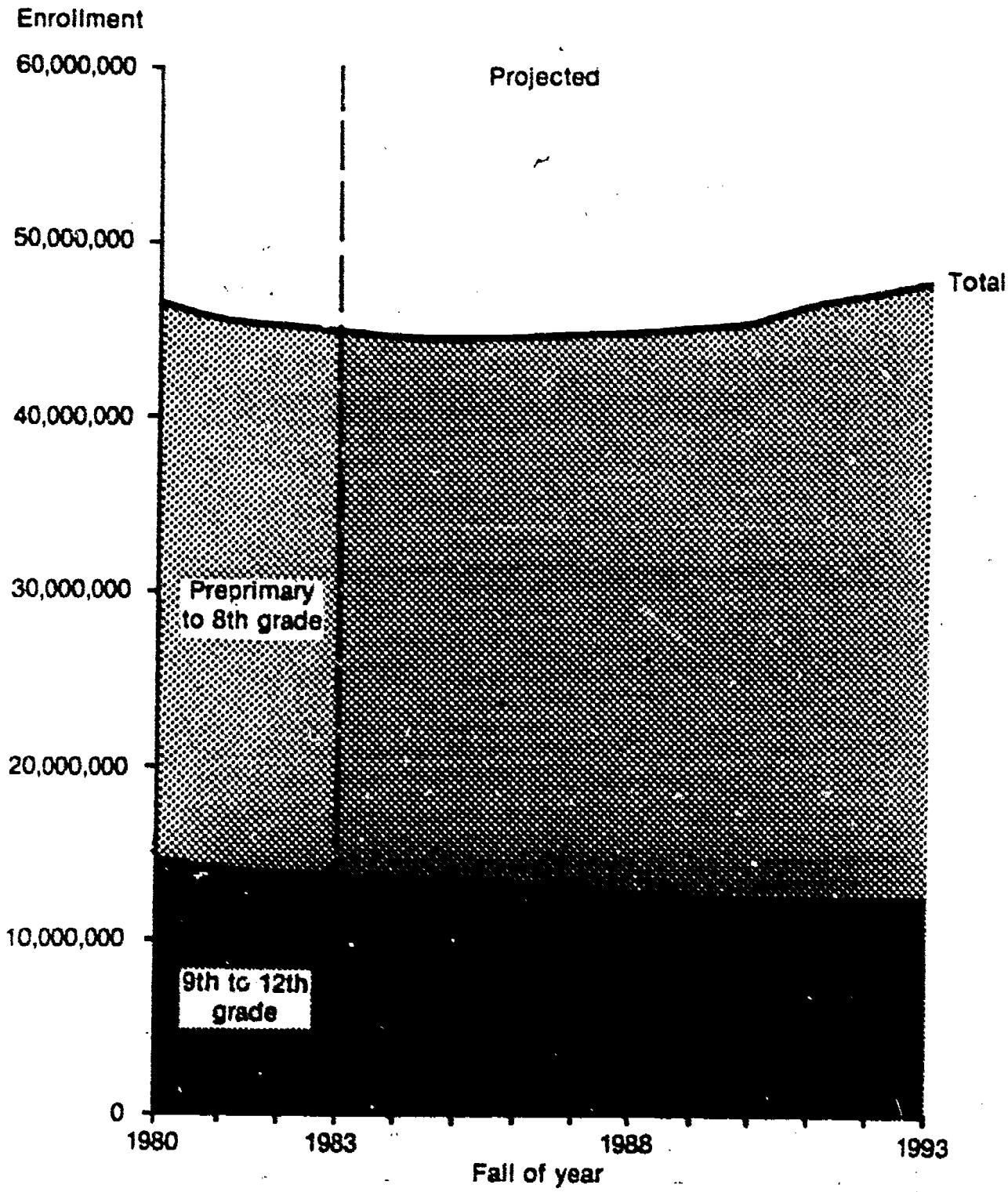
[3]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools*, various years; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," NCES Bulletin 85-102b, December 1984; *Projections of Education Statistics to 1992-93*, 1985 and unpublished tabulations (December 1984).

Chart 1.1

Enrollment Trends in Elementary/Secondary Schools, by Grade Level



Enrollment in the lower grades is projected to increase beginning in 1986, while in the upper grades it is expected to continue declining throughout the 1980's.

Table 1.2

Public Elementary/Secondary School Enrollment, by Grade Level and by State: Fall 1970, 1980, and 1983

(Numbers in Thousands)

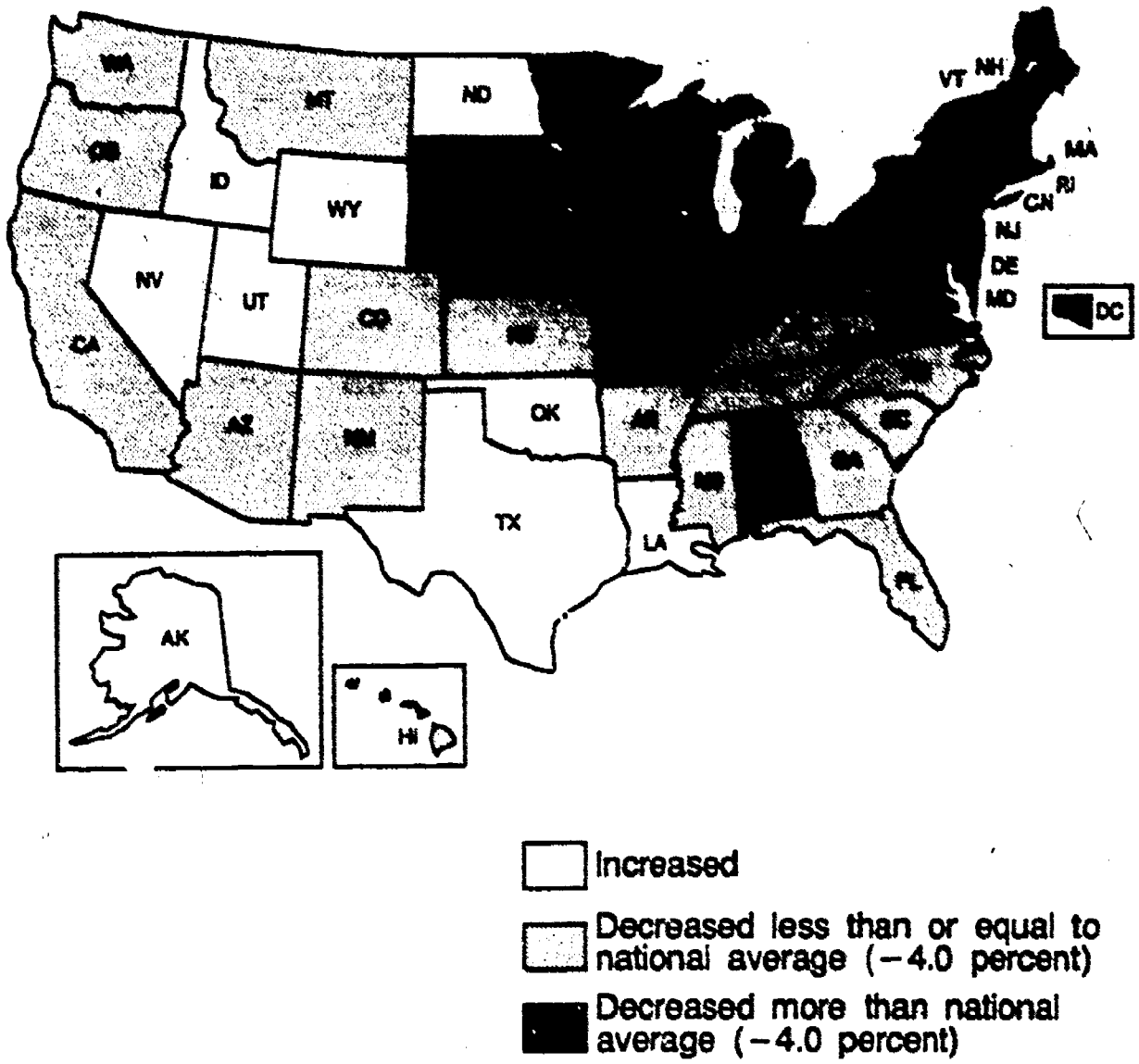
State	1980			1983*			Percent Change, 1970 to 1980			Percent Change, 1980 to 1983		
	Total	Preprimary to 8th Grade	9th to 12th Grade	Total	Preprimary to 8th Grade	9th to 12th Grade	Total	Preprimary to 8th Grade	9th to 12th Grade	Total	Preprimary to 8th Grade	9th to 12th Grade
United States	40,987	27,674	13,313	39,328	26,973	12,354	-10.7	-15.1	-.1	-4.0	-2.5	-7.2
Alabama	759	528	231	722	511	211	-5.8	-7.3	-2.0	-4.9	-3.2	-8.6
Alaska	87	60	26	93	66	27	8.4	-1.0	38.7	7.4	9.2	3.2
Arizona	514	357	157	503	351	152	16.9	13.8	24.5	-2.1	-1.7	-2.8
Arkansas	448	310	138	432	305	127	-3.4	-6.0	3.2	-3.5	-1.6	-7.7
California	4,118	2,761	1,357	4,089	2,814	1,275	-11.1	-14.6	-3.2	-.7	1.9	-6.0
Colorado	546	374	172	542	377	165	-.7	-4.2	7.7	-.7	.6	-3.6
Connecticut	531	364	168	478	329	149	-19.7	-25.4	-4.0	-10.1	-9.6	-11.2
Delaware	99	62	37	91	61	30	-25.1	-33.8	-3.8	-8.0	-2.1	-18.2
District of Columbia	100	71	29	89	63	26	-31.3	-37.3	-10.6	-11.2	-10.8	-12.1
Florida	1,510	1,042	468	1,496	1,044	451	5.8	2.6	13.7	-1.0	.2	-3.6
Georgia	1,069	742	327	1,051	738	313	-2.7	-7.2	9.2	-1.7	-.5	-4.4
Hawaii	165	110	55	162	110	52	-8.6	-15.1	7.7	-1.7	.8	-6.6
Idaho	203	144	59	206	148	58	11.5	16.0	1.9	1.5	3.2	-2.5
Illinois	1,983	1,335	649	1,853	1,272	582	-15.8	-20.9	-3.0	-6.6	-4.7	-10.3
Indiana	1,056	708	347	984	670	314	-14.5	-19.2	-2.2	-6.7	-5.4	-9.6
Iowa	534	351	183	497	333	164	-19.1	-24.4	-6.6	-6.9	-5.1	-10.2
Kansas	415	283	133	405	282	123	-18.9	-20.8	-14.6	-2.4	-.1	-7.3
Kentucky	670	464	206	647	455	192	-6.6	-9.6	.9	-3.3	-1.9	-6.6
Louisiana	778	544	234	782	561	221	-7.7	-11.7	3.2	.6	3.2	-5.4
Maine	222	153	70	210	146	64	-9.1	-13.7	2.9	-5.7	-4.5	-8.5
Maryland	751	493	258	683	452	232	-18.1	-25.8	2.2	-8.9	-8.3	-10.1
Massachusetts	1,022	676	346	879	578	301	-12.5	-18.8	3.3	-14.0	-14.5	-13.0
Michigan	1,866	1,227	638	1,736	1,133	603	-14.4	-23.5	10.9	-7.0	-7.7	-5.5
Minnesota	754	482	272	705	467	239	-18.1	-23.5	-6.1	-6.5	-3.2	-12.4
Mississippi	477	330	147	468	328	140	-10.7	-15.2	1.1	-2.0	-.7	-4.8
Missouri	845	567	277	795	546	249	-18.7	-24.2	-4.7	-5.8	-3.7	-10.1
Montana	155	106	50	154	108	45	-12.2	-12.5	-11.4	-1.0	2.4	-8.4
Nebraska	280	189	91	267	186	81	-14.8	-17.3	-7.9	-4.8	-1.6	-11.3
Nevada	149	101	49	150	102	48	17.2	8.0	41.9	.6	1.8	-1.6
New Hampshire	167	112	55	159	106	53	5.3	-1.6	22.8	-4.9	-5.0	-4.7
New Jersey	1,246	820	426	1,148	761	386	-15.9	-22.9	1.8	-7.9	-7.1	-9.4
New Mexico	271	186	85	270	192	78	-3.6	-6.4	3.1	-.5	3.2	-8.7
New York	2,871	1,838	1,033	2,675	1,736	939	-17.4	-24.9	.4	-6.8	-5.6	-9.1
North Carolina	1,129	786	343	1,090	761	329	-5.3	-6.0	-3.6	-3.5	-3.2	-4.3
North Dakota	117	77	40	117	82	35	-20.5	-23.6	-13.9	.3	7.2	-13.0
Ohio	1,957	1,312	645	1,827	1,240	587	-19.3	-22.7	-11.3	-6.6	-5.5	-9.0
Oklahoma	578	399	179	591	421	170	-7.8	-8.8	-5.6	2.4	5.5	-4.7
Oregon	465	319	145	447	307	140	-3.1	-1.8	-5.8	-3.8	-3.8	-3.8
Pennsylvania	1,909	1,231	678	1,738	1,131	607	-19.2	-24.7	-7.0	-9.0	-8.2	-10.4
Rhode Island	148	95	53	136	88	48	-21.1	-29.6	.5	-8.2	-7.9	-8.6
South Carolina	619	426	193	605	423	182	-2.9	-7.1	7.9	-2.4	-.8	-5.9
South Dakota	129	86	42	123	86	37	-22.7	-24.4	-19.1	-4.2	.2	-13.2
Tennessee	854	602	252	822	587	235	-5.1	-7.2	1	-3.7	-2.5	-6.6
Texas	2,900	2,049	851	2,990	2,155	835	2.1	1	7.2	3.1	5.2	-2.0
Utah	344	250	93	379	282	97	13.0	17.7	2.2	10.3	12.6	4.3
Vermont	96	66	29	90	63	27	-7.1	-10.2	.7	-5.6	-4.4	-8.5
Virginia	1,010	703	307	966	674	292	-6.3	-9.3	1.3	-4.4	-4.2	-4.9
Washington	758	515	242	736	504	233	-7.3	-10.0	-1.1	-2.8	-2.3	-3.9
West Virginia	384	270	113	371	263	108	-4.0	-3.6	-5.0	-3.2	-2.6	-4.6
Wisconsin	830	528	303	775	501	274	-16.5	-22.2	-4.0	-6.7	-5.1	-9.5
Wyoming	98	70	28	101	74	27	13.1	16.1	6.5	2.7	5.4	-3.9

*Preliminary.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Schools, Fall 1970*, 1971, and unpublished revisions; and Common Core of Data, unpublished tabulations (December 1984).

Percent Change in Public Elementary/Secondary School Enrollment Between 1980 and 1983, by State



Between 1980 and 1983, public school enrollment declined by 4 percent nationally. Most of the largest declines were in the Northeastern and North Central States. States in the South and West generally had smaller declines than the rest of the Nation.

Table 1.3

Past and Projected Trends in Preprimary Enrollment,[1] by Control of School and Age of Student: United States, Fall 1970 to Fall 1993

(In Thousands)

Fall of Year	Total	Public School Students					Private School Students				
		Total	3 Years Old	4 Years Old	5 Years Old	6 Years Old	Total	3 Years Old	4 Years Old	5 Years Old	6 Years Old
1970	4,279	2,981	123	494	2,214	150	1,298	332	512	429	25
1971	4,330	3,007	107	486	2,254	160	1,323	323	562	417	21
1972	4,417	3,036	150	532	2,188	166	1,381	385	588	387	21
1973	4,399	2,982	137	518	2,175	152	1,417	378	659	368	12
1974	4,858	3,149	178	543	2,280	148	1,709	506	778	413	12
1975	5,141	3,425	191	645	2,417	172	1,716	492	773	437	14
1976	4,996	3,418	180	608	2,451	179	1,578	422	740	389	27
1977	4,806	3,225	198	591	2,242	194	1,581	447	699	400	35
1978	4,813	3,161	233	601	2,132	195	1,652	526	712	379	35
1979	4,895	3,230	232	606	2,177	215	1,665	514	787	348	16
1980	5,162	3,322	237	602	2,227	256	1,840	620	821	370	29
1981	5,218	3,279	268	588	2,176	247	1,939	623	853	427	36
1982	5,451	3,476	340	602	2,247	287	1,975	586	894	434	59
1983	5,711	3,515	335	633	2,257	290	2,196	670	986	504	36
					Projected[2]						
1984	5,959	3,683	340	706	2,345	292	2,276	695	1,036	506	39
1985	6,204	3,865	352	728	2,490	295	2,339	721	1,069	508	41
1986	6,335	3,931	364	754	2,514	299	2,404	745	1,106	510	43
1987	6,475	4,007	376	779	2,550	302	2,468	770	1,142	512	44
1988	6,612	4,079	388	805	2,580	306	2,533	794	1,180	515	44
1989	6,751	4,152	399	830	2,614	309	2,599	816	1,217	522	44
1990	6,884	4,220	409	853	2,644	314	2,664	838	1,251	529	46
1991	6,998	4,279	419	875	2,667	318	2,719	857	1,283	533	46
1992	7,090	4,324	426	894	2,683	321	2,766	872	1,311	537	46
1993	7,1[illegible]1	4,358	432	910	2,693	323	2,803	884	1,335	538	46

[1]Includes prekindergarten and kindergarten enrollments in regular public schools and enrollments in independently operated public and private nursery schools and kindergartens.

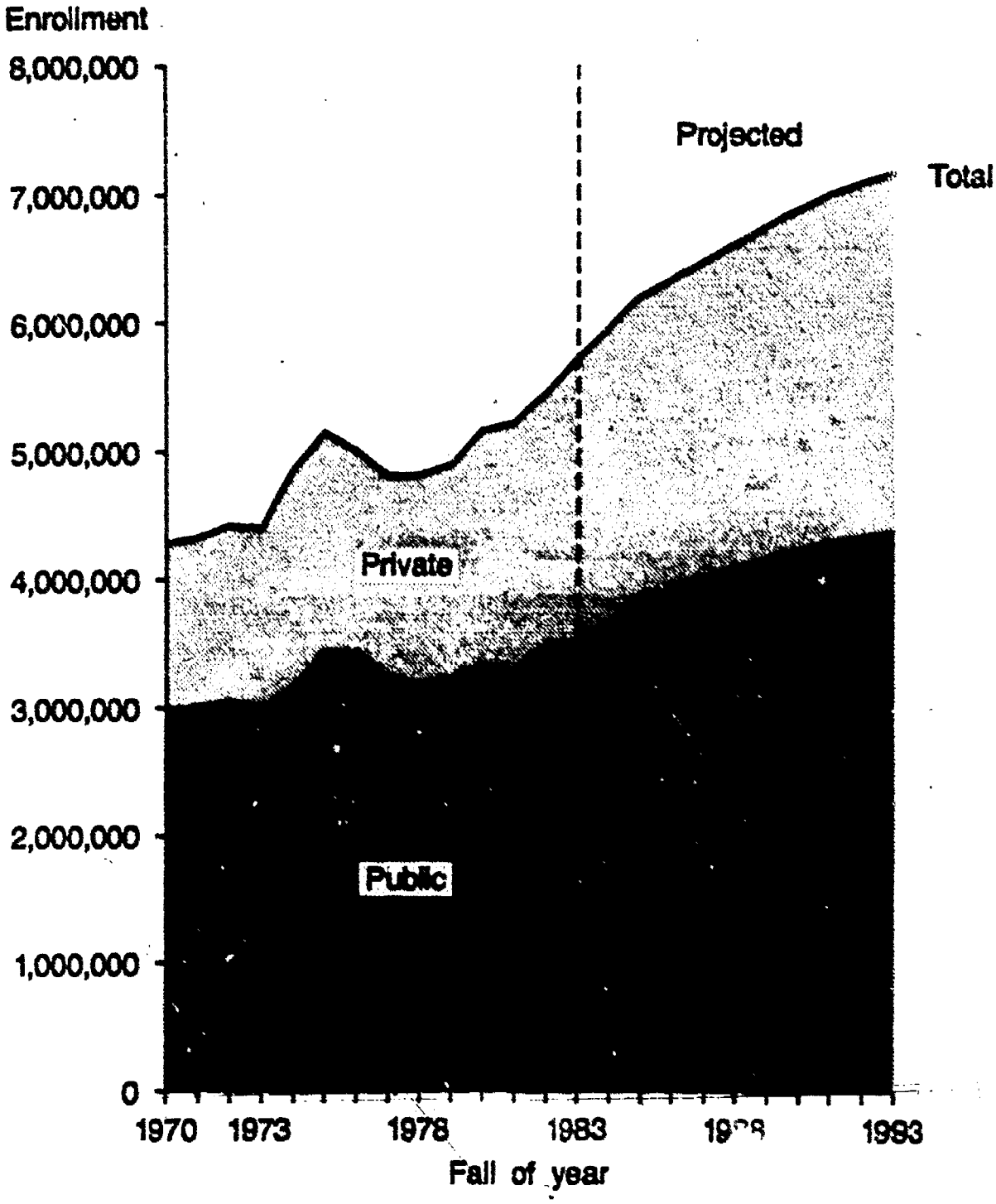
[2]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports, Nursery School and Kindergarten Enrollment*, Series P-20, various years; and U.S. Department of Education, National Center for Education Statistics, *Preprimary Enrollment*, various years; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984).

Chart 1.3

Preprimary Enrollment Trends, by Control of School



Preprimary enrollment is projected to increase throughout the 1980's and into the 1990's in both public and private nursery schools and kindergartens.

Table 1.4

Trends in Public Elementary/Secondary School Enrollment in Selected Large Cities Compared With Enrollment in Remainder of State: Fall 1970, 1980, and 1982

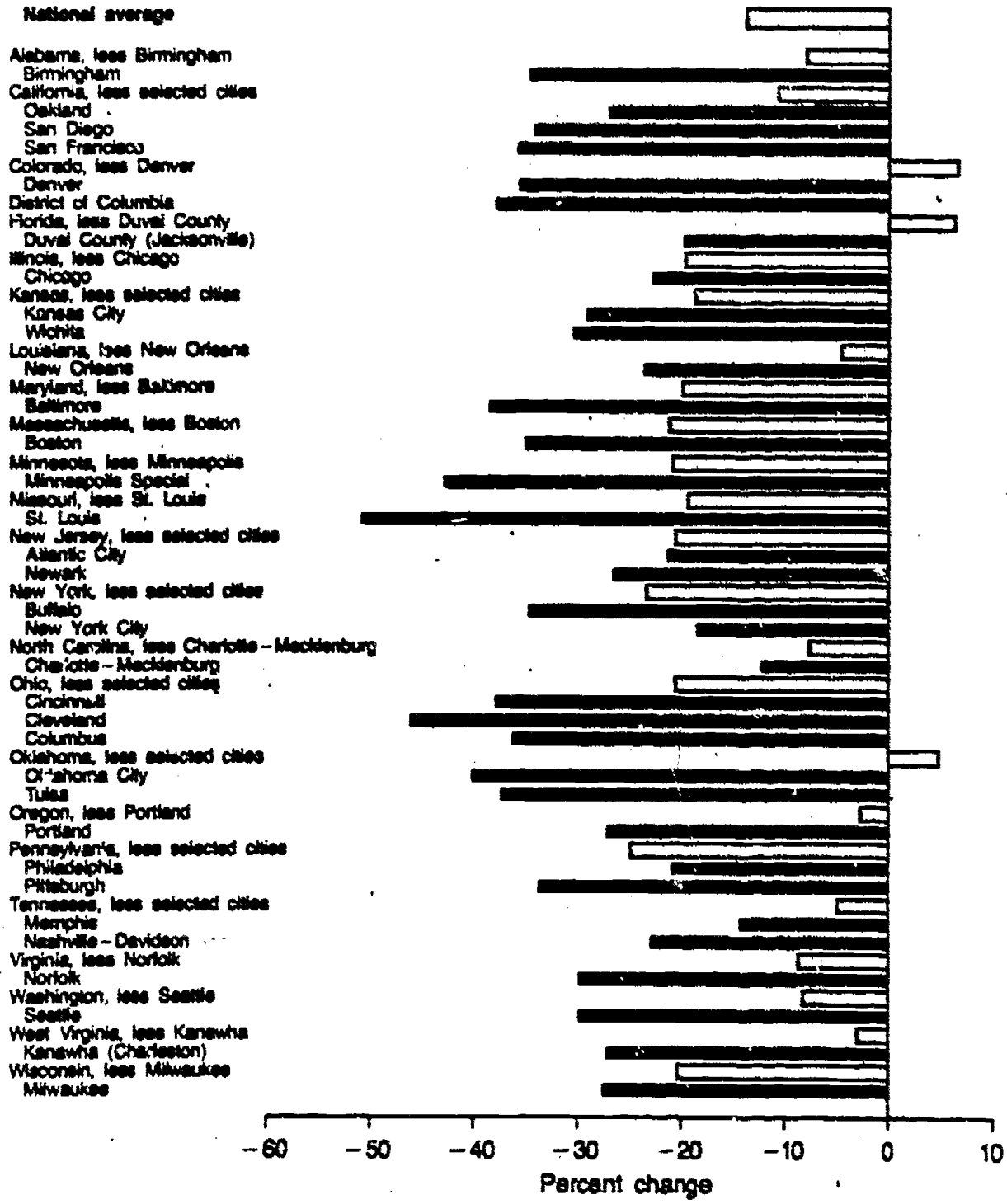
City or State	Enrollment (in Thousands) 1970	1980	1982	Percent Change, 1970 to 1980	Percent Change, 1980 to 1982	Percent Change, 1970 to 1982
United States	45,909	40,987	39,652	-10.7	-3.3	**-13.6**
Alabama, less Birmingham	740	711	681	-4.0	-4.2	**-7.9**
Birmingham	65	48	43	-26.5	-10.7	**-34.4**
California, less selected cities	4,303	3,900	3,844	-9.4	-1.4	**-10.7**
Oakland	68	48	50	-29.7	3.3	**-26.8**
San Diego	168	112	111	-33.2	-1.2	**-34.0**
San Francisco	94	57	60	-38.9	5.3	**-35.6**
Colorado, less Denver	453	481	483	6.0	.4	**6.5**
Denver	97	65	62	-32.6	-4.3	**-35.5**
District of Columbia	146	100	91	-31.3	-8.9	**-37.5**
Florida, less Duval County	1,305	1,408	1,386	7.9	-1.6	**6.2**
Duval County (Jacksonville)	123	102	99	-17.2	-2.9	**-19.6**
Illinois, less Chicago	1,794	1,506	1,444	-16.1	-4.1	**-19.5**
Chicago	567	477	436	-15.1	-8.7	**-22.5**
Kansas, less selected cities	416	345	339	-16.9	-1.8	**-18.4**
Kansas City	33	25	24	-24.5	-5.7	**-28.8**
Wichita	63	45	44	-29.5	-1.1	**-30.2**
Louisiana, less New Orleans	733	691	700	-5.8	1.4	**-4.5**
New Orleans	109	87	84	-20.5	-3.5	**-23.3**
Maryland, less Baltimore	723	614	580	-15.0	-5.7	**-19.8**
Baltimore	193	136	120	-29.5	-12.2	**-38.1**
Massachusetts, less Boston	1,074	953	848	-11.3	-11.0	**-21.1**
Boston	93	69	61	-26.2	-11.6	**-34.8**
Minnesota, less Minneapolis	854	713	677	-16.6	-5.0	**-20.8**
Minneapolis Special	67	42	38	-37.7	-7.7	**-42.5**
Missouri, less St. Louis	921	776	744	-15.8	-4.1	**-19.2**
St. Louis	118	69	58	-41.6	-15.3	**-50.6**
New Jersey, less selected cities	1,396	1,177	1,109	-15.7	-5.8	**-20.6**
Atlantic City	9	8	7	-8.6	-13.9	**-21.2**
Newark	77	61	57	-20.4	-7.3	**-26.3**
New York, less selected cities	2,282	1,859	1,754	-18.5	-5.7	**-23.2**
Buffalo	71	49	47	-31.7	-4.1	**-34.5**
New York City	1,123	963	918	-14.3	-4.6	**-18.2**
North Carolina, less Charlotte-Mecklenburg	1,110	1,053	1,025	5.1	-2.7	**-7.7**
Charlotte-Mecklenburg	82	76	72	-7.3	-5.2	**-12.1**
Ohio, less selected cities	2,087	1,731	1,659	-17.0	-4.1	**-20.5**
Cincinnati	83	56	52	-33.0	-6.7	**-37.5**
Cleveland	147	93	80	-37.1	-14.1	**-45.9**
Columbus	108	78	69	-28.1	-11.2	**-36.1**
Oklahoma, less selected cities	482	483	504	.2	4.5	**4.7**
Oklahoma City	69	43	42	-38.6	-2.1	**-39.9**
Tulsa	76	53	48	-31.0	-8.8	**-37.0**
Oregon, less Portland	406	414	394	1.9	-4.6	**-2.8**
Portland	74	51	54	-30.6	5.4	**-26.9**
Pennsylvania, less selected cities	1,997	1,659	1,503	-16.9	-9.4	**-24.7**
Philadelphia	293	208	232	-29.2	11.8	**-20.8**
Pittsburgh	73	43	49	-41.7	14.1	**-33.4**
Tennessee, less selected cities	676	679	643	.5	-5.3	**-4.8**
Memphis	132	108	114	-18.0	5.2	**-13.8**
Nashville-Davidson	92	66	72	-28.4	8.1	**-22.6**
Virginia, less Norfolk	1,024	974	937	-4.8	-3.8	**-8.5**
Norfolk	55	36	39	-34.2	6.9	**-29.7**
Washington, less Seattle	763	721	701	-5.4	-2.9	**-8.1**
Seattle	55	36	39	-34.2	6.9	**-29.7**
West Virginia, less Kanawha	347	344	336	-.8	-2.2	**-3.0**
Kanawha (Charleston)	53	40	39	-25.1	-2.2	**-26.8**
Wisconsin, less Milwaukee	868	744	693	14.3	-5.9	**-20.1**
Milwaukee	126	86	92	-31.6	6.4	**-27.2**

NOTE: Selection of school districts was based on availability of data for all years. Large city school districts were selected whose boundaries remained unchanged during this period, based on information available to the National Center for Education Statistics. Large county school districts were excluded except where county and city boundaries were essentially coterminous.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, unpublished tabulations (January 1985).

Chart 1.4

Changes in Public Elementary/Secondary School Enrollment in Selected Large Cities Compared With Enrollment Changes in Remainder of States, 1970 to 1982



Enrollment generally declined much more rapidly in selected large city school systems than in other systems in the same States. Between 1970 and 1982, enrollment in about half of the city systems dropped by 30 percent or more.

Table 1.5

Racial/Ethnic Composition of Total Public Elementary/Secondary School Enrollment in Selected Large Cities: Fall 1970 and 1982

City	1970			1982		
	Total	White	Minority	Total	White	Minority
	Percentage Distribution					
United States	100.0	79.1	20.9	*100.0	*73.3	*26.7
New England:						
Boston, MA	100.0	64.2	35.8	100.0	29.8	70.2
Mideast:						
Baltimore, MD	100.0	32.9	67.1	100.0	20.5	79.5
Buffalo, NY	100.0	58.3	41.7	100.0	45.8	54.2
District of Columbia	100.0	4.5	95.5	100.0	3.4	96.6
Newark, NJ	100.0	14.3	85.7	100.0	8.6	91.4
Philadelphia, PA	100.0	36.4	63.6	100.0	27.2	72.8
Great Lakes:						
Chicago, IL	100.0	34.6	65.4	100.0	16.3	83.7
Cleveland, OH	100.0	40.3	59.7	100.0	25.9	74.1
Detroit, MI	100.0	34.5	65.5	100.0	10.9	89.1
Indianapolis, IN	100.0	63.8	36.2	100.0	53.0	47.0
Plains:						
St. Louis, MO	100.0	34.1	65.9	100.0	19.8	80.2
Southeast:						
Atlanta, GA	100.0	31.3	68.7	100.0	7.8	92.2
Charlotte-Mecklenburg, NC	100.0	68.9	31.1	100.0	59.2	40.8
Dade County (Miami), FL	100.0	53.8	46.2	100.0	28.8	71.2
Mobile, AL	100.0	55.4	44.6	100.0	56.0	44.0
New Orleans, LA	100.0	28.6	71.4	100.0	10.5	89.4
Southwest:						
Dallas, TX	100.0	57.3	42.7	100.0	26.0	74.0
Houston, TX	100.0	49.4	50.6	100.0	21.7	78.3
San Antonio, TX	100.0	22.9	77.1	100.0	9.7	90.3
Rocky Mountain:						
Denver, CO	100.0	61.7	38.3	100.0	39.2	60.8
Far West:						
Los Angeles, CA	100.0	50.4	49.6	100.0	21.8	78.2
Portland, OR	100.0	88.0	12.0	100.0	73.1	26.9
San Diego, CA	100.0	75.4	24.6	100.0	50.3	49.7
Seattle, WA	100.0	79.7	20.3	100.0	51.6	48.4

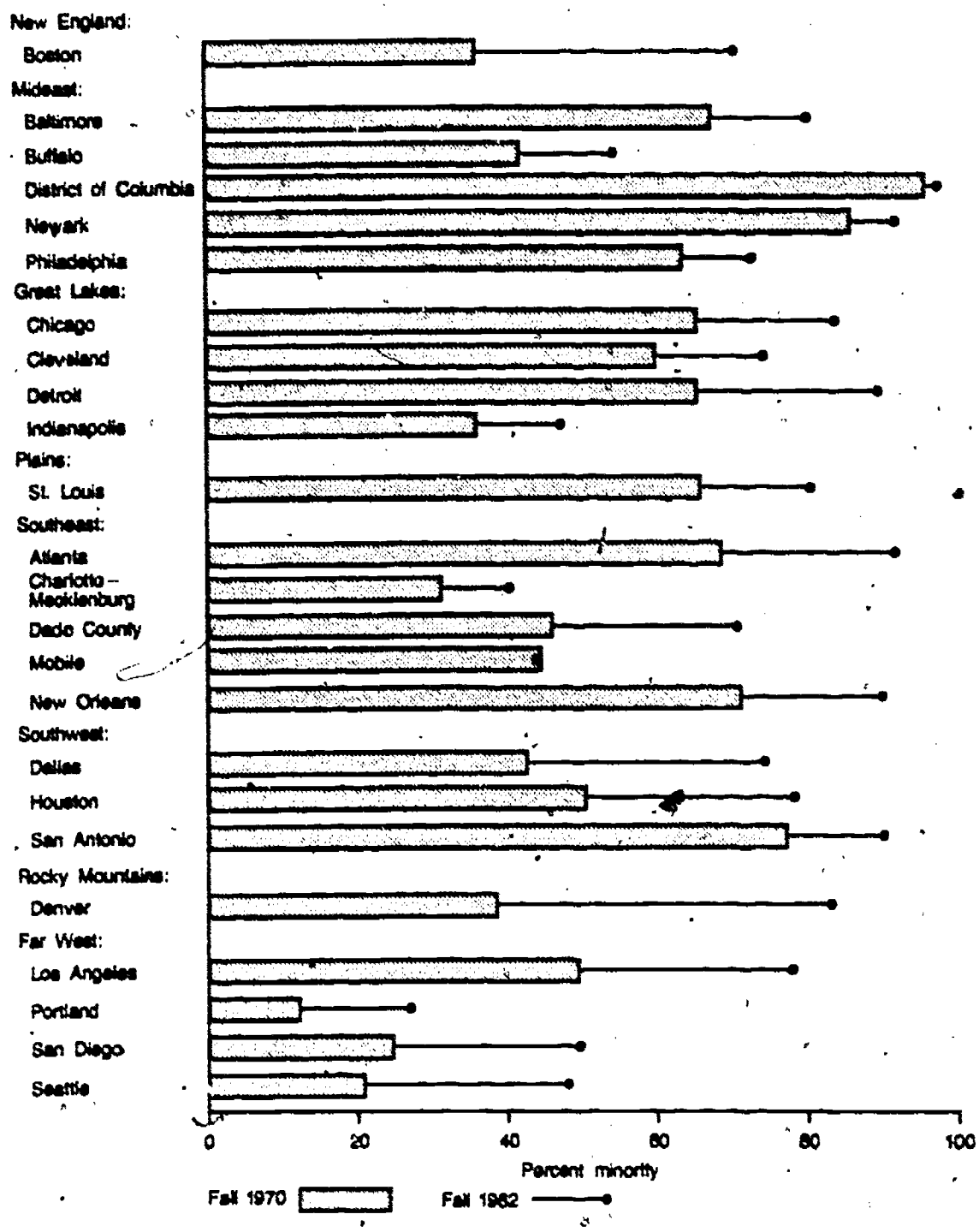
*Data are for fall 1980.

NOTE: Selection of school districts was based on availability of data for both years. Large county school districts were excluded except where county and city boundaries were essentially coterminous.

SOURCE: U.S. Department of Health, Education, and Welfare, Office for Civil Rights, *Directory of Public Elementary and Secondary Schools in Selected Districts, Enrollment and Staff by Racial/Ethnic Group, Fall 1970*, 1972; and U.S. Department of Education, Office for Civil Rights, unpublished data (September 1984).

Chart 1.5

Minority Enrollment as Percent of Total Enrollment in Selected Large Cities



During the 1970's and early 1980's, the proportion of minorities enrolled in many of the largest city school systems increased significantly. In some systems, the percent of minority students more than doubled between 1970 and 1982.

Table 1.6

Enrollment, Number, and Average Enrollment Size of Public Elementary/Secondary Schools, by Level of School and Grade Span Served: United States, 1970-71 and 1982-83

Level[1] and Grade Span	1970-71			1982-83		
	Enrollment (in Thousands)	Number of Schools[2]	Average Enrollment Size[3]	Enrollment (in Thousands)	Number of Schools[2]	Average Enrollment Size[3]
Total schools	45,390	90,540	504	40,107	84,740	478
Elementary schools	24,695	61,060	408	19,981	52,726	380
Preprimary (or 1st) only (prekindergarten, kindergarten, or 1st grade)	228	994	229	132	714	185
Preprimary (or 1st) to 2nd	215	881	245	257	847	303
Preprimary (or 1st) to 3rd	633	2,142	296	754	2,160	349
Preprimary (or 1st) to 4th	952	2,866	332	972	2,733	356
Preprimary (or 1st) to 5th	2,559	5,727	447	4,064	9,852	413
Preprimary (or 1st) to 6th	14,895	32,636	456	10,321	25,669	403
Preprimary (or 1st) to 7th	820	1,979	414	372	944	394
Preprimary (or 1st) to 8th	3,338	9,854	339	2,017	6,797	299
Any combination of 4th, 5th, or 6th	507	1,630	311	572	1,605	357
Other spans, lowest grade less than 5th and highest grade to 8th[4]	547	2,351	295	520	1,405	370
Junior high or middle schools	7,380	10,395	710	7,267	11,695	622
5th to 8th	368	722	510	492	1,005	489
6th to 8th	1,093	1,662	657	2,360	3,802	622
7th to 8th	1,250	2,450	510	1,424	2,776	513
7th to 9th	4,120	4,711	875	2,412	3,172	760
Other spans, lowest grade 5th or higher and highest grade 7th to 9th[4]	548	850	645	580	940	617
Secondary schools, including high schools	12,040	15,507	776	11,880	16,145	747
7th to 12th	2,025	4,114	492	1,298	3,578	364
8th to 12th	401	545	735	307	489	630
9th to 12th	5,596	7,242	773	7,695	9,343	831
10th to 12th	3,705	3,147	1,177	2,342	2,335	1,050
Other spans, lowest grade 7th or higher and highest grade 10th to 12th[4]	313	459	682	239	400	653
Combined elementary/secondary schools	844	1,330	635	673	1,473	458
Preprimary (or 1st) to 12th	582	883	659	489	1,014	482
Other combined spans[5]	262	447	586	184	459	403
Schools not classified by both lowest and highest grades[6]	431	248	192	306	2,701	142

[1]Level of school is a classification based on lowest and highest grades served and, in those cases where the lowest or highest grade is unclassified, on institutional reports. Elementary includes schools with lowest grade less than 5th or no grade higher than 8th, except for the few schools organized with only 5th to 6th grades. Junior high and middle schools have no grade lower than 5th and no grade higher than 9th. Secondary schools have no grade lower than 7th and the highest grade 10th, 11th, or 12th. Combined elementary/secondary schools span the elementary through secondary grades.

[2]Number of schools may include schools for which enrollment data were missing or equal to zero.

[3]Average enrollment size was computed for schools that reported enrollments greater than zero. These schools numbered 90,042 in 1970-71 and 83,961 in 1982-83. Consequently, average enrollment size computed by dividing enrollment by total number of schools will only approximate the figures shown in this table.

[4]These schools include spans with unclassified lowest or highest grade. In these cases, the classification of level is based on institutional reports.

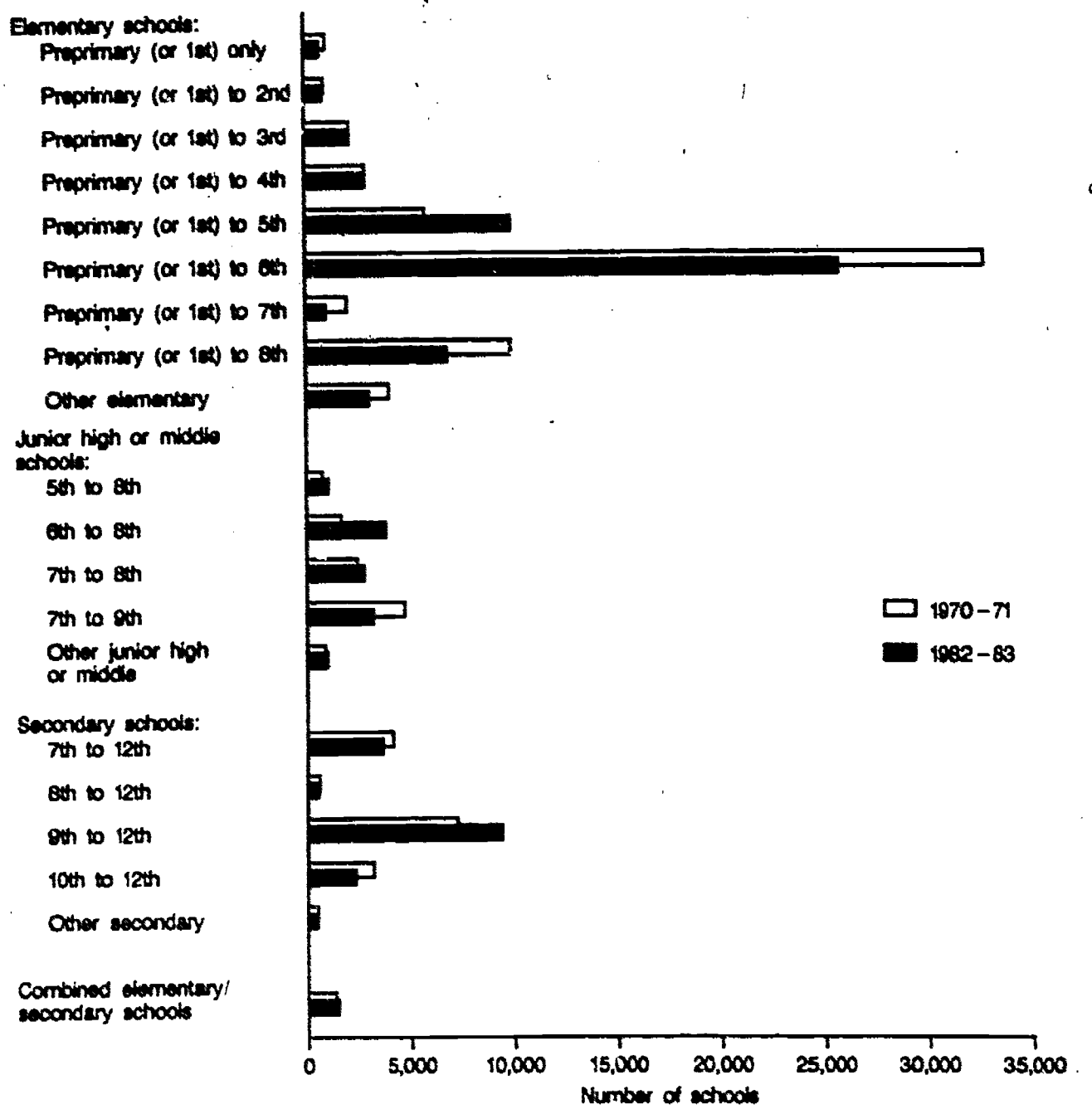
[5]These combined elementary/secondary schools were characterized by three typical spans: the lowest grade less than 5th and the highest grade 9th; or the lowest grade less than 7th and the highest grade 10th or 11th; or the lowest grade 2nd through 6th and the highest grade 12th. The preponderance of these schools classified themselves as combined elementary/secondary.

[6]These schools were characterized by both unclassified lowest and highest grades. A majority of these schools classified themselves as special education schools.

NOTE: Data shown in this table, particularly for 1970-71, differ from those reported elsewhere in this and previous publications because they are derived from the school universe surveys, not the annual State reports, and are categorized according to a different classification scheme. Data for schools in three States in 1970-71 were missing or significantly underreported and were replaced with 1971-72 data. With this adjustment, 1 percent more schools and 1 percent fewer students were reported from the school universe survey than from the annual 1970-71 report. For 1982-83, the school universe enrollment data were slightly higher than the State annual reports, and no States were missing.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary General Information Survey, School Universe file, 1970-71 and 1971-72; and Common Core of Data, School Universe File 1982-83, unpublished tabulations (January 1985).

Number of Public Elementary/Secondary Schools, by Grade Span



The organization of public elementary/secondary schools showed remarkable variation in both 1970-71 and 1982-83. However, between those years, the number of middle schools and high schools rose, while the number of elementary schools fell.

Table 1.7

Enrollment, Number, and Staff of Private Elementary/Secondary Schools, by Level and Affiliation of School: United States, Fall 1983

Level and Affiliation of School	Enrollment (in Thousands)	Schools	Average Enrollment Size	Staff[1]		Total Staff per 1,000 Pupils	Teachers per 1,000 Pupils
				Total	Teachers		
All private schools	5,715	27,694	**206**	542,342	337,185	94.9	**59.0**
Elementary	3,240	15,631	**207**	234,880	157,759	72.5	**48.7**
Catholic	2,260	7,897	**286**	137,909	94,519	61.0	**41.8**
Other religiously affiliated	630	5,109	**123**	56,838	37,968	90.3	**60.3**
Not religiously affiliated	351	2,624	**134**	40,132	25,272	114.5	**72.1**
Secondary	1,047	2,621	**399**	104,309	64,624	99.6	**61.7**
Catholic	848	1,490	**569**	68,897	46,563	81.2	**54.9**
Other religiously affiliated	106	669	**158**	17,569	9,391	165.8	**88.6**
Not religiously affiliated	93	462	**200**	17,843	8,670	192.7	**93.6**
Combined elementary/secondary	1,130	5,241	**216**	127,143	80,729	112.5	**71.4**
Catholic	70	191	**367**	7,145	4,219	102.0	**60.2**
Other religiously affiliated	556	3,185	**175**	57,054	36,529	102.6	**65.7**
Not religiously affiliated	504	1,865	**270**	62,944	39,981	124.8	**79.3**
Other schools[2]	297	4,201	**71**	76,010	34,072	255.5	**114.5**
Catholic	14	161	**84**	5,828	2,004	430.8	**148.1**
Other religiously affiliated	64	1,002	**64**	8,663	5,007	134.9	**78.0**
Not religiously affiliated	220	3,037	**72**	61,518	27,061	279.9	**123.1**

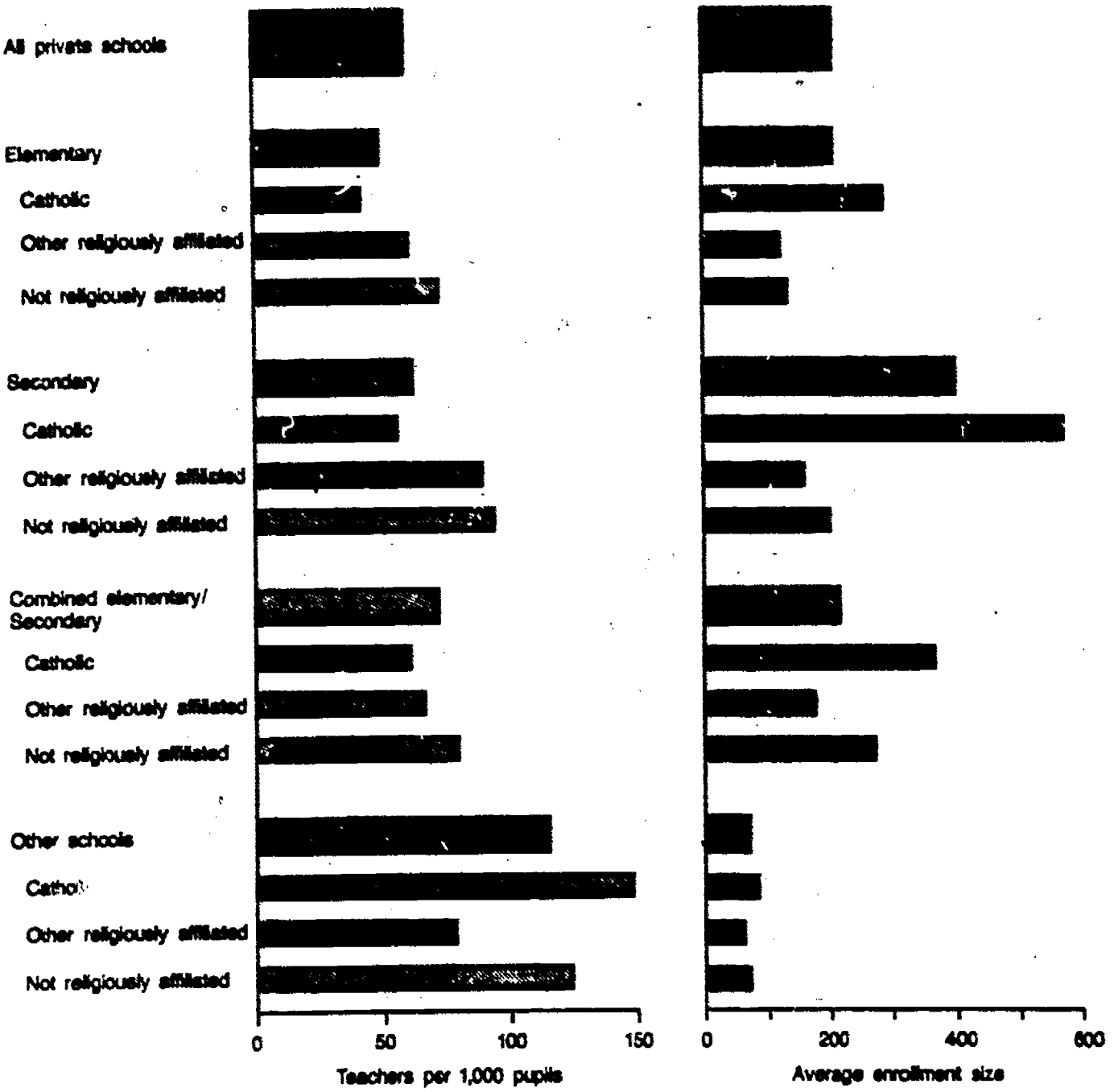
[1]Includes principals and assistant principals, teachers, guidance counselors, librarians and media specialists, teacher aides, and other professional and nonprofessional staff. Data expressed in full-time equivalents.

[2]Includes special education schools, alternative schools, and vocational schools.

NOTE: Data are preliminary. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1983-84 Private School Survey, unpublished tabulations (November 1984).

Teachers per 1,000 Pupils and Average Enrollment Size in Private Elementary/Secondary Schools



Compared with other private elementary and secondary schools, Catholic schools were much larger and had fewer teachers per 1,000 students.

Table 1.8

Past and Projected Trends in Number of Elementary/Secondary School Teachers, by Control and Level of School: United States, Fall 1980 to Fall 1993

(In Thousands)

Fall of Year	Total Teachers			Public School Teachers			Private School Teachers		
	Preprimary to 12th Grade	Elementary	Secondary	Preprimary to 12th Grade	Elementary	Secondary	Preprimary to 12th Grade	Elementary	Secondary
1980	2,463	1,389	1,074	2,162	1,177	985	301	212	89
1981	2,430	1,376	1,054	2,117	1,155	962	[1]313	221	92
1982	2,445	1,401	1,044	2,120	1,170	950	[1]325	231	94
1983[2]	2,462	1,415	1,047	2,125	1,175	950	337	240	97
				Projected[3]					
1984	2,457	1,414	1,043	2,117	1,171	946	340	243	97
1985	2,467	1,425	1,042	2,124	1,179	945	343	246	97
1986	2,483	1,448	1,035	2,135	1,198	937	348	250	98
1987	2,505	1,486	1,019	2,151	1,227	924	354	259	95
1988	2,517	1,521	996	2,162	1,258	904	355	263	92
1989	2,543	1,560	983	2,179	1,288	891	364	272	92
1990	2,580	1,603	977	2,209	1,321	888	371	282	89
1991	2,630	1,645	985	2,253	1,353	900	377	292	85
1992	2,687	1,681	1,006	2,299	1,379	920	388	302	86
1993	2,737	1,705	1,032	2,336	1,397	939	401	308	93

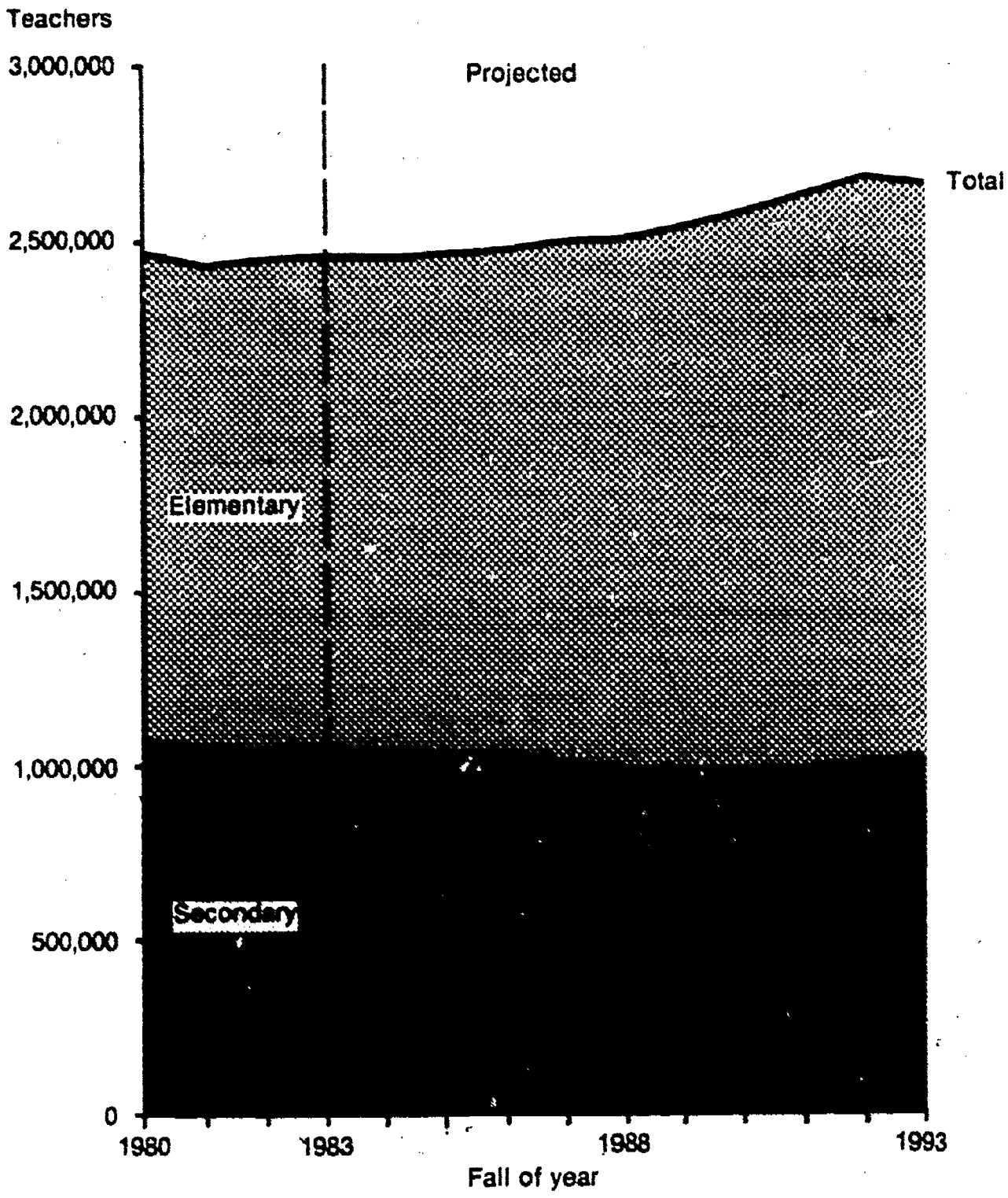
[1]Estimated.
[2]Preliminary.
[3]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools*, various years; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," NCES Bulletin 85-102b, December 1984; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984).

Chart 1.8

Elementary/Secondary Classroom Teachers, by Level



The number of public and private elementary school teachers is projected to increase steadily beginning in the mid-1980's, while the number of secondary school teachers is expected to decline through 1990.

Table 1.9

Past and Projected Trends in Number of Elementary/Secondary School Teachers per 1,000 Pupils,[1] by Control and Level of School: United States, Fall 1980 to Fall 1993

Fall of Year	Public School Teachers		Private School Teachers	
	Elementary	Secondary	Elementary	Secondary
1980	48.7	58.5	53.1	66.5
1981	48.5	59.1	[2]53.9	[2]67.2
1982	49.0	60.2	[2]55.0	[2]67.1
1983[3]	49.7	60.6	55.7	69.3
		Projected[4]		
1984	50.0	61.0	56.5	69.2
1985	50.0	61.4	57.3	69.6
1986	50.1	61.8	58.1	69.8
1987	50.4	62.3	58.9	70.2
1988	50.6	62.8	59.7	70.4
1989	50.8	63.2	60.5	70.7
1990	51.0	63.6	61.3	71.0
1991	51.3	64.0	62.1	71.2
1992	51.5	64.4	62.9	71.6
1993	51.5	64.4	62.9	71.6

[1]Includes teachers and pupils in nursery schools and kindergartens operated as part of the regular school system.

[2]Estimated.

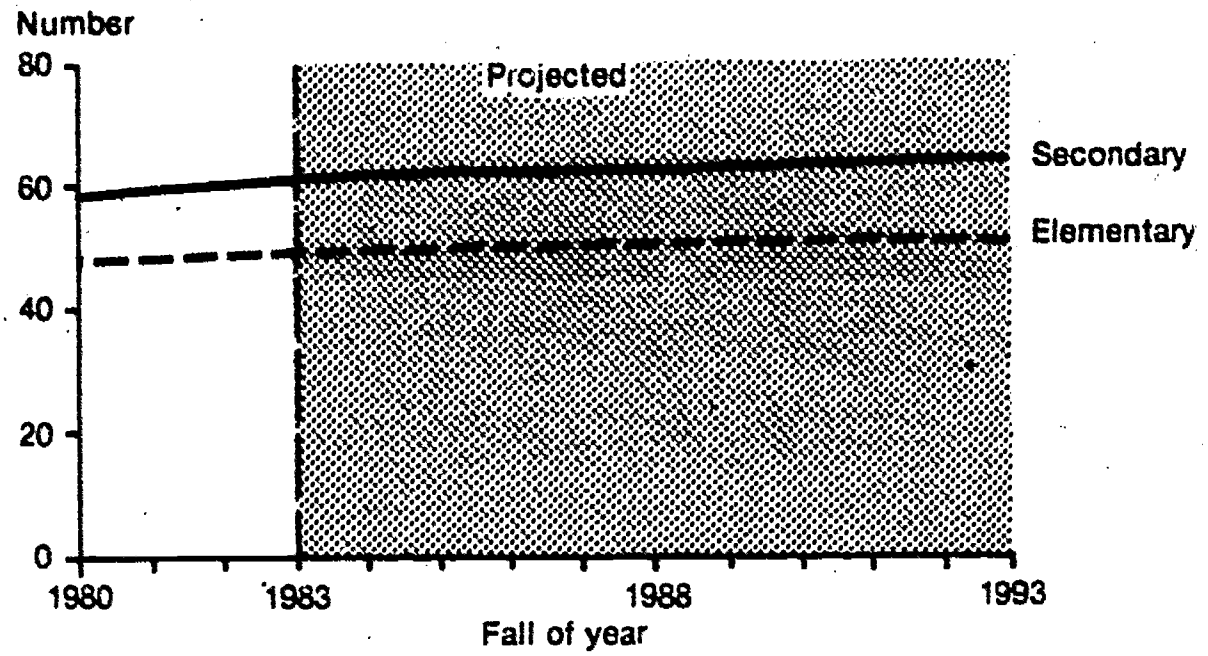
[3]Preliminary.

[4]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

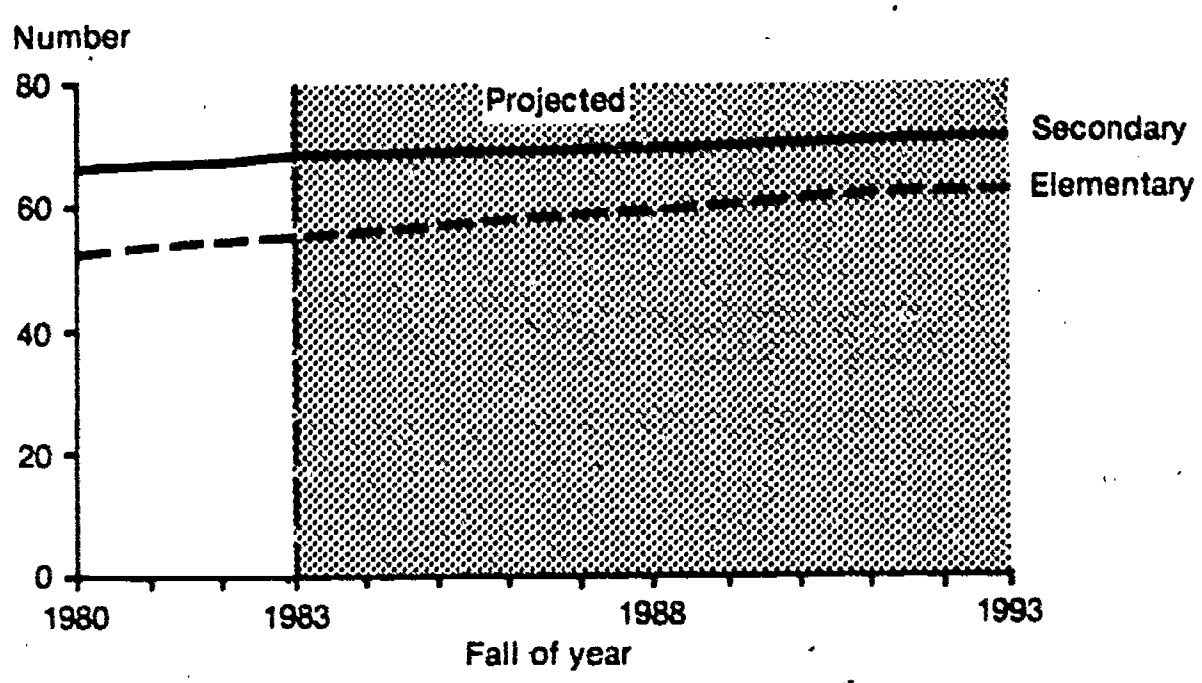
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools*, various years; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," NCES Bulletin 85-102b, December 1984; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984).

Classroom Teachers per 1,000 Pupils in Elementary/Secondary Schools

Public Schools



Private Schools



The ratio of teachers to students rose substantially during the 1970's. But it is not expected to change appreciably in the 1980's and early 1990's.

Table 1.10

Percentage Distribution of Federal, State and Local Revenues for Public Elementary/Secondary Education, by State: 1970-71, 1980-81, 1981-82, and 1982-83

State	1970-71			1980-81			1981-82			1982-83		
	Federal	State	Local	Federal	State	Local	Federal	State	Local	Federal	State	Local
	Percentage Distribution											
United States	8.4	39.1	52.5	9.2	47.4	43.4	7.4	47.6	44.9	7.1	48.3	44.6
Alabama	22.5	55.5	22.0	16.6	60.4	23.0	14.9	59.0	26.1	12.1	63.0	24.9
Alaska	20.1	69.1	10.8	9.5	73.5	17.0	7.5	76.2	16.3	7.7	78.0	14.3
Arizona	6.4	31.8	61.8	12.9	50.2	36.9	9.3	52.7	38.0	9.6	58.4	32.0
Arkansas	18.9	43.9	37.2	16.6	48.5	34.9	14.9	49.0	36.1	13.4	49.7	36.9
California	7.4	34.7	57.9	10.1	65.8	24.1	9.5	66.2	24.2	8.8	68.1	23.1
Colorado	7.8	29.4	62.8	5.9	38.7	55.3	5.3	40.4	54.4	4.5	40.3	55.2
Connecticut	3.6	39.0	57.4	5.9	27.2	66.9	4.9	36.5	58.9	4.3	36.1	59.6
Delaware	7.6	70.5	21.9	11.4	65.9	22.7	10.4	65.1	24.5	8.9	67.0	24.1
District of Columbia	15.9	—	84.1	16.2	—	83.8	13.1	—	86.9	13.1	—	86.9
Florida	11.2	54.6	34.2	10.3	55.4	34.3	8.4	52.7	38.9	8.4	54.6	36.9
Georgia	14.1	49.5	36.4	13.1	55.6	31.3	10.7	56.7	32.6	9.8	57.3	32.9
Hawaii	12.9	87.1	—	15.8	84.1	0.1	11.7	88.2	0.1	11.9	87.9	0.1
Idaho	12.3	46.7	41.1	10.3	57.8	31.9	8.2	60.9	30.9	9.1	59.1	31.7
Illinois	7.0	37.5	55.4	7.1	38.5	54.4	4.5	38.8	56.8	4.9	35.2	59.9
Indiana	5.2	31.6	63.2	6.4	53.0	40.6	4.1	56.2	39.7	4.3	55.3	40.4
Iowa	4.7	24.3	70.9	6.2	42.1	51.7	5.2	42.6	52.2	5.1	42.1	52.9
Kansas	7.5	29.5	63.0	6.2	43.6	50.2	5.3	43.1	51.6	5.2	43.5	51.2
Kentucky	17.2	54.5	28.3	16.0	64.0	20.0	14.3	64.1	21.5	13.6	64.8	21.4
Louisiana	14.2	55.9	29.8	12.5	52.9	34.6	9.6	55.0	35.4	9.5	54.8	35.7
Maine	9.3	31.2	59.5	9.0	47.8	43.2	7.9	49.5	42.6	7.5	49.5	43.0
Maryland	7.9	34.6	57.5	8.2	40.2	51.6	6.6	38.3	55.1	6.6	38.2	55.2
Massachusetts	6.2	22.1	71.8	5.9	36.3	57.8	5.2	36.8	58.0	5.0	36.8	58.2
Michigan	4.6	44.0	51.4	7.1	35.3	57.7	5.5	33.1	61.5	5.2	31.9	62.9
Minnesota	5.6	47.4	47.0	5.7	56.6	37.7	4.7	64.2	31.1	4.8	45.2	50.0
Mississippi	28.1	48.1	23.8	24.3	56.7	19.0	18.3	58.9	22.8	17.5	59.0	23.5
Missouri	8.0	29.0	63.0	9.6	40.9	49.5	8.4	41.1	50.5	7.6	39.5	52.9
Montana	5.5	24.0	70.5	9.8	44.6	45.6	6.9	46.9	46.2	7.8	48.8	43.3
Nebraska	8.2	18.0	73.8	8.7	29.4	61.9	6.9	26.6	66.6	6.2	27.1	66.6
Nevada	8.1	36.6	55.3	7.1	55.5	37.4	5.0	47.9	47.0	5.4	49.6	45.0
New Hampshire	5.6	10.4	84.0	5.3	7.8	86.9	4.5	8.1	87.4	4.9	8.6	86.5
New Jersey	5.8	25.0	69.2	6.1	38.8	55.2	4.9	38.2	56.9	4.7	40.2	55.0
New Mexico	19.0	60.5	20.5	14.6	62.7	22.7	11.3	68.1	20.6	12.4	74.8	12.8
New York	5.8	43.9	50.3	7.1	39.1	53.8	5.9	38.8	55.4	5.3	40.1	54.6
North Carolina	15.8	58.7	25.5	14.4	64.4	21.3	11.9	65.2	22.9	12.2	64.3	23.5
North Dakota	12.7	27.9	59.4	11.0	44.3	44.7	8.4	53.8	37.7	8.9	52.9	38.2
Ohio	6.9	27.7	65.4	8.0	39.5	52.5	6.3	38.5	55.2	5.2	43.2	51.6
Oklahoma	12.8	40.1	47.1	11.8	60.7	27.4	9.2	65.4	25.4	8.7	66.4	24.8
Oregon	6.3	20.1	73.6	8.8	32.2	59.0	6.9	31.2	61.9	5.9	31.0	63.1
Pennsylvania	7.0	44.8	48.2	8.9	44.0	47.1	5.3	45.0	49.7	4.7	45.6	49.7
Rhode Island	7.0	34.5	58.5	8.7	32.9	58.4	5.1	34.2	60.7	5.0	38.4	56.6
South Carolina	19.8	54.1	26.0	11.2	52.1	36.7	10.1	50.9	39.0	8.6	56.7	34.7
South Dakota	13.9	13.8	72.3	13.0	27.7	59.3	11.8	27.5	60.7	11.5	27.4	61.1
Tennessee	15.7	47.6	36.7	15.6	40.6	43.7	13.2	39.8	47.1	12.8	39.1	48.1
Texas	10.3	45.5	44.2	11.1	48.4	40.5	8.6	45.7	45.6	9.6	50.0	40.4
Utah	9.7	51.5	38.8	8.1	52.6	39.3	6.3	52.1	41.6	6.0	54.0	40.1
Vermont	4.1	26.7	69.2	7.4	28.4	64.2	5.7	28.1	66.2	5.5	35.1	59.4
Virginia	11.3	33.3	55.4	10.3	41.0	48.7	8.4	40.0	51.6	7.6	40.7	51.7
Washington	7.8	52.1	40.1	8.9	72.4	18.6	6.0	74.2	19.8	6.2	74.8	19.0
West Virginia	16.9	50.0	33.1	9.5	60.0	30.5	8.7	66.3	24.9	8.3	63.2	28.5
Wisconsin	4.0	25.5	70.4	7.1	36.2	56.6	5.8	37.0	57.2	4.5	39.7	55.8
Wyoming	18.2	22.5	59.3	5.5	33.1	61.5	3.2	28.2	68.6	3.1	28.8	68.1

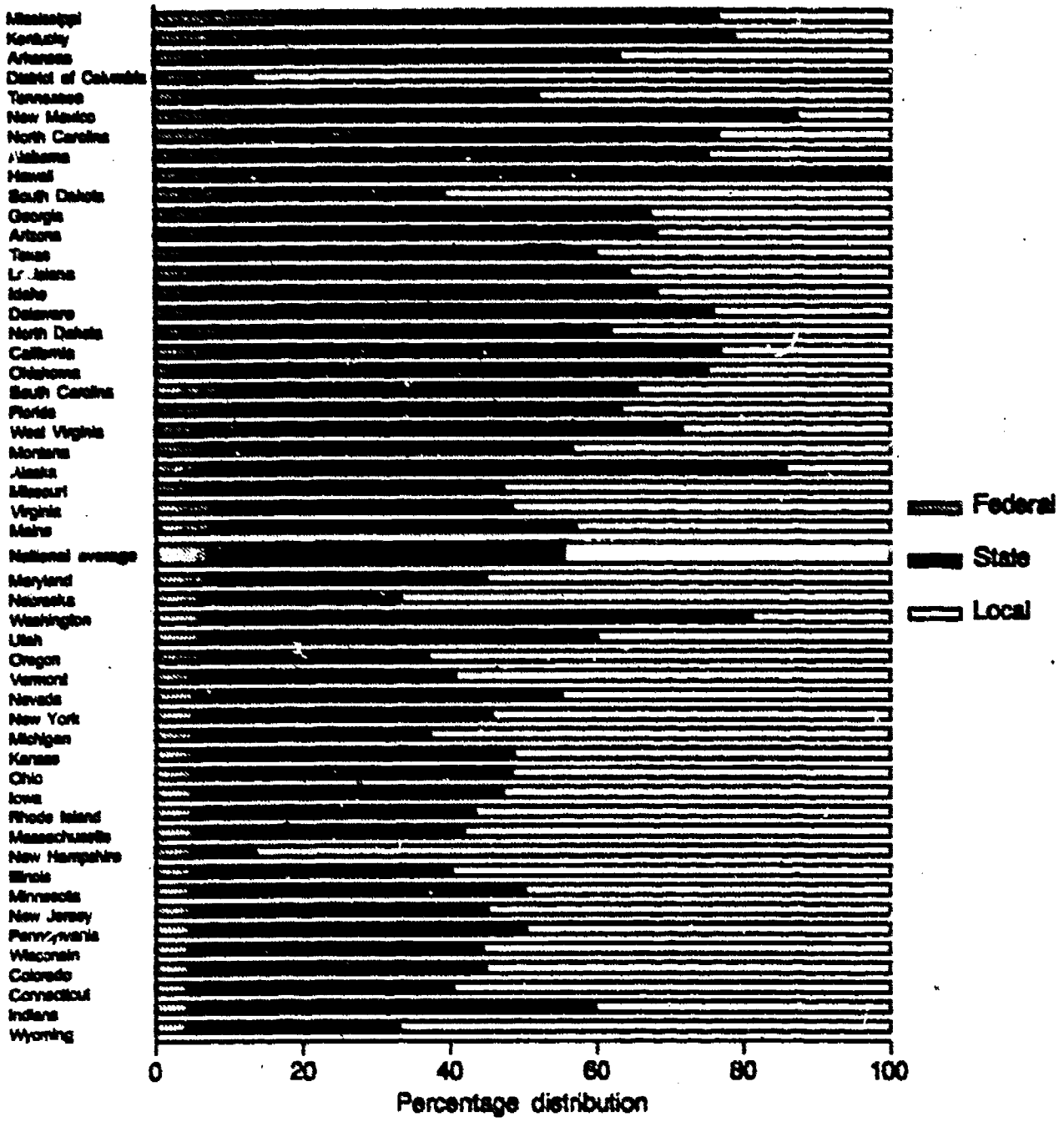
—Not applicable.

NOTE: Details may not add to 100.0 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Expenditures and Revenues for Public Elementary and Secondary Education, 1970-71*, 1973; and Common Core of Data, unpublished tabulations (September 1984).

Chart 1.10

Percentage Distribution of Federal, State, and Local Revenues for Public Elementary/Secondary Education, by State: 1982-83



Southern States tended to receive a higher proportion of their public school revenues from Federal sources than other States. In contrast, Northeastern and Midwestern States generally received a much lower percentage of their public school revenues from the Federal Government.

Table 1.11

Percentage Distribution of U.S. Department of Education Funds for Selected Elementary/Secondary Education Programs, by State: United States and Outlying Areas, Fiscal Years 1970 and 1983

State or Other Area	1970 Total	1970 Grants for Educationally Disadvantaged	1970 Special Programs[1]	1970 Education for the Handicapped	1970 Vocational Education[2]	1970 School Assistance in Federally Affected Areas	1983 Total	1983 Grants for Educationally Disadvantaged	1983 Special Programs[1]	1983 Education for the Handicapped	1983 Vocational Education[2]	1983 School Assistance in Federally Affected Areas
	Percentage Distribution											
United States and outlying areas	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Alabama	2.55	3.03	1.85	1.96	2.21	1.89	1.90	2.04	1.73	1.93	2.04	.67
Alaska	.75	.15	.38	.34	.18	2.92	.88	.24	.49	.22	.16	8.66
Arizona	1.04	.73	1.00	.77	.98	1.94	1.72	1.16	1.17	1.22	1.26	8.29
Arkansas	1.42	1.87	1.11	1.02	1.22	.53	1.18	1.34	.99	1.10	1.15	.43
California	8.85	7.31	8.29	8.22	7.63	14.07	9.83	10.41	9.41	8.76	8.74	10.36
Colorado	1.14	.70	1.15	.98	1.10	2.35	1.08	1.00	1.20	1.00	1.22	1.52
Connecticut	.92	.86	1.39	1.26	1.13	.68	1.13	1.03	1.25	1.53	1.07	.94
Delaware	.27	.21	.47	.34	.26	.36	.31	.35	.49	.27	.27	.02
District of Columbia	.58	.47	.53	.34	.32	1.08	.39	.51	.49	.07	.26	.43
Florida	2.80	2.79	2.77	2.52	3.13	3.41	3.68	3.78	3.66	3.57	4.01	2.67
Georgia	2.98	3.00	2.29	2.34	2.86	3.35	2.42	2.46	2.47	2.66	2.78	.99
Hawaii	.62	.22	.58	.39	.46	1.82	.49	.29	.49	.29	.41	2.55
Idaho	.37	.24	.57	.40	.48	.55	.42	.35	.49	.42	.47	.77
Illinois	3.83	4.02	4.74	5.10	4.11	2.63	4.78	5.06	4.74	5.51	4.38	1.72
Indiana	1.45	1.29	2.44	2.55	2.40	.67	1.65	1.34	2.37	2.26	2.55	.28
Iowa	1.04	1.14	1.44	1.48	1.38	.35	.91	.75	1.19	1.36	1.27	.07
Kansas	1.06	.80	1.22	1.16	1.19	1.60	.86	.68	.94	1.03	.98	1.49
Kentucky	2.26	2.71	1.65	1.75	2.01	1.56	1.63	1.76	1.59	1.70	1.92	.11
Louisiana	2.13	2.59	1.99	1.96	2.31	.88	2.24	2.60	1.96	1.97	2.13	.73
Maine	.42	.30	.67	.53	.60	.49	.51	.46	.49	.61	.58	.56
Maryland	2.21	1.37	1.82	1.69	1.71	4.99	1.75	1.56	1.76	2.15	1.70	2.29
Massachusetts	2.01	1.63	2.41	2.57	2.23	2.61	2.39	2.45	2.26	3.01	2.40	.57
Michigan	2.93	3.19	4.19	4.35	3.87	.91	3.48	3.61	4.04	3.58	3.92	.99
Minnesota	1.43	1.52	1.90	1.89	1.85	.65	1.36	1.14	1.70	1.90	1.77	.72
Mississippi	2.32	3.16	1.36	1.37	1.54	1.14	1.61	2.00	1.20	1.18	1.36	.56
Missouri	1.95	1.96	2.19	2.20	2.27	1.54	1.79	1.60	1.99	2.37	2.26	.80
Montana	.45	.28	.56	.38	.44	.84	.55	.30	.49	.37	.39	3.18
Nebraska	.72	.57	.86	.74	.76	1.04	.68	.47	.64	.74	.70	2.06
Nevada	.25	.08	.44	.34	.22	.64	.28	.18	.49	.31	.31	.75
New Hampshire	.26	.13	.53	.34	.39	.39	.29	.23	.49	.29	.43	.33
New Jersey	2.58	2.51	3.01	2.97	2.76	2.39	2.94	2.96	3.02	3.80	2.63	1.16
New Mexico	1.02	.75	.75	.60	.67	2.13	1.10	.83	.61	.62	.70	5.34
New York	9.72	13.45	7.16	7.99	6.63	3.35	7.91	9.76	7.01	5.64	6.76	2.52
North Carolina	3.59	4.34	2.51	2.76	3.26	2.36	2.56	2.58	2.50	2.82	3.08	1.05
North Dakota	.46	.36	.53	.37	.44	.70	.37	.24	.49	.25	.33	1.50
Ohio	3.32	3.04	4.89	5.21	4.95	2.07	3.57	3.24	4.55	4.63	4.67	.62
Oklahoma	1.59	1.41	1.30	1.26	1.48	2.27	1.42	1.06	1.27	1.57	1.34	3.92
Oregon	.74	.63	1.09	.96	1.05	.66	1.00	1.06	1.05	.99	1.11	.40
Pennsylvania	3.99	4.27	5.05	5.73	5.45	1.63	4.29	4.58	4.68	4.30	5.06	.53
Rhode Island	.45	.33	.59	.44	.46	.69	.39	.34	.49	.44	.44	.40
South Carolina	2.16	2.59	1.48	1.54	1.81	1.65	1.58	1.57	1.40	1.72	1.72	1.25
South Dakota	.53	.47	.55	.39	.44	.77	.54	.29	.49	.28	.37	3.28
Tennessee	2.33	2.77	1.94	2.03	2.38	1.35	1.94	1.85	1.94	2.57	2.36	.45
Texas	5.78	5.65	5.29	5.48	6.24	6.07	6.78	7.34	6.44	6.69	6.21	4.17
Utah	.62	.27	.76	.57	.66	1.43	.58	.34	.74	.91	.77	1.06
Vermont	.18	.16	.44	.34	.28	.03	.22	.21	.49	.17	.28	.00
Virginia	3.40	2.37	2.21	2.26	2.68	7.22	2.20	1.88	2.21	2.40	2.41	3.70
Washington	1.44	.96	1.62	1.55	1.57	2.53	1.61	1.40	1.68	1.49	1.62	3.27
West Virginia	1.10	1.47	1.02	1.08	1.17	.11	.84	.88	.83	1.00	.97	.02
Wisconsin	1.33	1.31	2.12	2.14	2.05	.44	1.56	1.40	2.00	1.73	2.14	.86
Wyoming	.21	.12	.40	.34	.23	.37	.26	.16	.49	.24	.19	.95
Outlying areas[4]	2.44	2.74	2.48	2.71	2.10	1.87	3.41	4.51	2.87	2.33	2.00	.80
Undistributed	—	—	—	—	—	—	.74	.37	—	—	—	7.27
Total (in millions)	$2,472	$1,339	$238	$29	$358	$508	$5,843	$3,200	$451	$1,043	$714	$435
(Percentage distribution)	(100)	(54.17)	(9.63)	(1.17)	(14.48)	(20.55)	(100)	(54.77)	(7.72)	(17.85)	(12.22)	(7.44)

—Not applicable

[1]Includes Supplementary Counseling and Education Services, supplementary education centers, School Library Resources, and Strengthening State Departments of Education

[2]Includes small set-asides for postsecondary students

[3]Consists of Chapter II of the Education Consolidation and Improvement Act

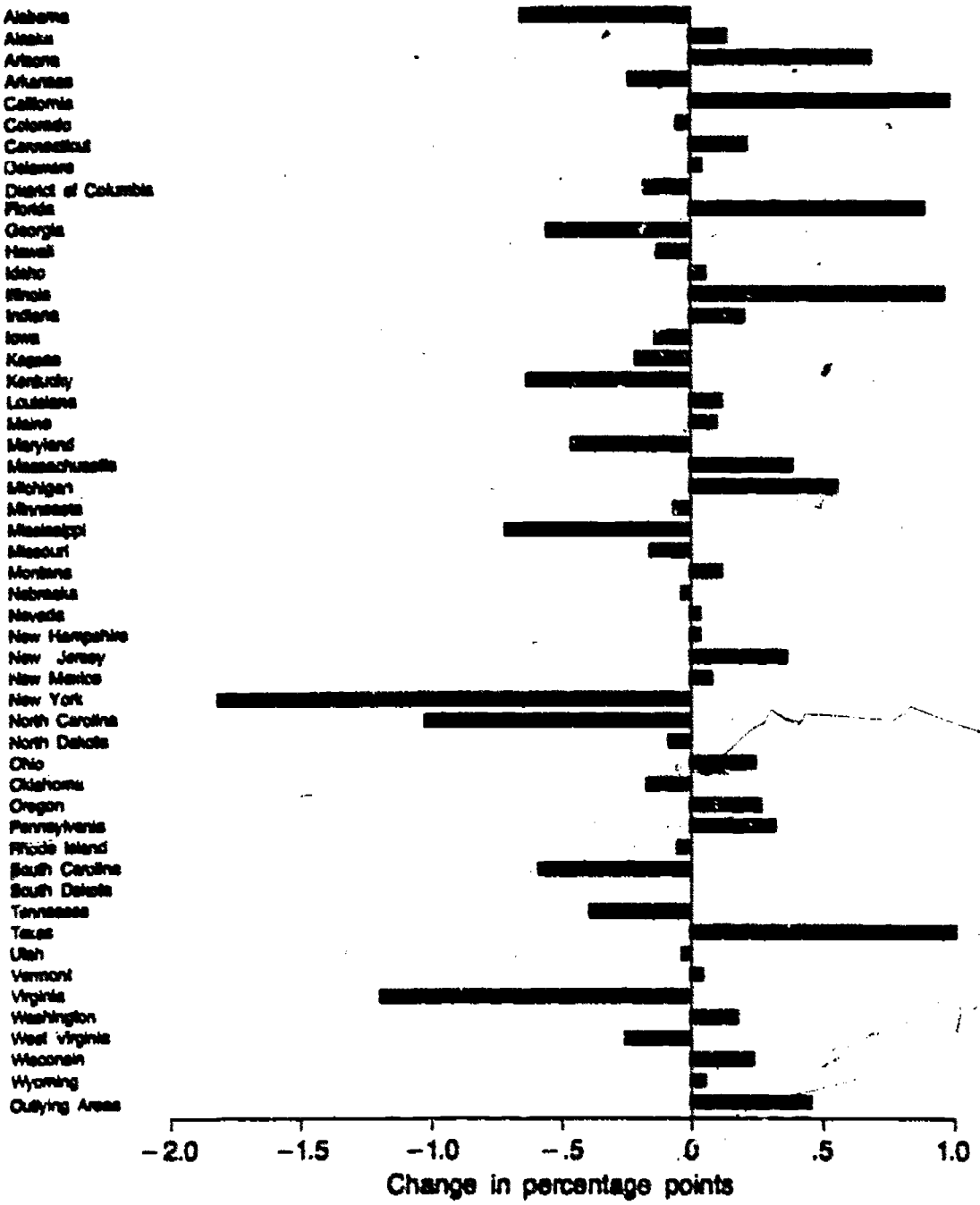
[4]Includes Bureau of Indian Affairs counts, American Samoa, former Canal Zone, Guam, Northern Marianas, Puerto Rico, and Virgin Islands

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, Office of Planning, Budget, and Evaluation, unpublished tabulations (December 1984).

Chart 1.11

Changes in Percentage Distribution of U.S. Department of Education Elementary/Secondary Education Funds, by State: Fiscal Years 1970 to 1983



Between 1970 and 1983, U.S. Department of Education funds shifted from Southern States to Northeastern, Western and North Central States.

Table 1.12

Current Expenditures per Pupil in Average Daily Attendance in Public Elementary/Secondary Schools, by State: 1970-71, 1980-81, and 1982-83

State	Current Expenditures per Pupil, 1970-71 (in 1982-83 dollars)[1]	Current Expenditures per Pupil, 1980-81 (in 1982-83 dollars)[1]	Current Expenditures per Pupil, 1982-83[2]	Percent Change (in 1982-83 Dollars)	
				1970-71 to 1980-81	1980-81 to 1982-83
United States	$2,252	$2,819	$2,948	25.2	4.6
Alabama	1,495	2,250	2,177	50.5	-3.2
Alaska	3,725	6,447	7,325	73.1	13.6
Arizona	1,935	2,559	2,524	32.2	-1.4
Arkansas	1,483	1,925	1,971	29.8	2.4
California	2,239	2,802	2,733	25.1	-2.5
Colorado	2,079	3,052	3,171	46.8	3.9
Connecticut	2,610	3,176	3,636	21.7	14.5
Delaware	2,588	3,412	3,456	31.8	1.3
District of Columbia	2,912	3,900	4,260	33.9	9.2
Florida	2,049	2,458	2,680	20.0	9.0
Georgia	1,765	1,936	2,169	9.7	12.0
Hawaii	2,529	2,952	3,239	16.7	9.7
Idaho	1,607	2,104	2,052	30.9	-2.5
Illinois	2,561	3,065	3,100	19.7	1.1
Indiana	2,000	2,242	2,414	12.1	7.7
Iowa	2,227	3,009	3,095	35.1	2.8
Kansas	2,034	2,854	3,058	40.3	7.1
Kentucky	1,656	2,022	2,100	22.1	3.9
Louisiana	1,955	2,779	2,739	42.2	-1.4
Maine	1,856	2,192	2,458	18.1	12.1
Maryland	2,568	3,303	3,445	28.6	4.3
Massachusetts	2,291	3,332	3,378	45.4	1.4
Michigan	2,489	3,442	3,307	38.3	-3.9
Minnesota	2,593	2,983	3,085	15.1	3.4
Mississippi	1,488	1,819	1,849	22.3	1.6
Missouri	1,886	2,462	2,468	30.5	.2
Montana	2,076	3,041	3,289	46.5	8.2
Nebraska	2,138	2,702	2,984	26.4	10.4
Nevada	2,027	2,355	2,613	16.2	10.9
New Hampshire	1,980	2,560	2,750	29.3	7.4
New Jersey	2,909	3,688	4,007	26.8	8.6
New Mexico	1,844	2,640	2,901	43.2	9.9
New York	3,873	4,240	4,686	9.5	10.5
North Carolina	1,696	2,268	2,162	33.8	-4.7
North Dakota	1,834	2,550	2,853	39.1	11.9
Ohio	1,972	2,610	2,676	32.3	2.5
Oklahoma	1,671	2,492	2,805	49.2	12.5
Oregon	2,501	3,514	3,504	40.5	-.3
Pennsylvania	2,353	3,201	3,329	36.0	4.0
Rhode Island	2,477	3,318	3,570	34.0	7.6
South Carolina	1,629	1,965	2,017	20.7	2.6
South Dakota	1,918	2,252	2,486	17.4	10.4
Tennessee	1,540	2,033	2,027	32.1	-.3
Texas	1,738	2,274	2,731	30.9	20.1
Utah	1,733	2,062	2,013	19.0	-2.4
Vermont	2,111	2,737	3,051	29.7	11.5
Virginia	1,958	2,470	2,620	26.2	6.1
Washington	2,294	2,881	3,211	25.6	11.4
West Virginia	1,794	2,432	2,764	35.6	13.6
Wisconsin	2,432	3,076	3,237	26.5	5.2
Wyoming	2,301	3,363	4,045	46.1	20.3

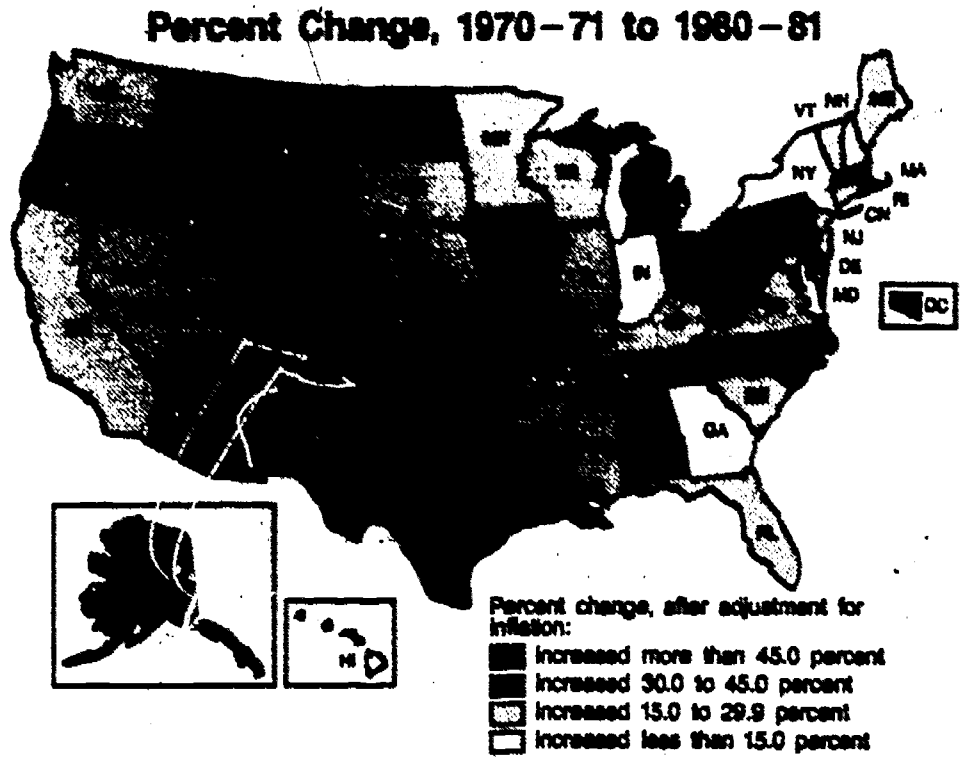
[1]Adjusted for inflation using the Consumer Price Index computed on a school-year basis.

[2]Preliminary data.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Expenditures and Revenues for Public Elementary and Secondary Education, 1970-71*, 1973; and Common Core of Data, unpublished tabulations (September 1984).

Percent Change in Current Expenditures per Pupil in Public Schools: 1970-71 to 1980-81 and 1980-81 to 1982-83



Forty States and the District of Columbia increased their inflation-adjusted expenditures per pupil between 1980-81 and 1982-83. Fifteen of these States had very large increases of 10 percent or more even after adjusting for inflation.

Table 1.13

Selected Fiscal and Demographic Features of States, Indexed to National Average, by State: 1980-81 and 1982-83

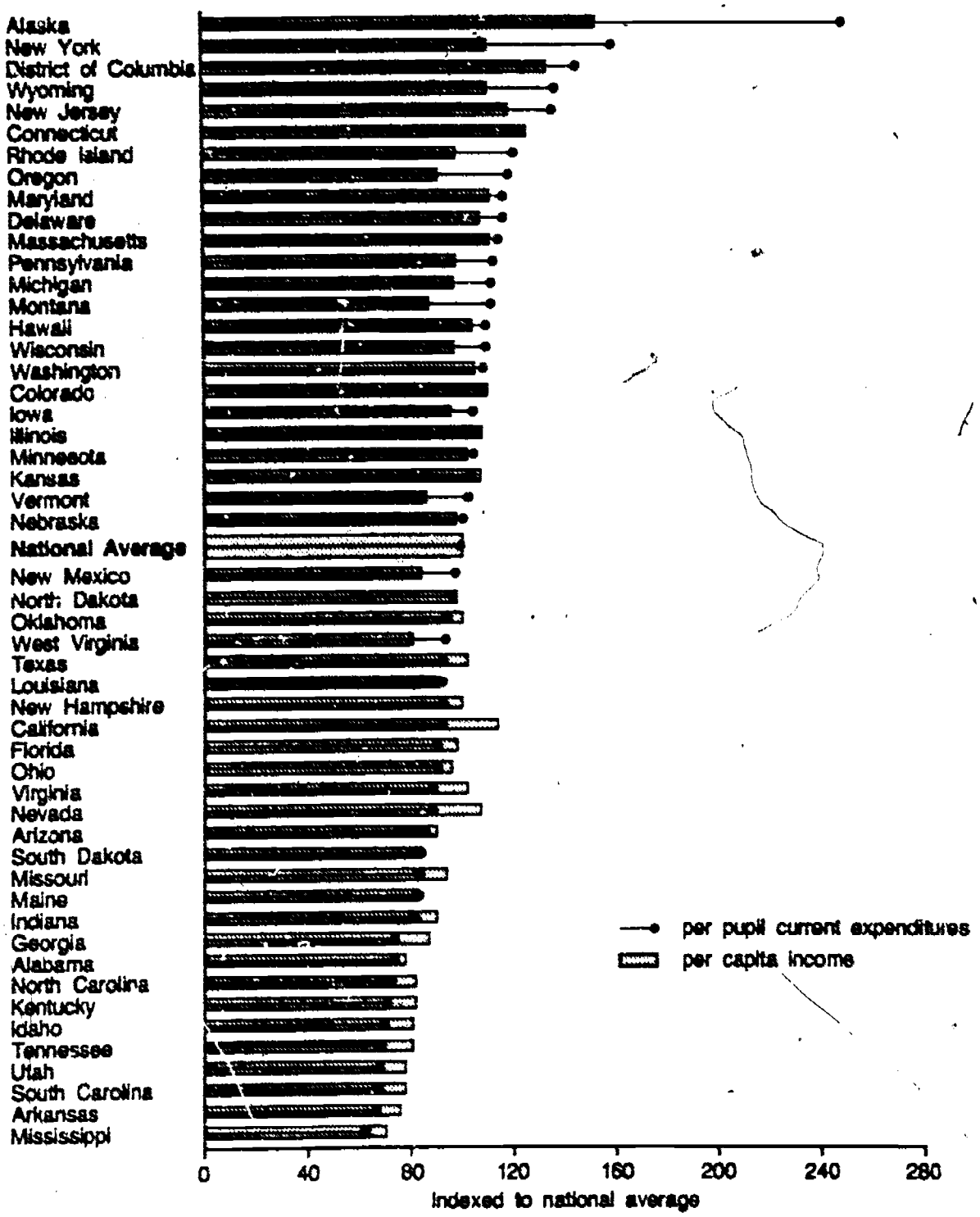
State	1980-81					1982-83				
	Per Capita Income	State/Local School Tax Efforts	Education's Share of State/Local Expenditures	Public School Students as Percent of Population	Current Expenditures per Pupil	Per Capita Income	State/Local School Tax Efforts	Education's Share of State/Local Expenditures	Public School Students as Percent of Population	Current Expenditures per Pupil
United States	100	100	100	100	100	100	100	100	100	100
Alabama	79	92	90	108	80	78	93	91	107	74
Alaska	137	179	75	119	229	152	177	70	119	248
Arizona	93	102	104	104	91	90	93	105	104	86
Arkansas	75	87	108	108	68	76	85	107	110	67
California	116	86	89	96	99	114	78	87	96	83
Colorado	107	118	114	104	108	110	115	114	105	108
Connecticut	121	85	106	95	113	125	89	106	90	123
Delaware	106	102	82	92	121	107	100	90	90	117
District of Columbia	129	80	62	87	138	133	79	65	84	145
Florida	97	83	106	85	87	98	84	105	83	91
Georgia	84	94	100	108	69	87	103	94	109	74
Hawaii	107	79	70	94	105	104	90	70	95	110
Idaho	85	105	103	119	75	81	101	102	123	70
Illinois	110	97	99	96	109	108	82	101	96	105
Indiana	94	111	115	107	80	90	102	110	107	82
Iowa	97	111	108	102	107	96	112	103	102	105
Kansas	104	102	99	97	101	107	103	104	99	104
Kentucky	81	78	87	101	72	82	79	98	104	71
Louisiana	89	100	94	102	99	91	103	87	104	93
Maine	82	108	100	110	78	83	115	101	109	83
Maryland	109	103	98	99	117	111	94	94	96	117
Massachusetts	106	112	101	99	118	111	100	94	92	115
Michigan	103	118	104	112	122	97	126	98	113	112
Minnesota	102	125	96	102	106	102	113	99	101	105
Mississippi	69	80	88	105	65	70	81	88	107	63
Missouri	93	85	108	95	87	94	85	107	95	84
Montana	88	136	116	109	103	87	151	122	111	112
Nebraska	94	98	109	99	96	98	104	110	99	101
Nevada	114	72	82	103	84	107	81	79	100	86
New Hampshire	96	96	106	100	91	100	90	101	98	93
New Jersey	116	108	109	94	131	118	109	109	92	136
New Mexico	84	129	108	115	94	84	137	111	115	96
New York	107	119	89	97	1[illegible]	110	121	91	90	159
North Carolina	82	92	112	10[illegible]	6	82	87	108	106	73
North Dakota	91	107	91	99	90	98	113	97	102	97
Ohio	99	91	110	100	93	96	101	108	101	91
Oklahoma	95	96	103	105	88	100	110	113	109	95
Oregon	98	115	105	98	125	91	124	108	99	118
Pennsylvania	99	102	109	89	114	95	109	104	88	113
Rhode Island	97	94	85	87	118	98	100	88	85	121
South Carolina	78	82	105	110	70	78	101	113	111	85
South Dakota	82	111	96	103	80	84	109	102	105	84
Tennessee	81	73	88	103	72	81	75	90	104	69
Texas	99	99	111	112	81	102	102	125	114	93
Utah	81	132	116	129	73	78	144	116	139	88
Vermont	84	124	94	104	97	86	126	94	104	103
Virginia	99	92	106	104	88	102	95	112	104	89
Washington	108	110	108	101	102	105	112	99	102	109
West Virginia	82	111	104	109	86	81	115	112	113	84
Wisconsin	99	107	100	97	109	97	111	98	96	110
Wyoming	116	143	106	115	119	110	209	113	118	137
United States average *	*($11,121)	(4.5%)	(24.8%)	(18.0%)	*($2,819)	($11,113)	(4.2%)	(24.3%)	(17.1%)	($2,948)

*Expressed in constant 1983 dollars adjusted using the Consumer Price Index.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, *News*, bulletin, September, 1984; U.S. Department of Commerce, Bureau of the Census, *Governmental Finances, 1980-81*, 1982, and *Governmental Finances, 1982-83*, 1984, *Current Population Reports*, various years; and U.S. Department of Education, National Center for Education Statistics, Common Core of Data, unpublished tabulations (September 1984).

Chart 1.13

Per Pupil Expenditures and Per Capita Income Indexed to National Average, by State: 1982-83



When indexed to the 1982-83 national average, most States with incomes 10 percent or more below average had an even lower index of per pupil expenditures. Seven of the 10 States with an income 10 percent or more above the average had an index of per pupil expenditures that exceeded their per capita income index number.

Table 1.14

Percent of Elementary/Secondary Schools Using Microcomputers, by Control and Level of School: United States, 1981 to 1984

Characteristic	All Schools	Elementary Schools	Junior High Schools	Senior High Schools
	Percent Using Microcomputers			
Public schools				
Fall 1981	18.2	11.1	25.6	42.7
Fall 1982	30.0	20.2	39.8	57.8
Fall 1983	68.4	62.4	80.5	86.1
Fall 1984	85.1	82.2	93.1	94.6
Schools by enrollment size, fall 1983				
Under 200	51.6	49.2	63.8	74.5
200 to 299	66.0	62.8	72.3	79.6
300 to 499	69.6	66.7	78.7	82.6
500 to 999	73.5	65.7	82.6	88.1
1,000 and over	88.7	64.3	86.2	93.8
Private schools				
1982-83 [1]				
Catholic	22.8	16.3	27.8	57.8
Other private	24.6	21.1	43.4	54.8
1983-84 [1]				
Catholic	63.4	[2]	[2]	[2]
Other private	46.4	[2]	[2]	[2]

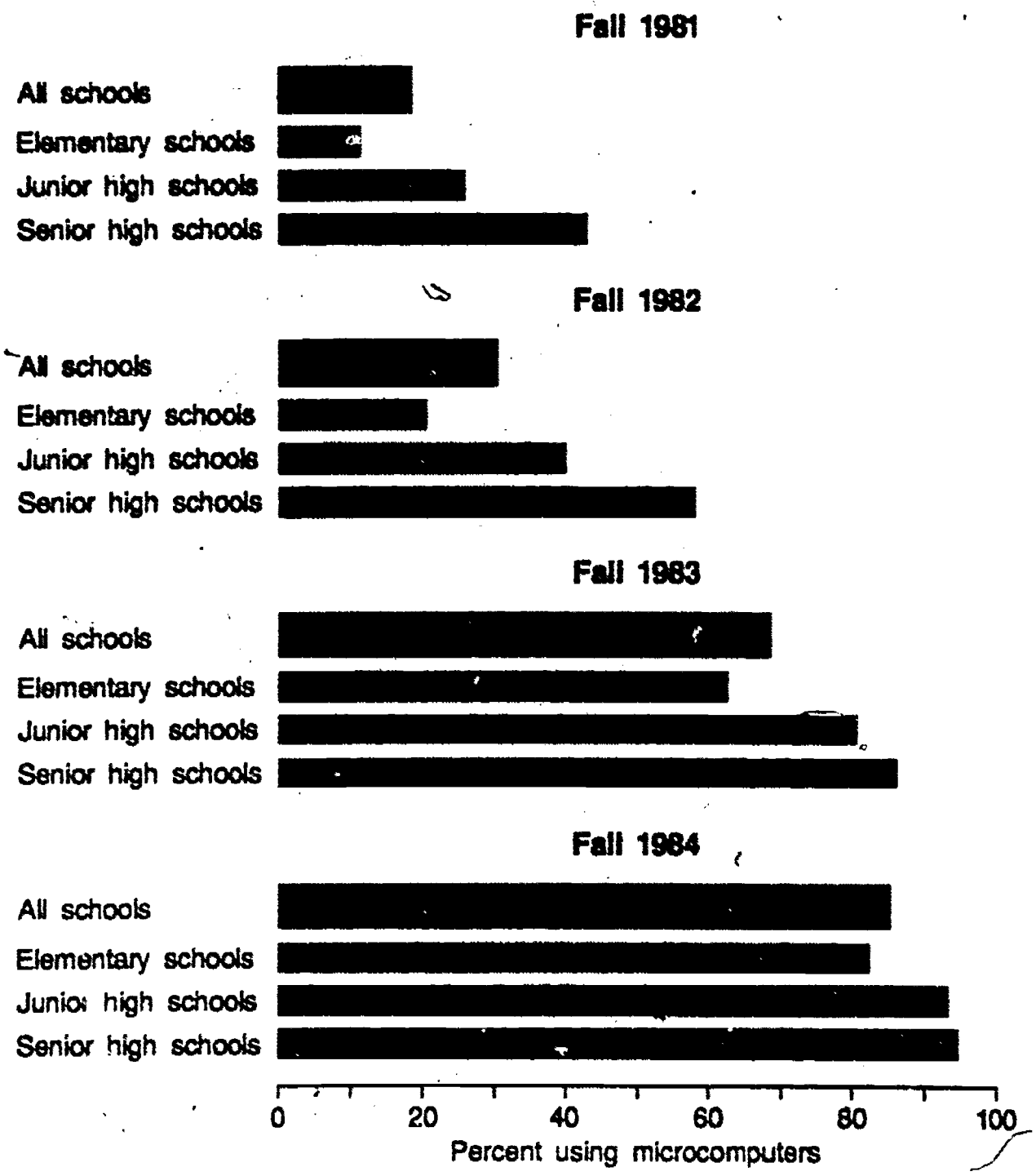
[1]Private schools were surveyed in the middle of the school year.

[2]Not available.

SOURCE: Market Data Retrieval, Inc., *Microcomputers in Schools, 1983-84*, 1984, and unpublished tabulations (January 1985).

Chart 1.14

Percent of Public Elementary/Secondary Schools Using Microcomputers, by Level



The use of microcomputers in all types of public elementary/secondary schools has grown dramatically in recent years. Between 1981 and 1984, the proportion of schools with microcomputers rose from 18 percent to 85 percent.

Table 1.15

Entrance Age for Compulsory Education, Years of Compulsory Education, Days per School Year, and Hours of Mathematics Instruction per Year in Selected Countries: 1981-82

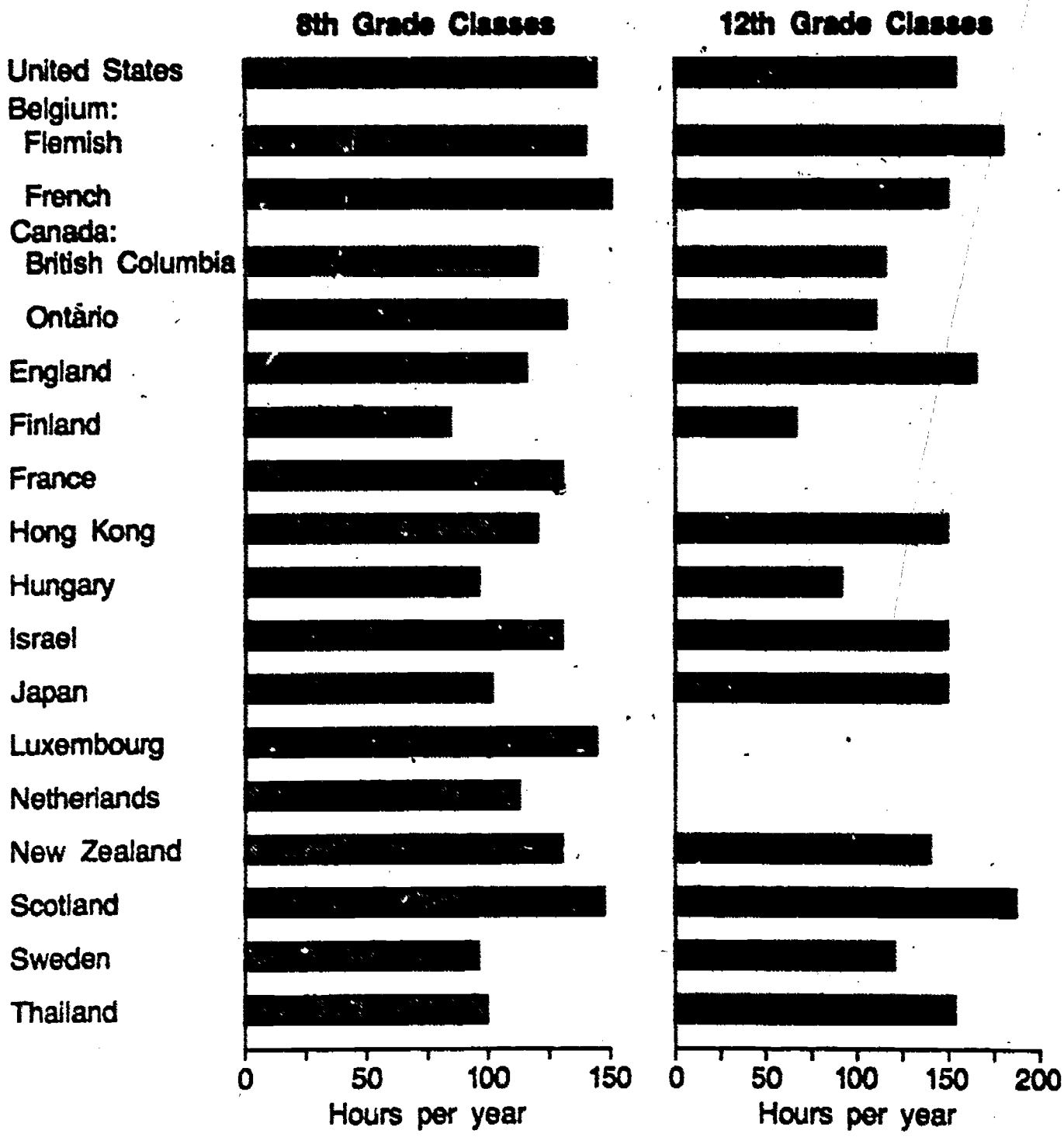
Country	Entrance Age for Compulsory Education	Years of Compulsory Education	Days per School Year		Hours of Mathematics Instruction per Class per Year	
			8th Grade	12th Grade	8th Grade	12th Grade
United States	6	12	180	180	144	153
Belgium						
Flemish	6	10	160	175	140	180
French	(*)	(*)	175	175	150	150
Canada						
British Columbia	6	10	195	195	120	115
Ontario	6	10	186	185	132	110
England	5	11	192	190	115	165
Finland	7	9	190	190	84	66
France	6	10	185	(*)	130	(*)
Hong Kong	6	6	195	193	120	150
Hungary	6	10	192	192	96	91
Israel	5	11	216	210	130	150
Japan	6	9	243	216	101	150
Luxenbourg	5	10	216	(*)	144	(*)
Netherlands	6	9	200	(*)	112	(*)
New Zealand	6	9	190	190	130	140
Scotland	5	11	200	200	147	187
Sweden	7	9	180	180	96	120
Thailand	6	6	200	200	100	154

*Not available.

SOURCE: International Association for the Evaluation of Educational Achievement, Second International Mathematics Study, unpublished tabulations (April 1984).

Chart 1.15

Hours of Math Instruction per Class per Year in Selected Countries



The number of hours of mathematics instruction per class per year varied widely from country to country. The average number of instruction hours per class for the United States was among the highest of the selected countries for both 8th and 12th grades. However, the school year for the United States was shorter than the school years of most other countries.

Table 1.16

Average Number of Carnegie Units Earned by 1980 High School Sophomores Who Graduated by Fall 1982,[1] by Selected Student and School Characteristics: United States

Characteristic	Total	English	Foreign Language	Mathematics	Natural Science	Social Science	Arts	Business	Trade and Industry	Other[2]
	Carnegie Units									
All students	21.0	3.7	1.0	2.5	1.9	2.6	1.4	1.7	0.9	5.4
Student characteristics:										
Sex:										
Male	20.8	3.6	.8	2.6	1.9	2.6	1.2	1.0	1.6	5.4
Female	21.2	3.7	1.2	2.5	1.9	2.6	1.5	2.4	.2	5.3
Race/ethnicity:										
White, non-Hispanic	21.2	3.7	1.1	2.6	2.0	2.6	1.4	1.8	.8	5.2
Black, non-Hispanic	20.3	3.6	.7	2.4	1.6	2.5	1.2	1.7	.8	5.8
Hispanic	20.7	3.6	.8	2.2	1.5	2.5	1.2	1.6	1.1	6.1
Asian or Pacific Islander	21.7	3.6	1.9	3.1	2.4	2.5	1.2	1.1	.7	5.2
American Indian/ Alaskan Native	20.6	3.5	.4	2.0	1.6	2.7	1.6	1.5	1.6	5.6
Test performance group:[3]										
Low	20.0	3.4	.3	1.9	1.2	2.5	1.3	1.8	1.1	6.4
Low-middle	20.7	3.6	.7	2.2	1.5	2.6	1.3	2.2	1.0	5.6
High-middle	21.3	3.7	1.1	2.6	2.0	2.6	1.4	1.9	.8	5.3
High	22.0	3.8	1.9	3.3	2.7	2.7	1.5	1.2	.5	4.4
Postsecondary education plans:										
None	20.0	3.5	.3	1.9	1.3	2.5	1.2	2.0	1.4	6.0
Vocational/technical school	20.7	3.5	.5	2.0	1.4	2.6	1.4	2.0	1.4	6.1
Less than 4 years of college	21.1	3.7	1.0	2.4	1.7	2.6	1.4	2.1	.7	5.5
College degree	21.7	3.8	1.5	3.1	2.3	2.7	1.5	1.5	.5	4.9
Advanced degree	21.6	3.8	1.9	3.2	2.6	2.6	1.4	1.2	.3	4.5
Time spent on homework:										
Less than 1 hour per week	20.1	3.4	.4	2.0	1.3	2.4	1.3	1.4	1.8	6.1
1 to less than 5 hours per week	21.0	3.6	.9	2.5	1.8	2.6	1.4	1.9	.9	5.5
5 or more hours per week	21.7	3.8	1.8	3.1	2.5	2.6	1.4	1.5	.3	4.6
School characteristics:										
Control:										
Public	20.9	3.6	.9	2.5	1.8	2.6	1.4	1.8	.9	5.4
Catholic	23.4	4.1	2.0	3.3	2.3	2.7	1.0	1.5	.3	6.2
Other private	20.4	3.9	1.9	3.0	2.4	2.9	1.4	.9	.3	3.7

[1]Data are based on student transcripts for the last 4 years of high school.

[2]Includes courses in architecture, computer and information sciences, health, home economics, industrial arts, personal and social development, philosophy, physical education, psychology, public affairs, and religion.

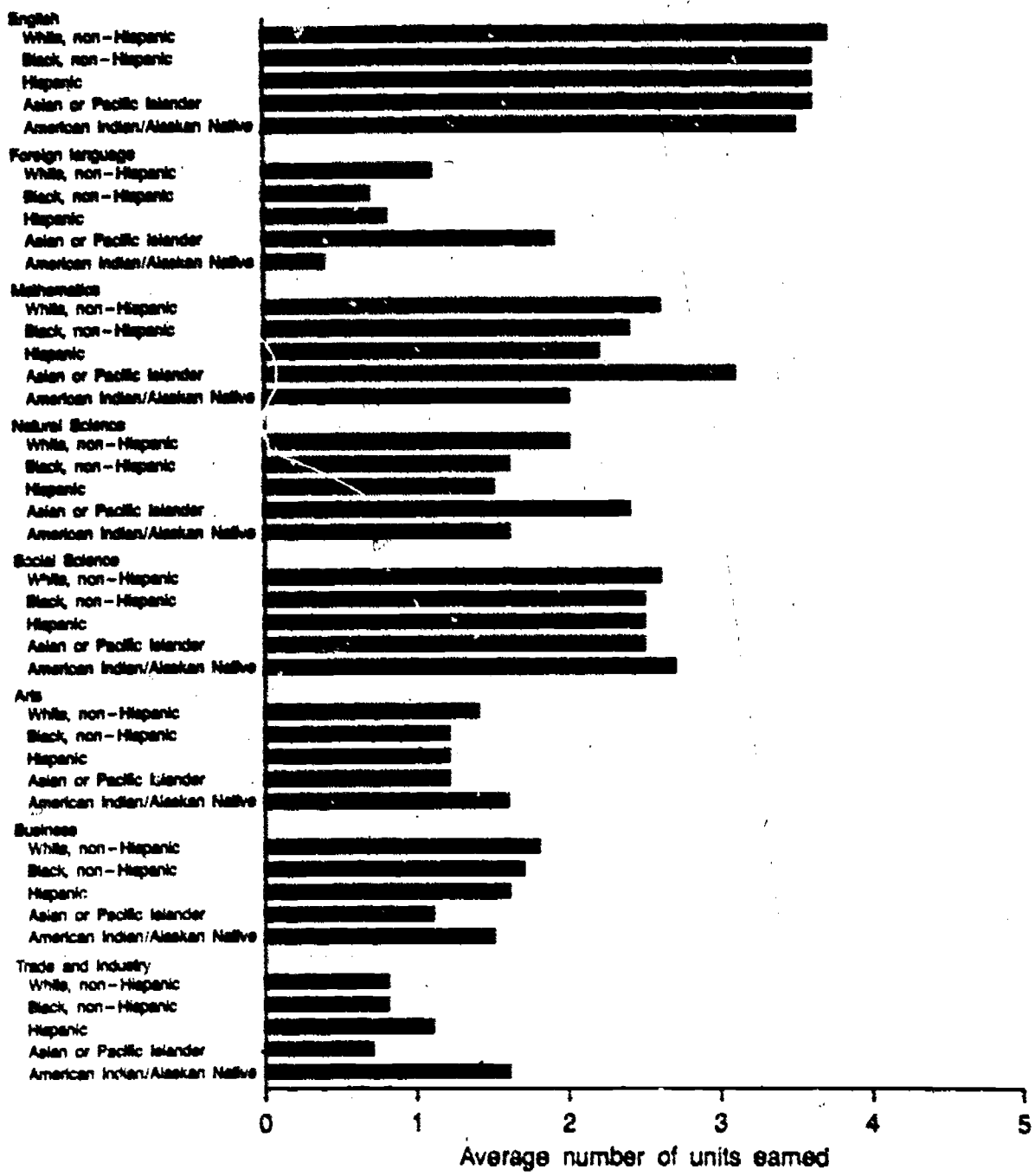
[3]Test performance as measured by a test battery administered as part of the High School and Beyond Study.

NOTE: Data have been slightly revised from previously published figures. The Carnegie unit is a standard of measurement that represents one credit for the completion of a 1-year course.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (October 1984).

Chart 1.16

Average Number of Carnegie Units Earned by 1982 High School Graduates, by Race/Ethnicity



Asian students generally took more courses in foreign language, mathematics, and natural science compared with other students. On the average, American Indian students took the most courses in trade and industry areas. The smallest difference among the racial/ethnic groups was in English, which is often a required course in high schools.

Table 1.17

Percent of 1982 High School Graduates Who Received an "A" Average in Various Subject Matter Areas,[1] by Selected Student and School Characteristics: United States

Characteristic	Total	English	Foreign Language	Mathematics	Natural Science	Social Science	Arts	Business	Trade and Industry	Other[2]
All students	24.9	17.0	28.1	16.7	19.2	18.8	45.4	21.7	21.5	32.6
Student characteristics										
Sex										
Male	21.7	12.1	22.1	14.6	17.1	16.1	38.8	16.2	20.6	31.1
Female	27.9	21.6	32.2	18.9	21.2	21.4	50.3	24.1	28.7	33.9
Race/ethnicity										
White, non-Hispanic	27.1	19.2	29.3	18.4	21.1	21.2	48.6	23.9	22.7	35.0
Black, non-Hispanic	16.3	9.7	16.6	9.5	11.3	11.1	32.5	11.2	17.2	23.8
Hispanic	18.5	10.1	24.5	11.4	12.5	10.6	35.1	16.4	16.5	26.2
Asian or Pacific Islander	35.8	25.6	43.2	27.6	26.5	29.4	49.4	34.3	34.9	47.3
American Indian/ Alaskan Native	20.9	12.6	22.5	15.4	11.8	16.5	42.4	17.1	23.2	25.8
Test performance group[3]										
Low	12.8	5.7	10.2	6.8	5.7	5.7	29.2	9.6	13.4	19.6
Low-middle	17.6	8.7	13.5	9.4	9.1	9.4	36.9	15.5	16.9	27.0
High-middle	24.4	15.3	19.1	13.4	15.5	17.3	47.3	24.0	23.6	34.8
High	42.1	35.0	41.4	30.0	33.4	41.1	63.7	43.6	39.7	51.2
Postsecondary education plans										
None	14.1	6.7	12.6	8.3	6.0	7.0	28.3	13.4	14.2	21.2
Vocational/technical school	16.6	8.4	13.2	9.5	10.3	8.6	34.9	14.6	18.8	23.8
Less than 4 years of college	21.7	13.7	19.4	11.5	13.5	14.2	42.0	19.4	23.7	31.1
College degree	32.5	23.6	30.5	20.9	23.6	27.3	55.7	31.8	29.0	43.3
Advanced degree	37.7	30.4	37.5	26.5	30.9	35.9	60.6	33.2	38.2	46.2
Time spent on homework										
Less than 1 hour per week	14.3	6.9	11.1	8.9	7.9	7.6	27.7	11.9	15.0	20.9
1 to less than 5 hours per week	23.4	15.1	24.1	14.5	16.8	17.2	44.5	20.1	21.5	31.7
5 or more hours per week	36.1	29.2	38.2	26.6	29.5	31.2	57.2	33.5	36.4	44.1
School characteristics										
Control										
Public	24.9	17.1	28.8	16.6	19.4	18.6	45.8	21.8	21.3	32.5
Catholic	24.1	17.7	25.2	15.8	16.5	21.2	36.0	19.2	28.7	31.8
Other private	25.8	15.1	25.6	19.8	19.7	20.8	48.9	24.1	25.7	37.0

[1]Data are based on student transcripts for the last 4 years of high school.

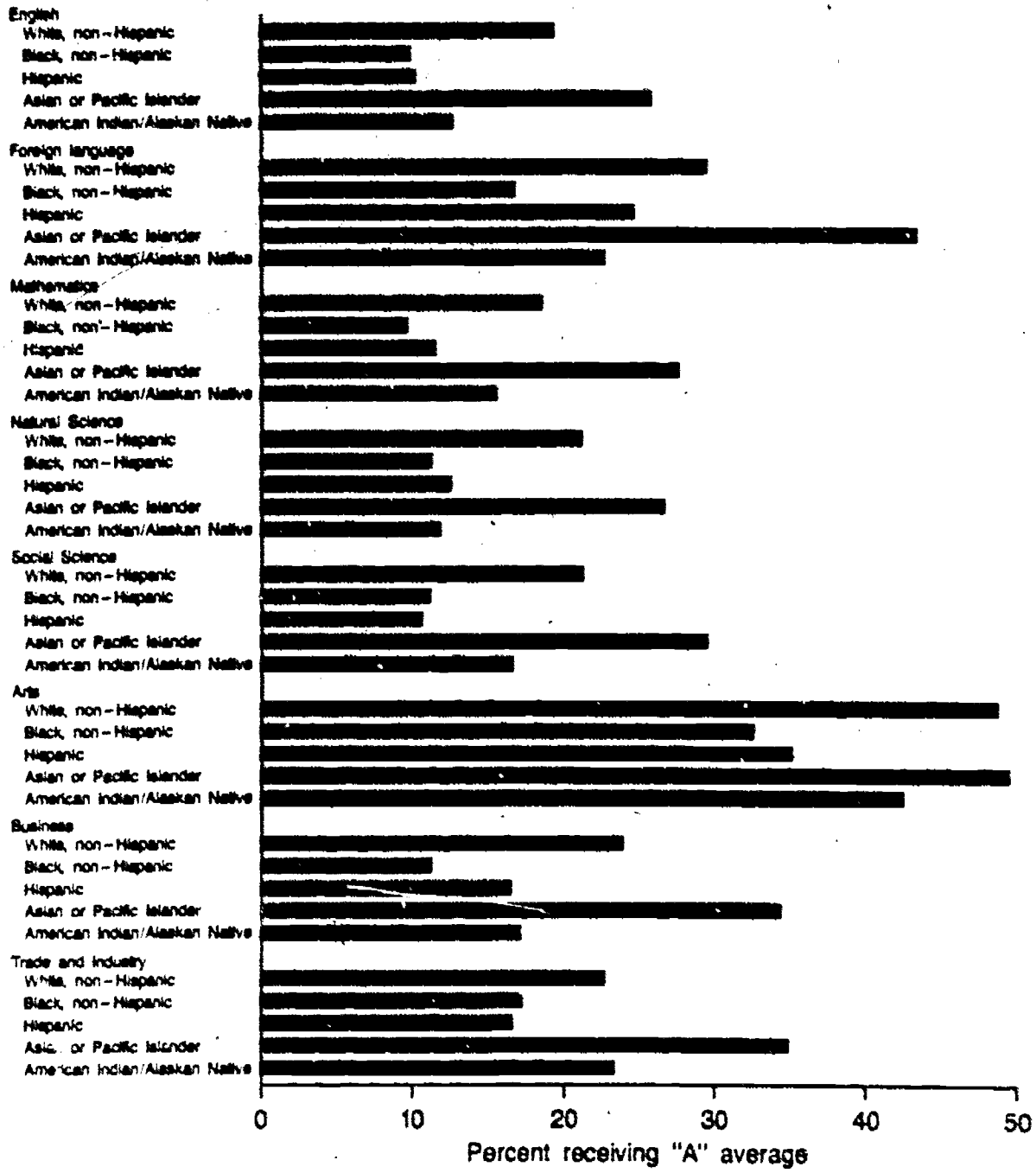
[2]Includes courses in architecture, computer and information sciences, health, home economics, industrial arts, personal and social development, philosophy, physical education, psychology, public affairs, and religion.

[3]Test performance as measured by a test battery administered as part of the High School and Beyond Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (October 1984).

Chart 1.17

Percent of 1982 High School Graduates Who Received an "A" Average in Various Subject Matter Areas, by Race/Ethnicity



A higher proportion of Asian and Pacific Islander high school graduates received "A" averages in all course areas than graduates in any of the other racial/ethnic groups. Other minority groups generally received a lower proportion of "A" averages than white graduates.

Table 1.18

Percent of 1982 High School Graduates Who Received a "D" or "F" Average in Various Subject Matter Areas,[1] by Selected Student and School Characteristics: United States

Characteristic	Total	English	Foreign Language	Mathematics	Natural Science	Social Science	Arts	Business	Trade and Industry	Other[2]
All students	17.4	20.4	16.4	26.0	21.2	22.2	7.9	17.6	14.5	12.3
Student characteristics										
Sex										
Male	20.6	25.9	21.6	28.7	23.6	24.9	11.3	23.2	15.2	14.2
Female	14.5	15.2	12.9	23.2	18.9	19.5	5.3	15.1	9.8	10.5
Race/ethnicity										
White, non-Hispanic	14.5	16.9	14.0	22.4	17.5	18.5	6.3	14.1	13.2	9.9
Black, non-Hispanic	28.6	32.8	32.9	39.7	35.1	33.4	14.8	32.3	20.2	21.0
Hispanic	25.5	31.4	21.6	35.3	34.6	34.2	12.5	24.9	19.5	18.1
Asian or Pacific Islander	12.0	11.6	10.9	20.0	15.5	12.1	6.8	15.7	13.8	7.7
American Indian/ Alaskan Native	23.4	29.4	24.6	31.0	30.5	34.7	8.5	25.4	9.4	17.5
Test performance group[3]										
Low	30.9	37.7	38.9	41.6	42.7	41.7	14.0	32.1	21.6	22.0
Low-middle	21.3	26.5	28.6	33.7	29.9	27.8	9.2	18.2	16.3	13.6
High-middle	13.7	15.4	17.8	25.5	19.3	15.4	6.5	11.6	10.6	8.4
High	5.9	5.3	7.1	11.6	7.6	5.4	2.9	5.1	5.6	3.7
Postsecondary education plans										
None	27.6	36.0	32.0	36.8	38.5	38.9	13.6	23.5	19.9	19.3
Vocational/technical school	23.1	28.7	29.4	34.1	31.2	31.5	11.0	22.7	15.2	15.9
Less than 4 years of college	18.4	20.3	22.1	30.6	24.4	22.7	9.4	16.7	13.3	12.3
College degree	10.5	11.3	13.4	19.2	13.9	10.6	3.8	10.3	8.2	6.5
Advanced degree	9.4	9.0	9.2	17.0	11.3	9.4	3.2	12.0	7.8	6.3
Time spent on homework										
Less than 1 hour per week	28.6	34.2	39.8	38.7	34.7	37.1	16.5	31.4	20.6	21.6
1 to less than 5 hours per week	17.8	21.3	17.7	27.4	22.6	22.8	7.8	17.6	13.7	12.1
5 or more hours per week	10.1	10.1	10.7	16.5	12.8	11.4	3.7	10.5	7.6	7.1
School characteristics										
Control										
Public	18.0	21.2	17.0	26.8	22.1	23.1	8.3	17.9	14.6	12.7
Catholic	13.2	13.8	15.3	21.7	16.5	14.8	5.9	13.5	11.7	9.2
Other private	11.8	14.6	11.2	17.2	12.9	13.1	2.5	14.4	15.3	8.0

[1]Data are based on student transcripts for the last 4 years of high school.

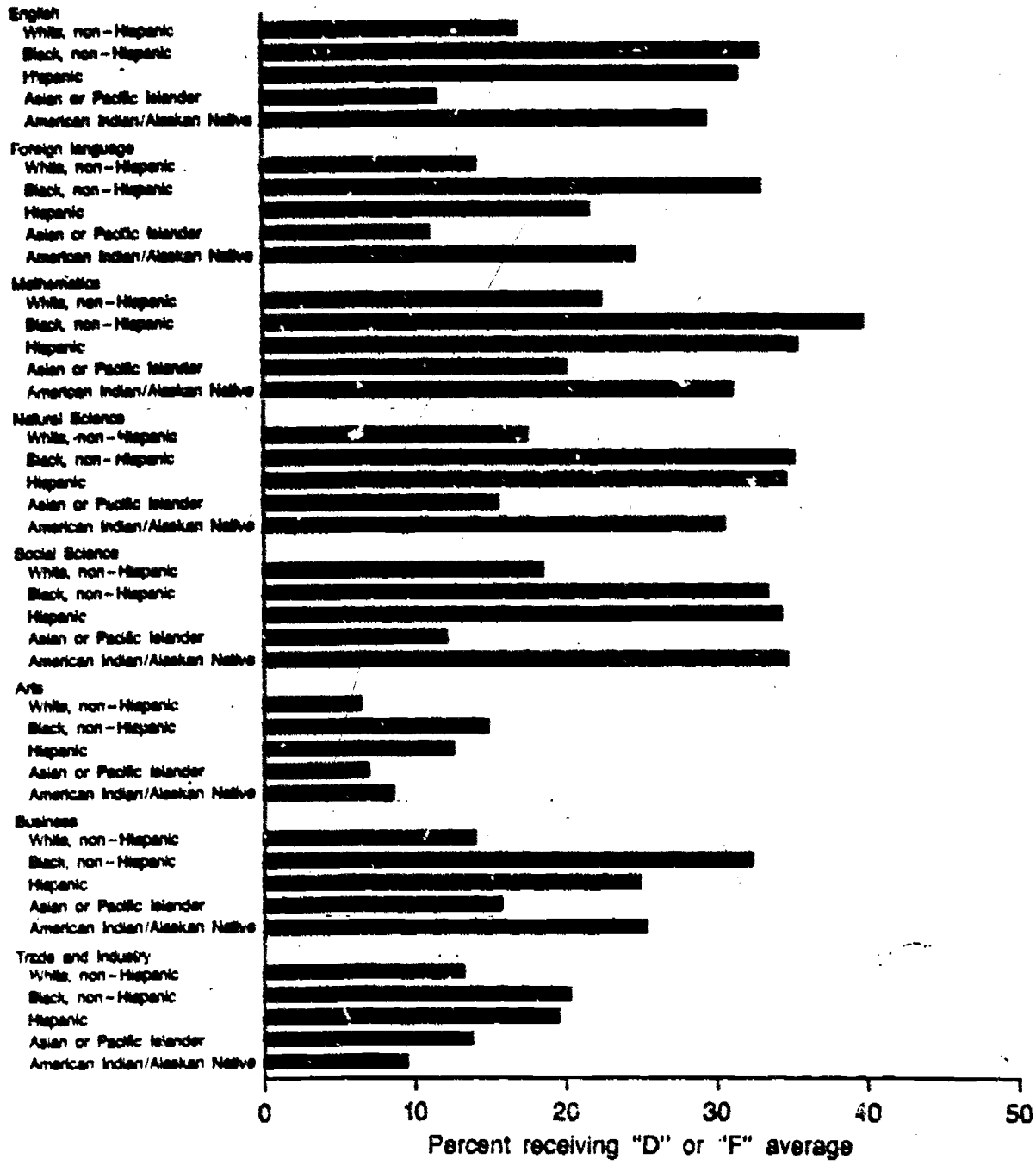
[2]Includes courses in architecture, computer and information sciences, health, home economics, industrial arts, personal and social development, philosophy, physical education, psychology, public affairs, and religion.

[3]Test performance as measured by a test battery administered as part of the High School and Beyond Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (October 1984).

Chart 1.18

Percent of 1982 High School Graduates Who Received a "D" or "F" Average in Various Subject Matter Areas, by Race/Ethnicity



About one-third of all graduating black and Hispanic high school students had "D" or "F" averages in basic academic areas such as English, mathematics, natural science, and social science. In English, 33 percent of the black graduates and 31 percent of the Hispanic graduates had "D" or "F" averages compared with 17 percent for white graduates and 12 percent for Asian and Pacific Islander graduates.

Table 1.19

Comparative Scores on Reading Proficiency of 4th, 8th, and 11th Graders, by Selected Student and School Characteristics: United States, 1983-84

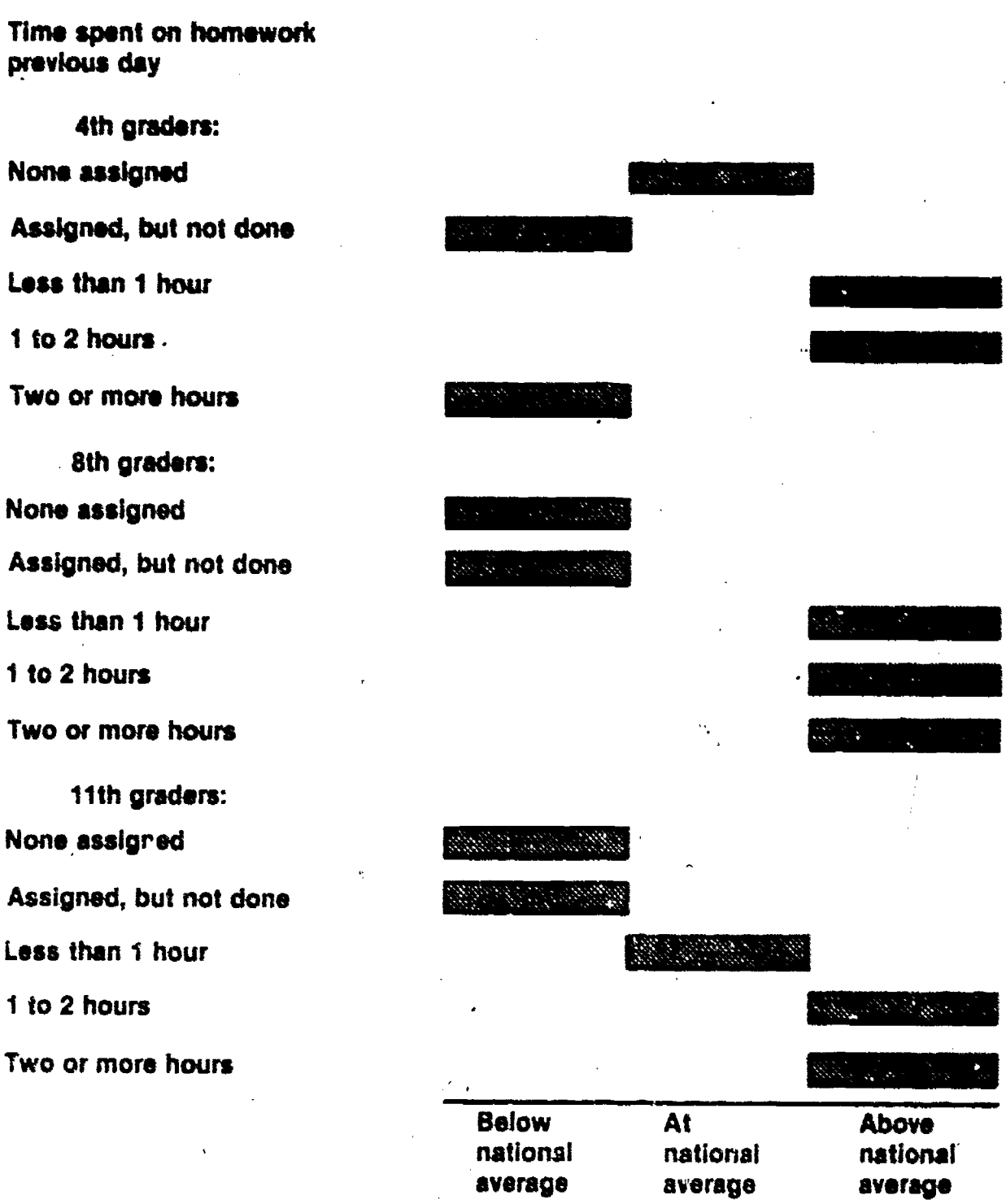
Characteristic	4th Graders		8th Graders		11th Graders	
	Percent of Students Having Characteristic	Test Score	Percent of Students Having Characteristic	Test Score	Percent of Students Having Characteristic	Test Score
All students	100.0	N	100.0	N	100.0	N
Student characteristics						
Sex						
Male	49.7	N	50.2	-	50.4	-
Female	50.3	N	49.8	+	49.6	+
Race/ethnicity *						
White	70.8	+	74.2	+	74.4	+
Black	15.1	-	14.4	-	14.9	-
Hispanic	11.3	-	8.8	-	7.9	-
Language spoken at home						
English	90.9	N	93.3	N	93.8	N
Spanish	5.8	-	4.2	-	3.5	-
Other	3.3	-	2.5	N	2.7	-
Time spent on homework previous day						
None assigned	33.1	N	22.1	-	21.4	-
Assigned but not done	4.0	-	4.3	-	11.2	-
Less than 1 hour	43.2	+	35.5	+	26.0	N
1 to 2 hours	13.7	+	29.4	+	27.5	+
Two or more hours	6.0	-	8.7	+	13.9	+
Time spent watching television each day						
None	2.8	N	2.2	+	5.4	N
1 hour	13.2	+	17.6	+	25.8	+
2 hours	16.2	+	21.8	+	25.9	+
3 hours	15.7	+	22.7	+	19.7	N
4 hours	12.9	+	17.6	+	11.7	-
5 hours	9.0	N	9.8	N	5.6	-
6 or more hours	30.1	-	13.4	-	5.9	-
School characteristics						
Region						
Northeast	22.3	N	22.7	N	24.5	N
Southeast	23.7	-	23.5	N	22.0	N
Central	26.7	N	26.2	N	27.5	N
West	27.3	N	27.6	-	25.9	N

KEY: N = National average
+ = Above national average
- = Below national average

*Excludes approximately 3 percent of the students at each grade level who were classified as "other."

SOURCE: Educational Testing Service, National Assessment of Educational Progress, unpublished tabulations (February 1985).

Homework and Reading Performance of 4th, 8th, and 11th Graders



At all three assessed grades, students who completed up to 2 hours of homework performed above the national average in reading. Students who did not complete their assigned homework tended to be poorer readers.

Table 1.20

Comparative Scores for 1980 Sophomores[1] on Reading and Science Tests Administered in Spring 1980 and Spring 1982, by Selected Student and School Characteristics: United States

Characteristic	Reading[2]			Science[3]		
	Followup Test (1982) Score	Increase in Score, 1980 to 1982	Proportion Corrected[4]	Followup Test (1982) Score	Increase in Score, 1980 to 1982	Proportion Corrected[4]
All students	8.45	1.31	40.3	10.22	.99	38.1
Student characteristics						
Sex						
Male	8.55	1.29	40.8	10.92	1.04	39.7
Female	8.36	1.33	39.9	9.56	.94	36.6
Race/ethnicity						
White, non-Hispanic	9.37	1.38	43.1	11.22	1.00	40.1
Black, non-Hispanic	5.36	.98	29.8	6.36	.91	29.0
Hispanic	5.55	1.15	32.5	7.40	.91	33.4
Asian or Pacific Islander	8.91	1.57	42.0	11.00	1.62	41.9
American Indian/Alaskan Native	6.34	.96	33.9	8.77	1.12	35.4
Time spent on homework						
Less than 1 hour per week	6.23	1.01	34.2	8.60	.87	35.2
1 to less than 5 hours per week	8.17	1.26	39.2	10.04	.97	37.6
5 or more hours per week	10.82	1.72	48.5	11.85	1.13	41.8
High school program						
Academic	10.88	1.56	47.9	12.11	1.10	42.3
General	7.25	1.20	36.5	9.42	.95	36.0
Vocational	6.21	1.07	33.4	8.37	.87	34.4
High school characteristics						
Control						
Public	8.22	1.26	39.5	10.08	.97	37.8
Catholic	10.32	1.69	46.8	11.27	1.17	40.9
Other private	10.83	1.90	49.5	11.78	.91	40.9
Community type						
Urban	7.65	1.13	37.4	9.08	.99	35.7
Suburban	8.94	1.45	41.8	10.72	1.03	39.1
Rural	8.19	1.21	39.7	10.12	.92	38.0
Region[5]						
Northeast	9.10	1.40	42.8	10.72	1.04	39.7
South	7.43	1.25	37.2	8.92	.91	35.1
North Central	8.88	1.30	41.7	10.94	.97	39.7
West	8.82	1.33	40.5	10.84	1.12	39.2

[1]Data are for 1980 sophomores who took the 1980 test and the 1982 followup test. Transfer students, dropouts, and early graduates are excluded.

[2]Maximum score on the reading test was 19.

[3]Maximum score on the science test was 20.

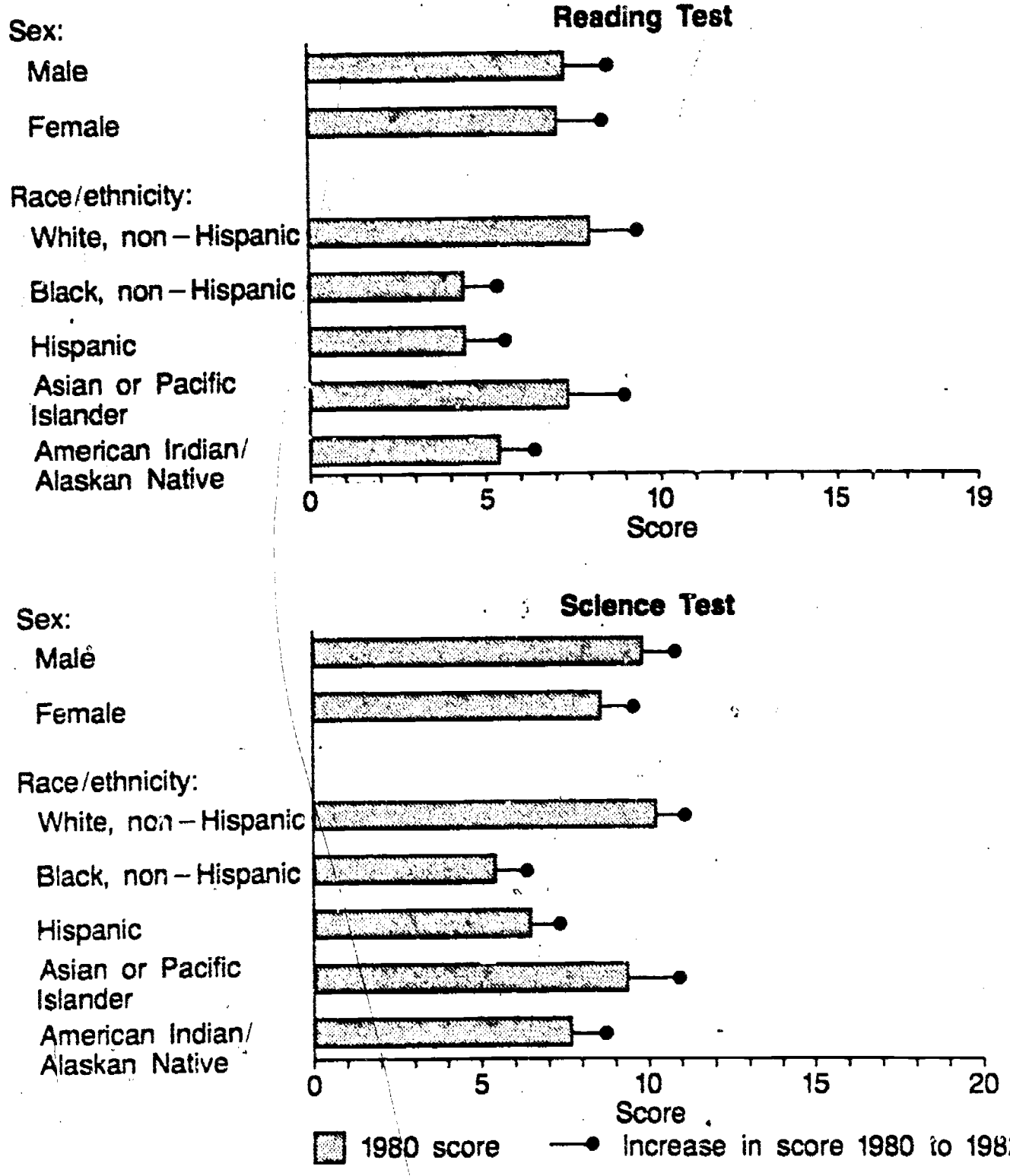
[4]Percent of wrong responses on first (1980) test answered correctly on the followup (1982) test.

[5]The regions correspond to the Bureau of the Census definitions. See the Definitions of Selected Terms in the appendix.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (October 1984)

Chart 1.20

Comparative Scores for 1980 Sophomores on Reading and Science Tests, by Sex and Race/Ethnicity: 1980 and 1982



Minority high school students, with the exception of Asian and Pacific Islanders, scored lower than white students on both reading and science tests. The disparity grew larger in the senior year, since minority students did not improve their test score by as much as white students did on the second test.

Table 1.21

Comparative Scores for 1980 Sophomores[1] on Mathematics Tests (Parts I and II) Administered in Spring 1980 and Spring 1982, by Selected Student and School Characteristics: United States

Characteristic	Mathematics, Part I, Basic Skills[2]			Mathematics, Part II, Problem Solving[3]		
	Followup Test (1982) Score	Increase in Score, 1980 to 1982	Proportion Corrected[4]	Followup Test (1982) Score	Increase in Score, 1980 to 1982	Proportion Corrected[4]
All students	12.34	1.62	42.5	3.12	.44	35.2
Student characteristics						
Sex						
Male	13.01	1.85	45.0	3.37	.55	38.0
Female	11.70	1.40	40.2	2.88	.34	32.6
Race/ethnicity						
White, non-Hispanic	13.90	1.71	45.7	3.54	.49	37.3
Black, non-Hispanic	6.81	1.55	31.4	1.59	.32	27.3
Hispanic	7.24	.95	32.5	1.78	.22	28.6
Asian or Pacific Islander	16.09	2.54	51.7	4.42	.86	43.1
American Indian/Alaskan Native	8.34	1.72	36.0	2.04	.34	30.3
Time spent on homework						
Less than 1 hour per week	7.97	.65	33.6	2.00	.20	31.0
1 to less than 5 hours per week	11.81	1.54	41.4	2.94	.41	34.1
5 or more hours per week	16.91	2.46	52.1	4.47	.72	42.1
High school program						
Academic	16.99	2.47	52.4	4.48	.73	42.2
General	9.83	1.22	36.9	2.31	.30	31.2
Vocational	8.13	2.79	33.9	1.92	.18	29.0
High school characteristics						
Control						
Public	11.90	1.53	41.5	2.99	.42	34.6
Catholic	15.99	2.52	50.5	1.04	.65	39.3
Other private	16.37	1.85	52.4	4.54	.83	42.5
Community type						
Urban	10.92	1.64	39.5	2.74	.50	33.0
Suburban	13.43	1.79	44.9	3.47	.54	37.3
Rural	11.54	1.36	40.8	2.81	.29	33.4
Region[5]						
Northeast	13.89	2.06	46.7	3.54	.51	37.6
South	10.04	1.49	37.6	2.43	.38	31.7
North Central	13.32	1.43	44.1	3.41	.45	36.2
West	12.99	1.58	43.8	3.37	.48	37.1

[1]Data are for 1980 sophomores who took the 1980 test and the 1982 followup test. Transfer students, dropouts, and early graduates are excluded.

[2]Maximum score on the Mathematics, Part I was 28.

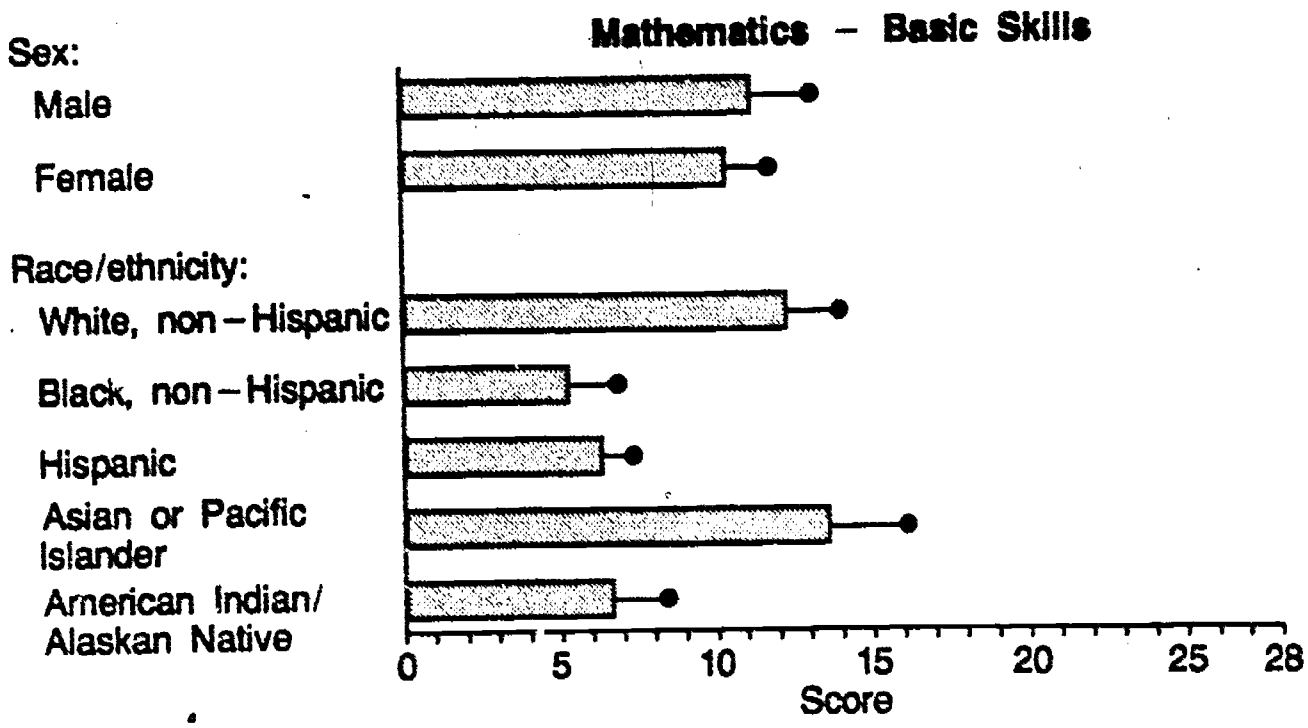
[3]Maximum score on the Mathematics, Part II was 10.

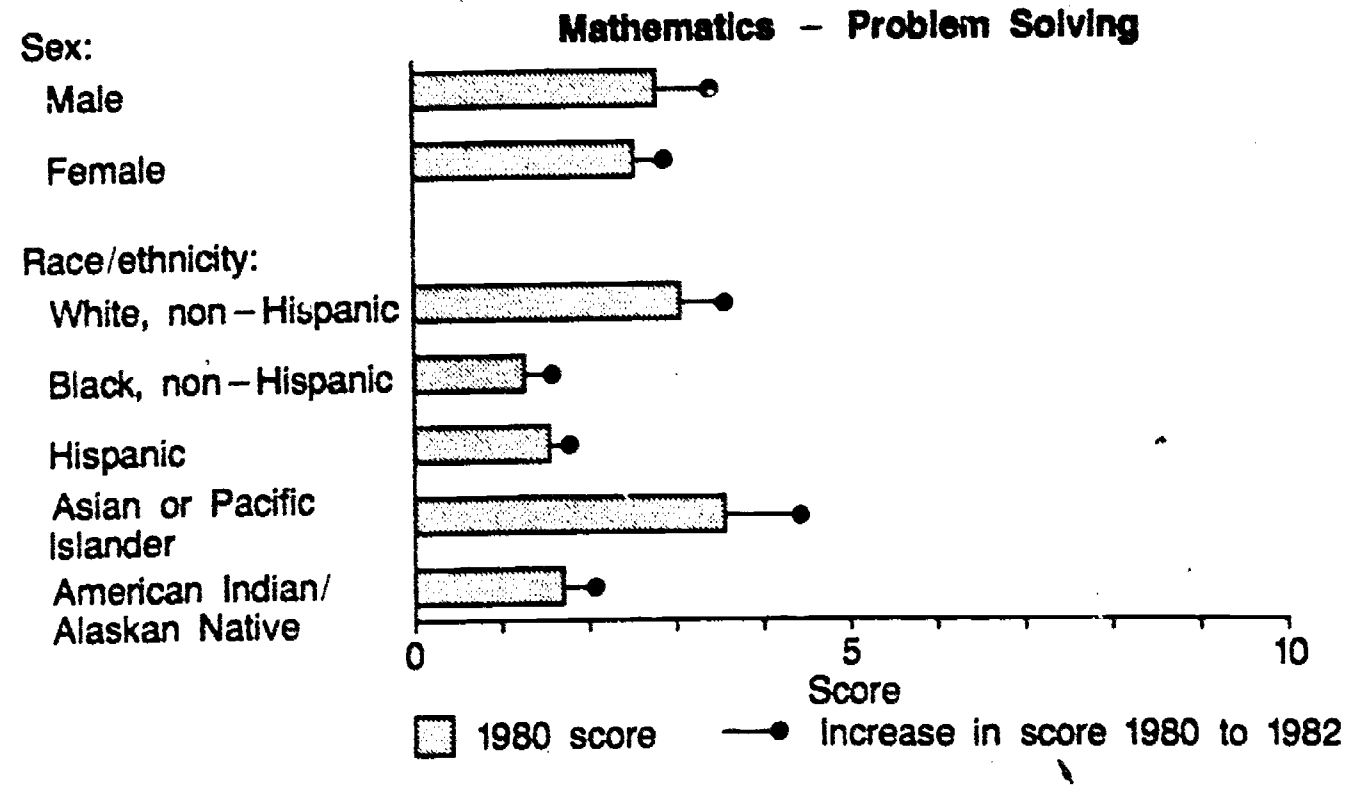
[4]Percent of wrong responses on first (1980) test answered correctly on the followup (1982) test.

[5]The regions correspond to the Bureau of the Census definitions. See the Definitions of Selected Terms in the appendix.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (October 1984).

Comparative Scores for 1980 Sophomores on Mathematics Tests, by Sex and Race/Ethnicity: 1980 and 1982





Male high school sophomores scored higher than females on both parts of the mathematics tests and tended to increase the margin in their senior year on the followup tests. Asian and Pacific Islander students outperformed all other racial/ethnic groups on both tests. Other minority groups scored much lower than white and Asian and Pacific Islander students.

Table 1.22

Comparative International Mathematics Test Scores for 8th and 12th Graders, by Test Topic: Selected Countries, 1981-82

Grade and Topic	Mean Percent Correct				
				Selected Countries[1]	
	United States	Canada (British Columbia)	Japan	Low Quartile[2]	Median[3]
8th grade tests					
Arithmetic (62 items)	51	58	[4]60	45	51
Algebra (32 items)	43	48	[4]60	39	43
Geometry (42 items)	38	42	[4]58	38	43
Measurement (26 items)	42	52	[4]69	[4]7	51
Statistics (18 items)	57	61	[4]71	52	57
12th grade tests					
Algebra (26 items)	43	47	76	47	57
Elementary functions/ calculus (46 items)	29	21	69	28	44
Finite mathematics (4 items)	31	(*)	76	(*)	44
Geometry (26 items)	31	30	58	33	42
Number systems (17 items)	40	43	72	40	50
Sets and relations (9 items)	56	48	80	51	62
Probability and statistics (7 items)	40	38	72	38	50

*Not available

[1]Includes Belgium (Flemish and French), Canada (British Columbia and Ontario), England, France, Finland, Hong Kong, Hungary, Israel, Japan, Luxembourg, Netherlands, New Zealand, Nigeria, Scotland, Swaziland, Sweden, Thailand, and United States for the 8th grade tests. France, Luxembourg, and Swaziland did not participate in the 12th grade tests.

[2]Score at which 25 percent of the countries ranked below and 75 percent ranked above.

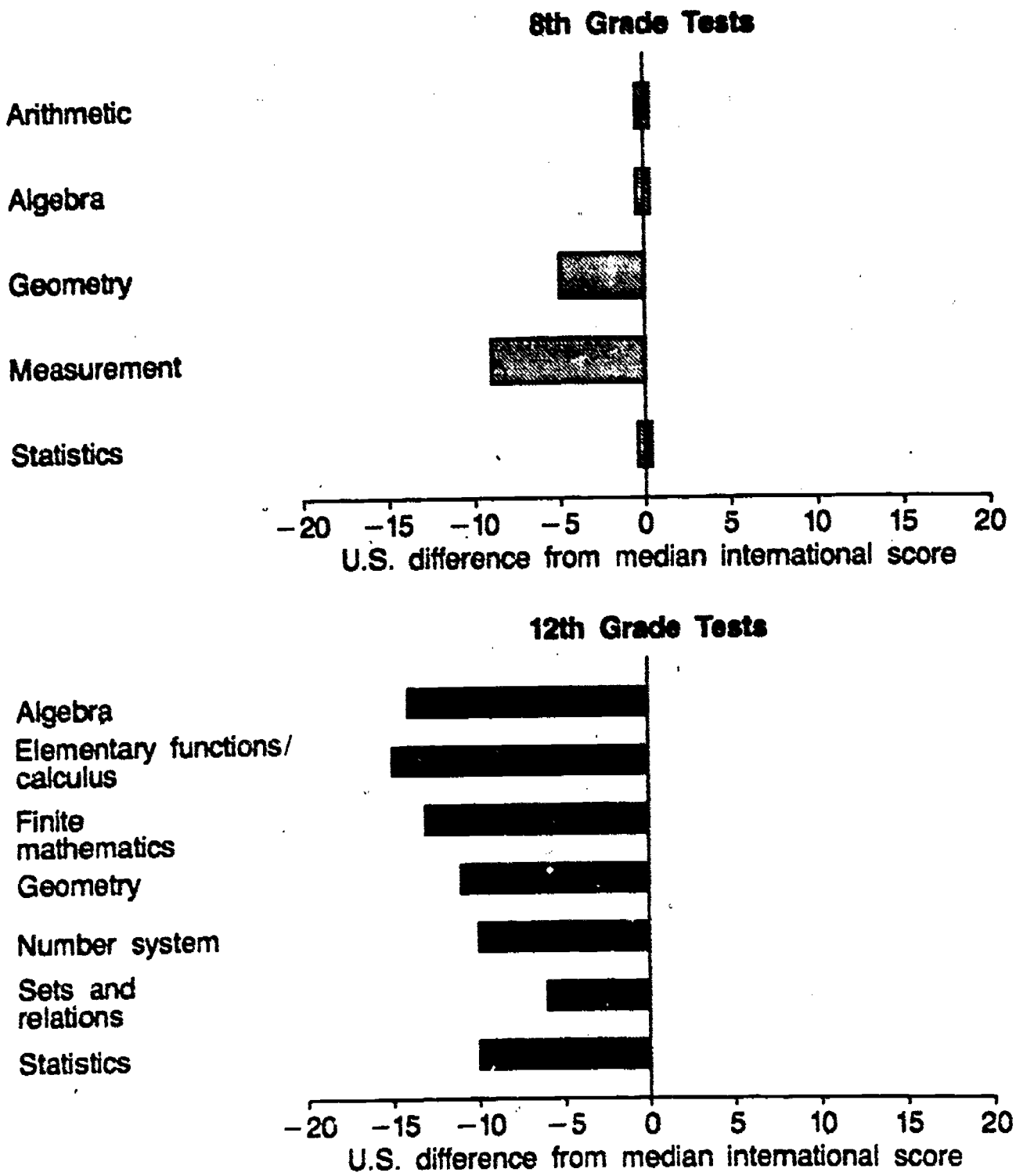
[3]Score at which half of the countries ranked below and half ranked above.

[4]Data are for 7th graders.

NOTE: Twelfth grade college preparatory classes are provided to similar proportions of students in the United States as students in the other countries in the study. For 14 countries it was possible to estimate the proportion of students in advanced classes. Three countries had a lower proportion than the United States in advanced classes, 5 countries had about the same proportion, and 6 countries had a higher proportion.

SOURCE: International Association for Evaluation of Educational Achievement, Second International Mathematics Study, *Second Study of Mathematics: United States* (January 1985), and unpublished tabulations for British Columbia, Canada, and the United States (April 1984), and National Institute of Educational Research (Ministry of Education, Japan), *National Report of Japan, 1981*, Vol. 1, 1981.

United States Mathematics Test Scores Compared With Median International Score



U.S. students consistently scored at or below the average of the selected countries on all the mathematics tests for both the 8th and 12th grades. The U.S. 12th grade students fell into the lowest fourth of the countries on the algebra, geometry, and number system tests and well below the average on the rest of the tests.

Table 1.23

Trends in Percent of Test-Takers With Low and High Scholastic Aptitude Test (SAT) and American College Testing Program (ACT) Scores: United States, 1972 to 1984

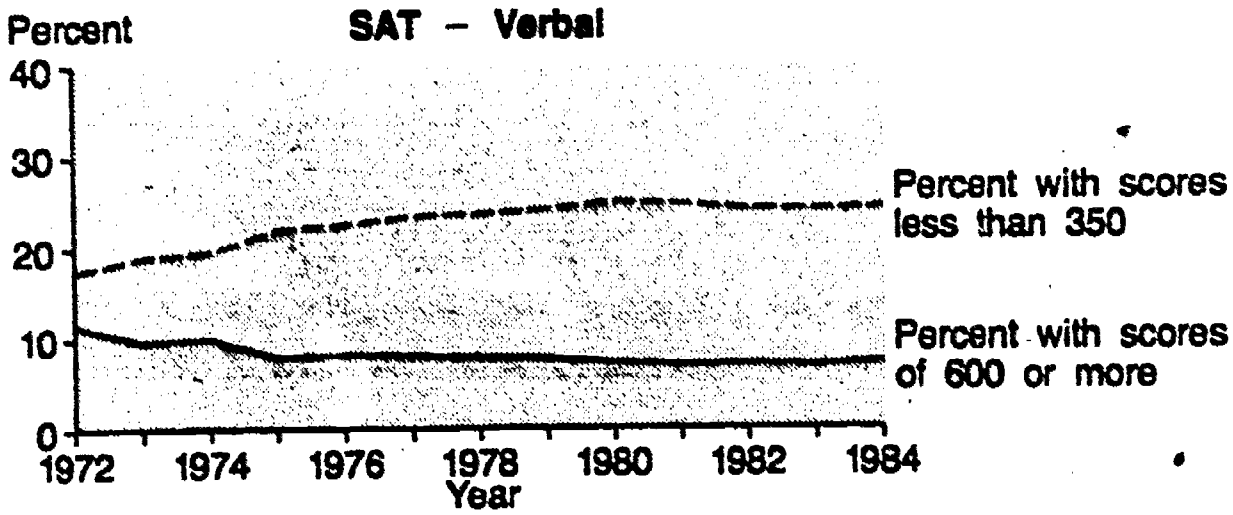
Year	Scholastic Aptitude Test (SAT)						American College Testing Program (ACT) Composite		
	Average Score		Percent With Scores Less than 350		Percent With Scores of 600 or More		Average Score	Percent With Scores of 15 or Less	Percent With Scores of 26 or More
	Verbal	Mathematical	Verbal	Mathematical	Verbal	Mathematical			
1972	453	484	17.3	13.0	11.4	17.9	19.1	28	14
1973	445	481	19.0	12.8	9.7	16.7	19.2	28	15
1974	444	480	19.6	13.5	10.0	17.2	18.9	30	14
1975	434	472	21.9	14.7	7.9	15.6	18.6	33	14
1976	431	472	22.5	16.4	8.2	16.3	18.3	35	13
1977	429	470	23.4	17.1	8.0	16.1	18.4	34	13
1978	429	468	23.6	16.9	7.9	15.8	18.5	34	13
1979	427	467	24.1	17.1	7.7	15.0	18.6	33	13
1980	424	466	25.0	17.2	7.2	15.1	18.5	33	13
1981	424	466	24.7	17.2	7.0	14.4	18.5	33	13
1982	426	467	24.2	16.6	7.1	15.3	18.4	34	13
1983	425	468	24.1	16.7	6.9	15.9	18.3	35	13
1984	426	471	24.3	16.1	7.3	16.7	(*)	(*)	(*)

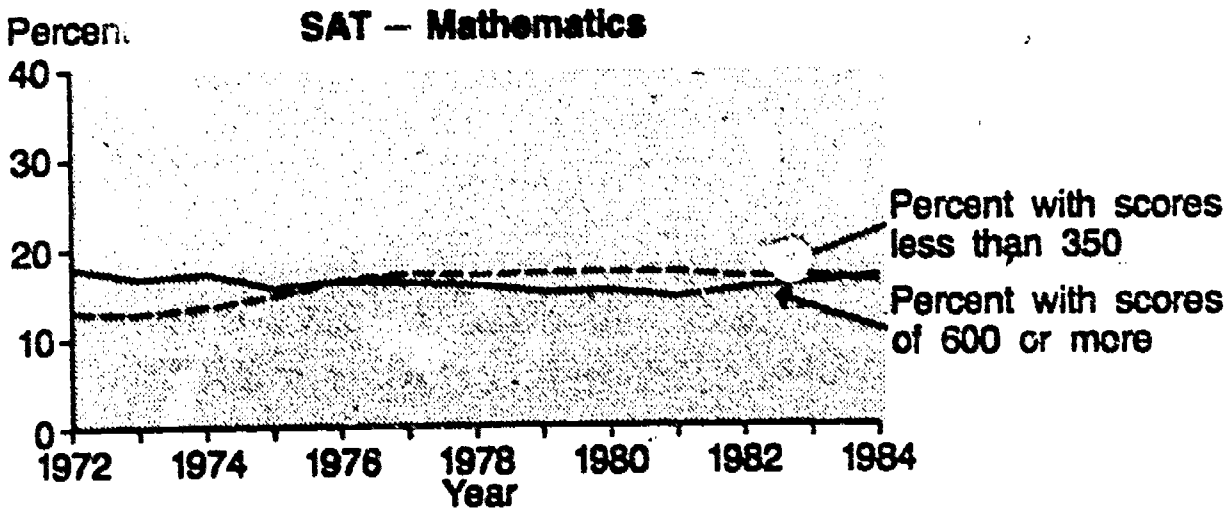
*Not available.

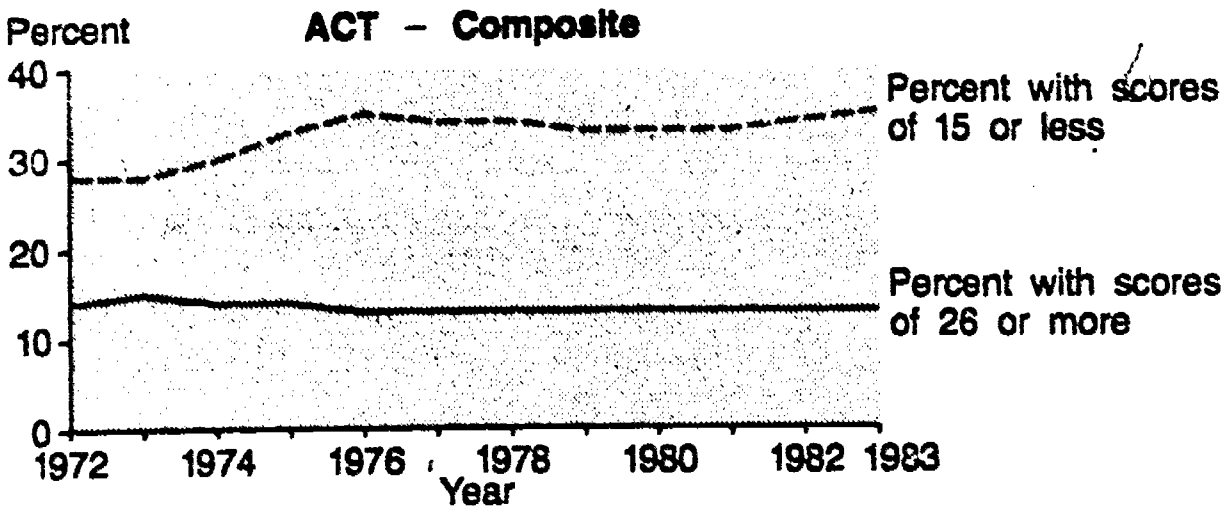
NOTE: The scale for the Scholastic Aptitude Test (SAT) ranges from 200 to 800. The scale for the American College Testing Program (ACT) ranges from 1 to 36.

SOURCE: College Entrance Examination Board, *National Report, College-Bound Seniors*, various years; and The American College Testing Program, *College Student Profiles: Norms for the ACT Assessment*, various years.

Trends in Percent of Students With High and Low Scholastic Aptitude Test (SAT) and American College Testing Program (ACT) Scores







The proportion of students with scores less than 350 on the SAT verbal and mathematics tests generally increased between 1972 and 1980 and then began to level off or decrease. Similarly, the proportion scoring above 600 generally decreased until the 1980's, with the mathematics proportion rising after 1981 and the verbal proportion rising in 1984.

Table 1.24

High School Seniors' Perception of School Discipline and Behavior Problems, by Selected Student and School Characteristics: United States, 1982

Characteristic	Percent of Students Indicating "My School Has A Problem With:"				Percent of Students Who Do Not Feel Safe At School
	Class Cutting	Poor Attendance	Student Fighting	Threats or Attacks on Teachers	
All students	65	54	29	5	7
Student characteristics					
Sex*					
Male	61	51	30	6	8
Female	68	57	29	4	6
Race/ethnicity					
White, non-Hispanic	64	53	27	4	5
Black, non-Hispanic	68	56	39	12	12
Hispanic	63	56	34	8	10
Asian or Pacific Islander	63	45	21	5	10
American Indian/Alaskan Native	59	51	25	4	9
Socioeconomic status group [1]					
Low	68	61	38	8	10
Low-middle	68	59	34	6	7
High-middle	69	57	30	5	6
High	66	49	22	3	5
Test performance group [2]					
Low	62	55	38	10	13
Low-middle	68	60	33	5	7
High-middle	67	55	26	3	5
High	63	46	19	2	3
High school program [3]					
Academic	64	49	24	3	4
General	72	63	35	6	7
Vocational	71	62	37	8	9
School characteristics					
Control					
Public	68	57	31	6	7
Catholic	27	18	13	2	4
Other private	39	25	9	1	4
Community type					
Urban	69	57	31	8	10
Suburban	66	53	27	4	6
Rural	60	54	31	5	7

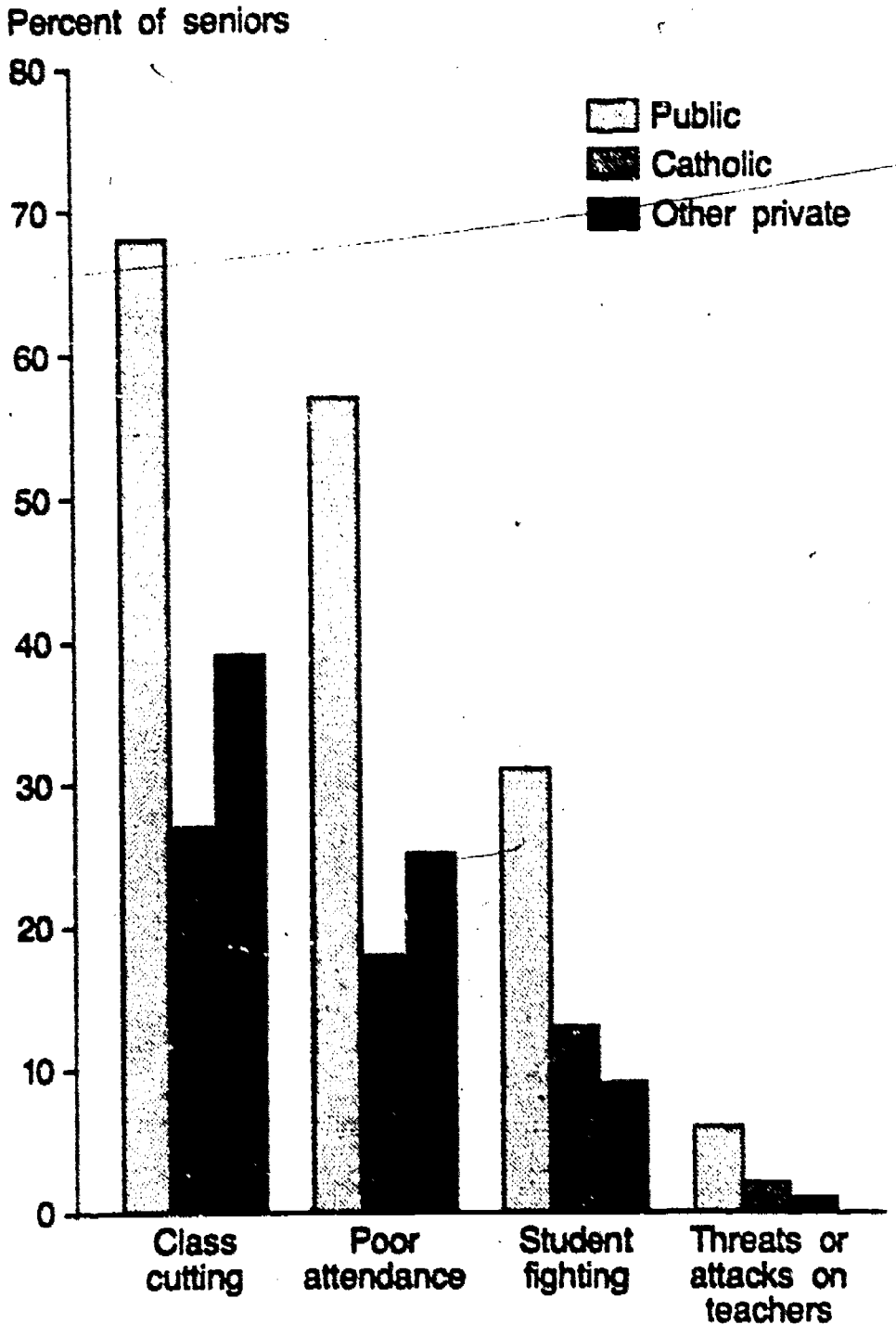
[1]Socioeconomic status was measured by a composite score on parental education, family income, father's occupation, and household characteristics

[2]Test performance was measured by a test battery administered as part of the High School and Beyond Study.

[3]High school program as reported by student.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (September 1984).

1982 High School Seniors' Perception of School Discipline and Behavior Problems, by Control of School



Students showed markedly different perceptions of the discipline and behavior problems at various types of high schools. Students in private schools generally cited far fewer incidences of class cutting, poor attendance, and violence than students in public schools.

Table 1.25

High School Seniors' Self-Reports of Discipline and Behavior Problems, by Selected Student and School Characteristics: United States, 1982

Characteristic	Percent of Students Who Reported They Had:					
	Cut Classes	Attended Class Without Homework Completed	Disciplinary Problems	Been Suspended for Academic Reasons	Been Suspended For Disciplinary Reasons	Been in Serious Trouble With The Law
All students	42	28	14	4	12	5
Student characteristics						
Sex						
Male	46	35	18	6	17	8
Female	38	21	10	2	8	2
Race/ethnicity						
White, non-Hispanic	42	28	12	3	12	5
Black, non-Hispanic	36	25	18	6	13	5
Hispanic	43	32	20	8	14	7
Asian or Pacific Islander	42	24	15	6	7	4
American Indian/Alaskan Native	52	31	19	5	12	12
Socioeconomic status group [1]						
Low	37	32	18	6	14	5
Low-middle	40	30	14	4	13	4
High-middle	44	29	13	4	12	5
High	44	26	12	3	11	4
Test performance group [2]						
Low	42	32	21	8	15	7
Low-middle	43	29	15	4	15	5
High-middle	44	27	12	2	12	4
High	37	23	9	1	7	3
High school program [3]						
Academic	37	22	9	2	8	2
General	47	36	16	5	15	5
Vocational	41	33	17	6	14	6
High school characteristics						
Control						
Public	43	28	14	4	12	5
Catholic	24	26	11	4	11	3
Other private	43	24	14	2	14	5
Community						
Urban	46	26	16	5	11	5
Suburban	43	29	13	4	13	5
Rural	37	28	14	4	12	5

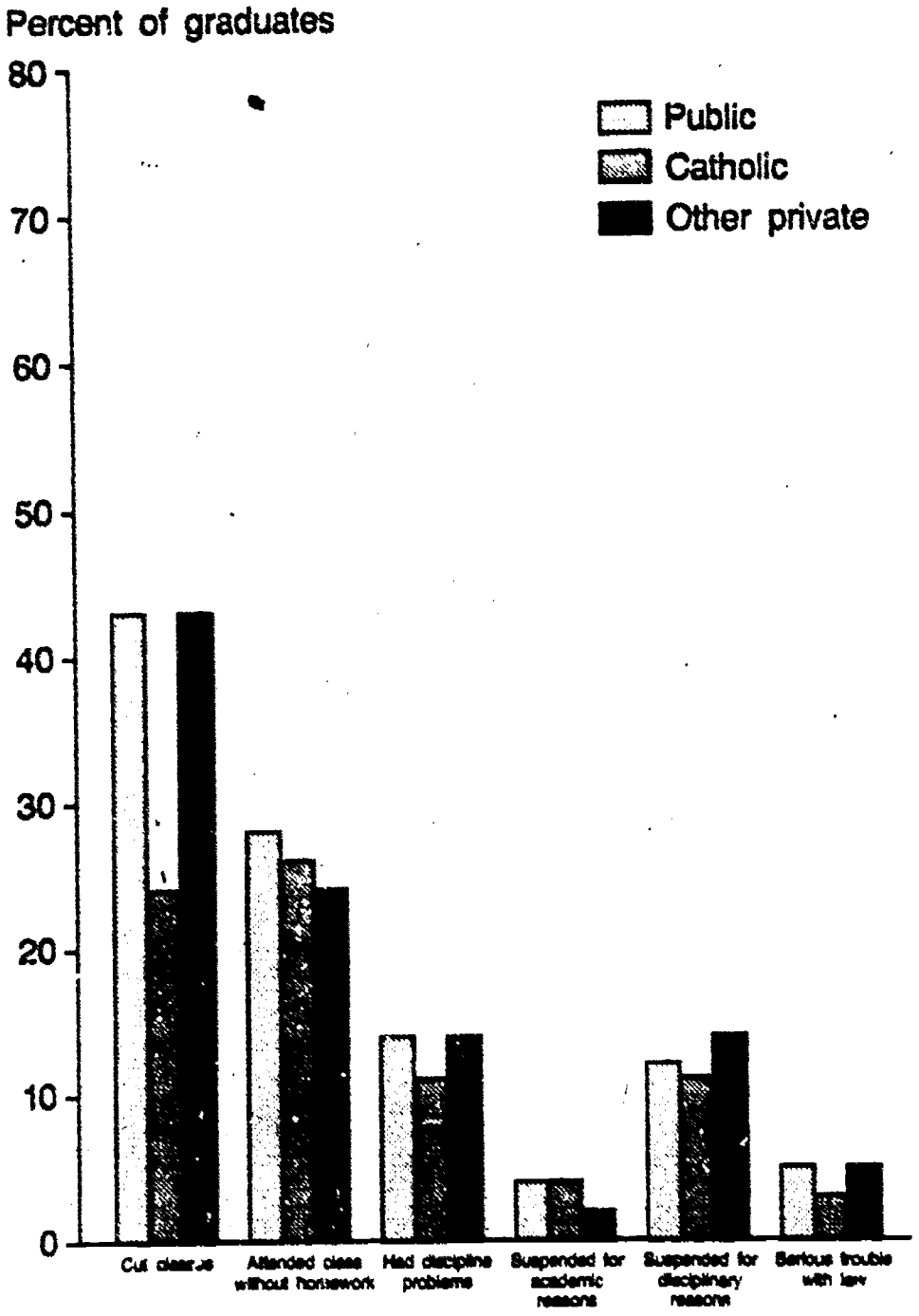
[1]Socioeconomic status was measured by a composite score on parental education, family income, father's occupation, and household characteristics.

[2]Test performance was measured by a test battery administered as part of the High School and Beyond survey.

[3]High school program as reported by student.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (October 1984).

Self-Reported Misbehavior and Discipline Problems of 1980 High School Graduates, by Control of School



In general, when seniors reported on their own discipline and behavior problems, fewer differences arose among the various school types than when seniors reported on problems in their schools as a whole.

Table 1.26

States Using Minimum-Competency Testing, by Government Level Setting Standards, Grade Levels Assessed, and Expected Uses of Standards: United States, 1984

States Using Minimum-Competency Testing	Government Level Setting Standards	Grade Levels Assessed	Expected Uses					First Graduating Class Assessed
			Grade Promotion	High School Graduation	Early Exit	Remediation	Other	
Alabama	State	3, 6, 9, 11		X		X	X	1985
Arizona[1]	State/local	8, 12	X	X				1976
Arkansas[2]	State	3, 4, 6, 8	X			X	X	
California	State/local	4-11, 16 yr. old +	X	X	X	X		1979
Colorado	Local	9, 12		Local option				
Connecticut	State	4, 6, 8				X	X	
Delaware	State	1-8, 11		X			X	1981
Florida	State/local	3, 5, 8, 11	X	X	X			1983
Georgia	State	1-4, 6, 8, 10 +		X				1985
Hawaii[3]	State	3, 9-12		X		X	X	1983
Idaho	State	8 +				X	X	1982
Illinois	Local	Local option					Local option	
Indiana	Local	3, 6, 8, 10				X	X	
Kansas[4]	State	2, 4, 6, 8, 10					Local option	
Louisiana[5]	State	2, 3, 4, 5, 11	X	X		X	X	1989
Maryland	State	3, 5, 7, 8, 9		X		X	X	1982
Massachusetts	Local	Local option					X	
Michigan	State	4, 7, 10				X	Local option	
Missouri	State	8-12					X	
Mississippi	State	3, 5, 8, 11		X			X	1987
Nebraska	Local	5 +					X	
Nevada	State	3, 6, 9, 11		X		X		1982
New Hampshire[6]	State	4, 8, 12	Local option	Local option			Local option	
New Jersey	State	9-12		X		X	X	1985
New Mexico	State	Local option, 10-12					X	1981
New York	State	3, 5, 6, 8-12		X		X		1979
North Carolina	State	(1-3, 6, 9), 11		X			X	1980
Ohio	Local	Local option					Local option	
Oklahoma	None	3, 6, 9, 12					X	
Oregon	State/local	Local option		X				1978
Pennsylvania	State	3, 5, 8				X		
South Carolina[7]	State	K-3, 6, 8, 11	X	X		X	X	1990
Tennessee[8]	State/local	4-6, 8, 9-12		X		X	X	1982
Texas[9]	State	1, 3, 5, 7, 9		X		X		1986
Utah	State/local	Local option, 11, 12		X		X		1980
Vermont	State	1-12		X			X	1981
Virginia	State/local	K-6, 10-12		X			X	1981
Wisconsin	Local	1-4, 5-8, 9-10		Local option		X		
Wyoming	Local	Local option				X		

[1]Legislation in 1983 calls for Arizona to develop a minimum course of study and criteria for high school graduation standards and for grade-to-grade promotion criteria. Local school districts are to implement standards.

[2]In 1987, a minimum competency test will be administered for 8th grade promotion.

[3]For high school graduation requirements, students have 3 options: paper-pencil test; performance test; or course. First time taken (grade 9) must be paper-pencil test.

[4]The Kansas Minimum Competency Assessment (MCA) was reestablished by 1984 legislative action (S.B. 473). The MCA will be in effect 1984-85 through 1988-89.

[5]Louisiana will add 8th grade beginning with 1986-87 school year and will implement a graduating test for 11th graders in 1987-88.

[6]New Hampshire requires that students be tested in elementary, middle and high school. Some local districts test at grades other than 4, 8 and 12.

[7]The South Carolina Education Improvement Act of 1984 specifies that the 11th grade test being used to gather baseline data will be replaced in 1985-86 school year with an exit exam in the 10th grade. All students graduating in 1990 and after must pass the exam.

[8]Local districts in Tennessee must test students in grades 4 or 5 or 6, and 8 for remediation purposes.

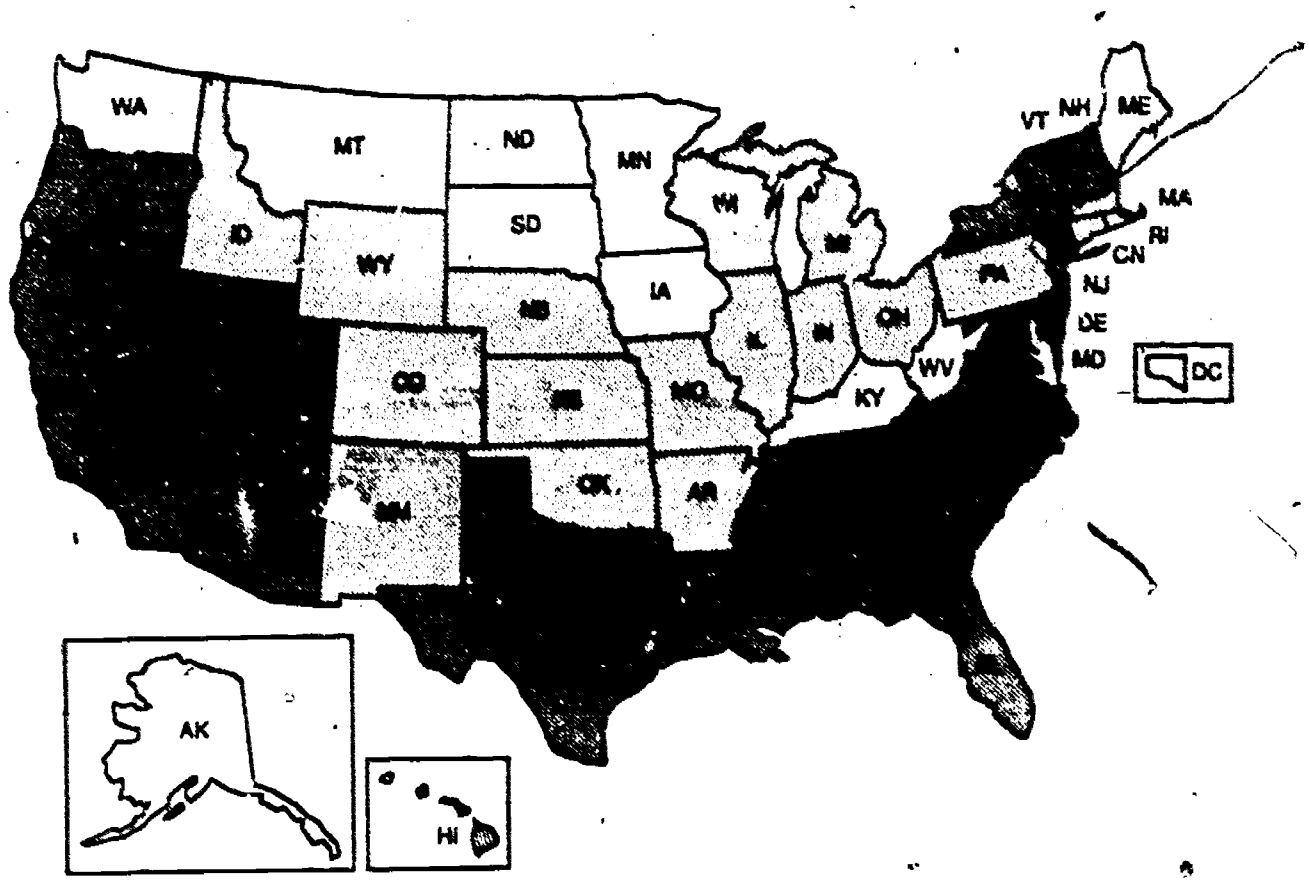
[9]Requirements described above become effective in 1985-86 school year.

NOTE: Some States recorded dates for first high school graduating class to be assessed, but did not record expected use for high school graduation. Tabulation excludes District of Columbia.

SOURCE: Education Commission on the States, Department of Research and Information, *Clearinghouse Notes*, "State Activity—Minimum Competency Testing," December 1984, and U.S. Department of Education, National Center for Education Statistics, unpublished tabulations (January 1985).

Chart 1.26

States Using Minimum-Competency Testing



State-mandated testing used for high school graduation

State and local testing used for all other purposes

In 1984, 23 States used or expected to use minimum competency testing for high school graduation, and another 16 States used it for other purposes.

Table 1.27

Number of Course Units Required for High School Graduation in 1980 and 1984, Year Effective, and Increase in Number of Units Required, by State: 1984

State	Number of Units Required, 1980	Number of Units Required, 1984	Year Effective[1]	Increase in Number of Units Required, 1980 to 1984
Alabama	20	20	1984	0
Alaska	19	21	1985	2
Arizona	16	20	1987	4
Arkansas	16	20	1988	4
California	([2])	13	1987	—
Colorado	Local boards determine			—
Connecticut	([2])	20	1988	—
Delaware	18	19	1987	1
District of Columbia	17½	20½ or 23	1985	3 or 5½
Florida	([2])	24	1987	—
Georgia	20	21	1988	1
Hawaii	18	20	1983	2
Idaho	18	20	1988	2
Illinois	[2]16	16	1988	0
Indiana	16	19½	1989	3½
Iowa[3]	Local boards determine all but [illegible] units			—
Kansas	17	20	1988	3
Kentucky	18	20	1987	2
Louisiana	20	23	1990	3
Maine	16	16	1984	0
Maryland	20	20	1984	0
Massachusetts[4]	Local boards determine all but 5 units			—
Michigan[5]	Local boards determine all but ½ unit			—
Minnesota	15	20	1982	5
Mississippi	16	16	1984	0
Missouri	20	22 or 24	1988	2 or 4
Montana	16	20	1986	4
Nebraska[6]	160 semester hours	200 credit hours	1991	—
Nevada	19	20	1986	1
New Hampshire	16	19¾	1989	3¾
New Jersey	18½	18½	1984	0
New Mexico	20	21	1987	1
New York	16 or 18	16 or 18	1984	0
North Carolina	16	20	1987	4
North Dakota	17	17	1984	0
Ohio	17	18	1988	1
Oklahoma	18	20	1987	2
Oregon	21	22	1988	1
Pennsylvania	13	21	1989	8
Rhode Island	16	16 or 18	1988	0 or 2
South Carolina	18	20	1987	2
South Dakota	16	20	1989	4
Tennessee	18	20	1987	2
Texas	18	21 or 22	1988	3 or 4
Utah	15	24	1988	9
Vermont	16	15½	1989	-½
Virginia	18	20 or 22	1988	2 or 4
Washington	15	18	1989	3
West Virginia	17	20	1985	3
Wisconsin	([2])	[7]13½	1989	—
Wyoming	18	18	1984	0

— Not applicable

[1]Effective for the graduating class of this year.

[2]Local boards determine requirements.

[3]Legislative requirements have been in effect for many years for 11½ years of social studies and 1 year of physical education/health. Local boards determine the remaining requirements.

[4]Massachusetts has had legislative requirements in effect for many years. One year of American history is required along with 4 years of physical education/health. The local boards determine additional requirements.

[5]Michigan's legislative requirements have been in effect for many years for a half a year of social studies. The local boards determine the remaining requirements. In January 1984, the State board published graduation requirement guidelines which local boards are urged to incorporate.

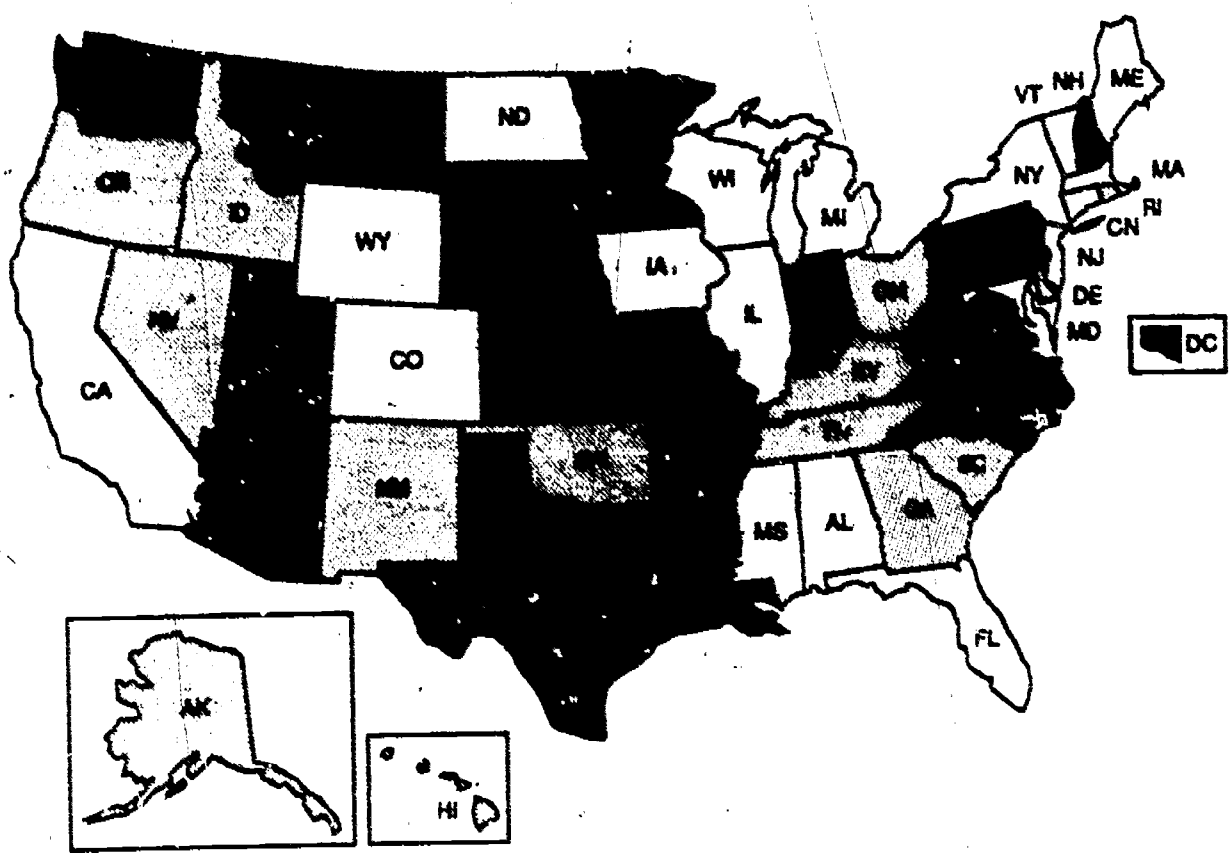
[6]In 1980, 160 semester hours were required for grades 9-12 with specific subject area requirements determined by local boards. Legislation enacted in April 1984 required 200 credit hours for graduation with at least 80 percent in core curriculum courses. The State's board is conducting hearings to define core courses.

[7]Electives are the option of local boards. The State recommends that local boards require a total of 22 units.

NOTE: If there are two numbers for units required, there are two different graduating programs available.

SOURCE: Education Commission of the States, Department of Research and Information, *Clearinghouse Notes*, "Minimum High School Graduation Course Requirements in the States," August 1984.

Change in Number of Course Units Required for High School Graduation, 1980 to 1984



Nearly two-thirds of the States increased high school graduation requirements between 1980 and 1984.

Table 1.28

Past and Projected Trends in Number of Public and Private High School Graduates and as Percent of 18-Year-Old Population: United States, 1970-71 to 1993-94

(Number in Thousands)

Year	Total High School Graduates	As Percent of 18-Year-Old Population	Sex		Control	
			Male	Female	Public	Private (Estimated)
1970-71	**2,937**	75.7	1,454	1,483	2,637	300
1971-72	**3,001**	75.5	1,487	1,514	2,699	302
1972-73	**3,036**	74.9	1,500	1,536	2,730	306
1973-74	**3,074**	74.9	1,512	1,562	2,763	310
1974-75	**3,133**	73.6	1,542	1,591	2,823	310
1975-76	**3,148**	73.8	1,569	1,579	2,837	311
1976-77	**3,154**	74.1	1,547	1,607	2,840	315
1977-78	**3,127**	73.6	1,531	1,596	2,825	302
1978-79	**3,101**	71.8	1,516	1,585	2,801	300
1979-80	**3,043**	71.5	1,491	1,552	2,748	295
1980-81	**3,020**	71.2	1,483	1,537	2,725	295
1981-82	**3,001**	71.6	1,474	1,527	2,711	290
1982-83[1]	**2,890**	71.8	1,438	1,452	2,600	290
			Projected[2]			
1983-84	**2,741**	72.6	1,366	1,375	2,469	272
1984-85	**2,656**	72.6	1,321	1,335	2,393	263
1985-86	**2,595**	72.6	1,292	1,303	2,338	257
1986-87	**2,663**	72.6	1,326	1,337	2,399	264
1987-88	**2,739**	72.6	1,366	1,373	2,467	272
1988-89	**2,742**	72.6	1,368	1,374	2,450	292
1989-90	**2,491**	72.6	1,242	1,249	2,244	247
1990-91	**2,408**	72.6	1,200	1,208	2,169	239
1991-92	**2,323**	72.6	1,159	1,164	2,093	230
1992-93	**2,378**	72.6	1,187	1,191	2,142	236
1993-94	**2,339**	72.6	1,166	1,173	2,107	232

[1]Preliminary

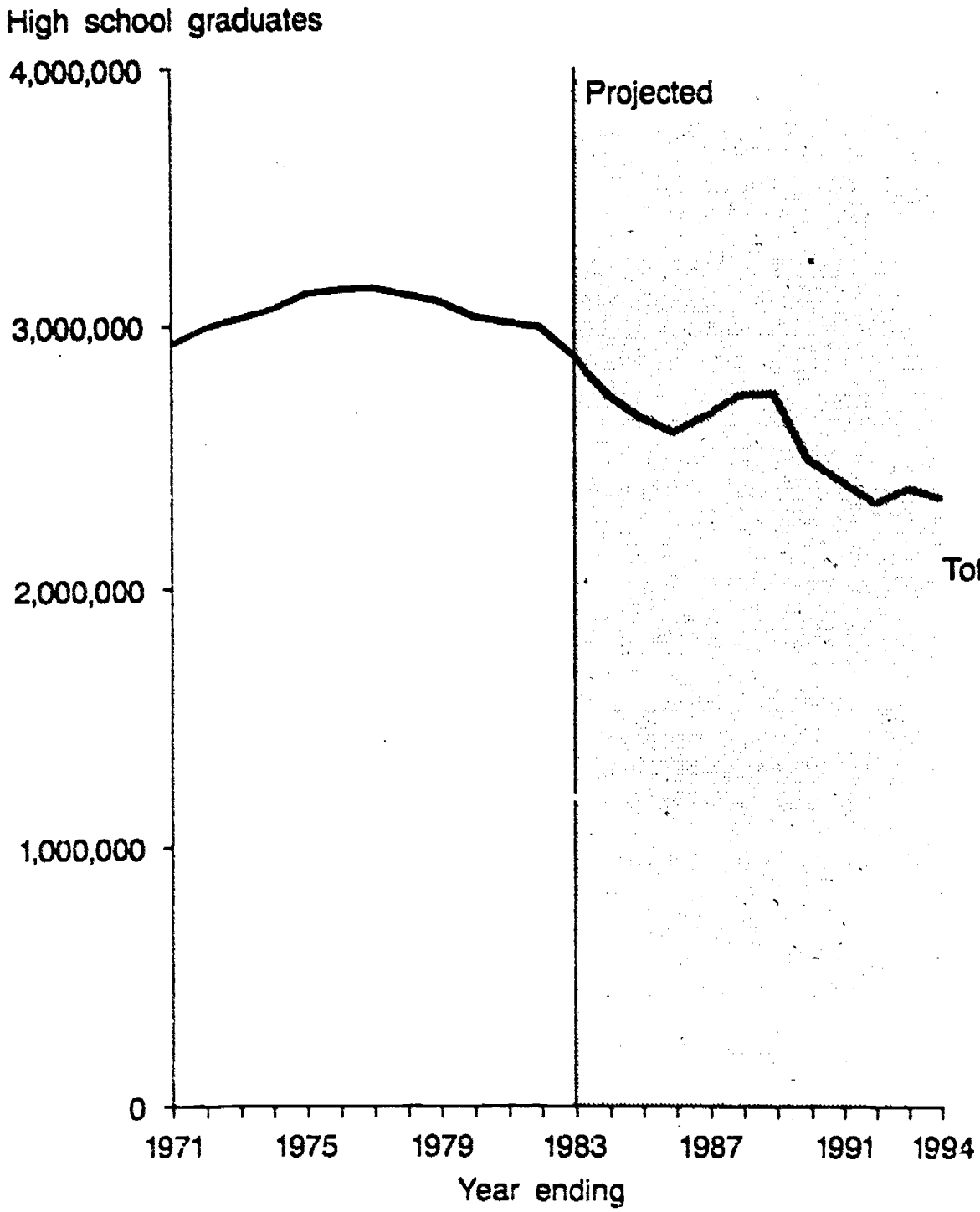
[2]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

NOTE. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools*, various years; *Statistics of Nonpublic Elementary and Secondary Schools*, various years; *Public High School Graduates, 1980-81*, bulletin, 1983; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984)

Chart 1.28

Trends in High School Graduates



With little change projected in the high school graduation rate, schools are expected to graduate fewer students as the size of the high school age group decreases.

Table 1.29

Population 18 and 19 Years Old and 20 to 24 Years Old, and Percent Who Have Completed 4 Years of High School, by Race/Ethnicity: United States, March 1974 to March 1982

(Numbers in Thousands)

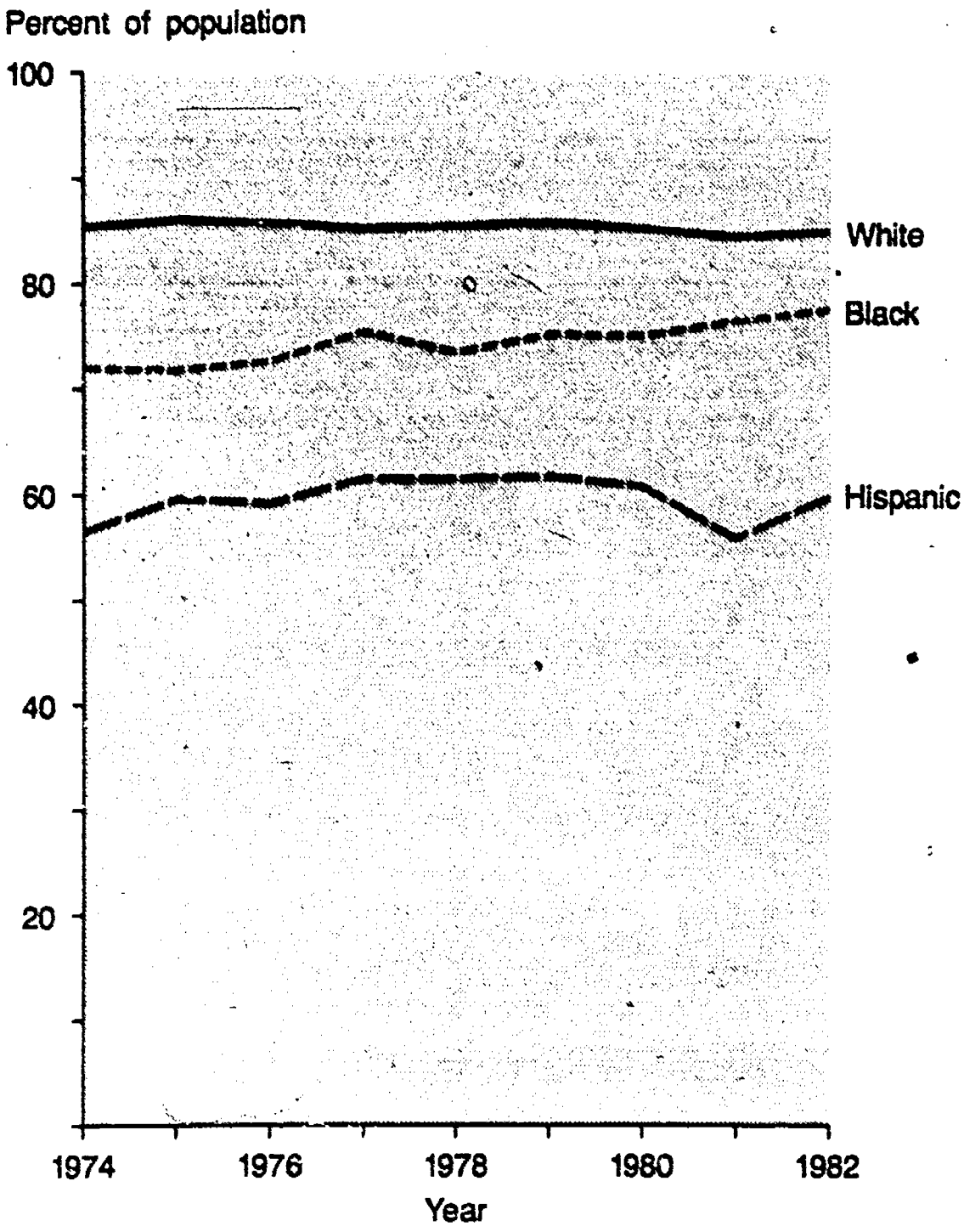
Age and Race/Ethnicity	1974	1975	1976	1977	1978	1979	1980	1981	1982
Total									
Total, 18 and 19 years old	7,772	7,956	8,125	8,174	8,150	8,201	8,428	8,229	8,104
Number completing high school	4,990	4,992	5,181	5,072	5,019	5,112	5,116	5,077	5,005
Percent completing high school	64.2	62.7	63.8	62.1	61.6	62.3	60.7	61.7	61.8
Total, 20 to 24 years old	17,841	18,360	18,811	19,230	19,561	19,849	20,690	20,985	21,078
Number completing high school	14,932	15,468	15,825	16,122	16,121	16,754	17,333	17,475	17,667
Percent completing high school	83.7	84.2	84.1	83.8	82.4	84.4	83.8	83.3	83.8
White									
Total, 18 and 19 years old	6,676	6,826	6,940	6,977	6,934	6,976	7,097	6,889	6,756
Number completing high school	4,433	4,446	4,588	4,517	4,444	4,466	4,481	4,395	4,288
Percent completing high school	66.4	65.1	66.1	64.7	64.1	64.0	63.1	63.8	63.5
Total, 20 to 24 years old	15,439	15,883	16,217	16,544	16,790	17,008	17,620	17,723	17,817
Number completing high school	13,169	13,660	13,896	14,082	14,318	14,572	14,988	14,946	15,098
Percent completing high school	**85.3**	**85.0**	**85.7**	**85.1**	**85.3**	**85.7**	**85.1**	**84.3**	**84.7**
Black									
Total, 18 and 19 years old	994	1,003	1,064	1,057	1,059	1,073	1,137	1,129	1,137
Number completing high school	491	476	515	463	482	497	525	560	589
Percent completing high school	49.4	47.5	48.4	43.8	45.5	46.3	46.2	49.6	51.8
Total, 20 to 24 years old	2,094	2,162	2,229	2,322	2,395	2,427	2,574	2,653	2,725
Number completing high school	1,505	1,550	1,616	1,749	1,758	1,820	1,929	2,025	2,106
Percent completing high school	**71.9**	**71.7**	**72.5**	**75.3**	**73.4**	**75.0**	**74.9**	**76.3**	**77.3**
Hispanic*									
Total, 18 and 19 years old	436	484	445	497	494	515	605	581	603
Number completing high school	182	188	196	206	212	242	280	236	243
Percent completing school	41.7	38.8	44.0	41.4	42.9	47.0	46.3	40.6	40.3
Total, 20 to 24 years old	934	992	992	1,085	1,185	1,184	1,349	1,434	1,401
Number completing high school	527	590	586	666	728	729	819	799	835
Percent completing high school	**56.4**	**59.5**	**59.1**	**61.4**	**61.4**	**61.6**	**60.7**	**55.7**	**59.6**

*May be of any race

NOTE: Tabulation includes persons still in school.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, *Educational Attainment in the United States*, Series P-20, various years, and unpublished data from the March 1982 Current Population Survey

Percent of 20- to 24-Year-Old Population Who Have Completed 4 Years of High School, by Race/Ethnicity



Although the percent of white 20- to 24-year-olds who completed high school stayed relatively constant between 1974 and 1982, the proportion of blacks in that age group who graduated from high school increased. However, the proportion of black graduates remained somewhat below that of whites. More than one-third of Hispanics 20 to 24 years old did not graduate from high school.

Chapter 2
Higher Education

This chapter provides data on trends and development in higher education from the 1970's to the present. Where projections are available, it continues these trend lines into the 1990's. It concentrates on enrollment in colleges, universities, and professional schools, on resources available to these institutions, and on the bachelor's and higher degrees they confer.

The chapter begins with a view of past and projected trends in the college-age[1] and adult populations. It then looks at the latest available information on participants in postsecondary academic, vocational, and continuing education. The demographic base and the overview of postsecondary education provide a context from which higher education enrollment can be explored in more detail. Recent trends are observed, such as the greater participation of women, part-time students, and older students on college campuses. The chapter then moves to a consideration of some of the resources available to higher education, including trends in the number of instructional faculty members and their salaries, college costs, and the income and expenditures of colleges and universities. The concluding section provides a detailed examination of the number of earned degrees conferred and some of the fields of study in which students are concentrating today.

Enrollment

Trends in the College-Age and Adult Populations

Analyzing demographic trends is an important part of planning in American education, where knowledge of the size and age distribution of the population enables educators to prepare for the clientele to be served. From the mid-1960's to the mid-1970's, the expansion of higher education was due to a rapid growth in the size of the traditional college-age population. After 1975, college enrollment fluctuated in a narrow range for a few years and then began to rise again as a result of the increased participation in higher education of older adults, particularly women. In 1983, enrollment in higher education reached an all-time high of nearly 12.5 million. However, higher education can no longer look forward to the sustained enrollment growth that has characterized recent decades. Over the next decade, shifts in the size and structure of the college-age and adult populations have a substantial impact on higher education enrollment.

Between 1970 and 1983, the U.S. population 18 years old and over increased rapidly, from 135 million to 172 million, an increase of 27 percent (entry 2.1). This group is expected to continue to grow in the years just ahead, reaching 190 million by 1993, an increase of 10 percent from 1983. By age group, population trends are expected to contrast sharply as numbers begin to decrease in the younger cohorts and continue to increase in the older ones. From 1970 to 1983, the number of 18- to 24-year-olds rose significantly, from 24.7 million to 30.1 million, an increase of 22 percent. By 1993, this population is projected to decrease to 24.6 million, a drop of 18 percent from 1983. This decline in the traditional college-age population is expected to have a profound effect on enrollment levels in higher education. The Bureau of the Census reported in 1983 that 61 percent of all college students were 18 to 24 years old and that nearly 80 percent of the undergraduates were under 25 years of age.

In contrast, continued increases in population size are expected in the older age groups. Between 1970 and 1983, the number of 25- to 34-year-olds increased by 59 percent. This age group will continue to swell for another 6 years—a result of the maturing "baby boom" generation. It, too, will recede to 41.8 million by 1993, resulting in a modest increase of only 4 percent from 1983. The baby boom generation will then have moved into the 35- to 44-year-old category, increasing this category by 37 percent between 1983 and 1993.[2]

Participation in Postsecondary Education

According to the Current Population Survey conducted by the Bureau of the Census, 18.2 million students participated in postsecondary education programs in October 1982 (entry 2.2). The survey data are based on interviews with a nationwide sample of 58,000 households. The survey included the civilian noninstitutional population 16 years of age and over who are enrolled in any type of educational activity beyond the high school level, or who were taking a course for personal development or enjoyment. Included among the participants were 9.2 million students in academic programs leading toward an undergraduate, graduate, or professional

[1]Traditionally, 18- to 24-year-olds have been thought of as constituting the college-age population. References in this chapter will continue to designate this group as the college-age population, even though they accounted for only 61 percent of total college enrollment in fall 1983.

[2]Trend data for this age group are not shown in this report. See U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Population Estimates and Projections." Series P-25, No. 917, July 1982, and No. 949, May 1984.

degree; 3.8 million students in vocational programs leading toward an associate degree, vocational certificate, occupational license, or other vocational diploma or award; and 5.2 million continuing education students taking courses for personal or job development, or for social or recreational purposes, but not working toward a particular degree or other credential.

Participants in academic education were about equally divided between men and women. Whites accounted for about 76 percent of the participants, about the same proportion that they represent in the general adult population. More than 90 percent of the academic students were under 35 years old, and fully two-thirds of them were under 25. Thus, the major concentration of academic participants was in the younger age groups. It should be noted that not all college students were classified as academic participants. For example, a student in a terminal/occupational program was included among the participants in vocational education, and a student taking courses for personal satisfaction rather than toward an academic degree was counted among continuing education participants.

Women and blacks were more largely represented in postsecondary vocational education programs leading to degrees, licenses or certificates than in academic programs. Women accounted for about 55 percent and blacks for 12 percent of the total. As in academic programs, young adults predominated in postsecondary vocational education. Persons under 35 years old made up 77 percent of the participants in vocational education.

The students in continuing education tended to be white, female and somewhat older than the participants in other forms of postsecondary education. Sixty-five percent of these students were women, and 91 percent were white. The major concentrations by age were in the 25-to-34 age group (32 percent of the total) and the 35-to-44 age group (22 percent).

The labor force status of participants in postsecondary education differed by the type of program in which they were enrolled (entry 2.3). The participants in academic programs were less likely to be in the labor force than those in the other two groups. About 58 percent of the academic group were employed or seeking employment compared with about three-fourths of each of the other groups. They were also less likely to be employed full time (24 percent compared with 44 percent of the vocational students and 57 percent of the continuing education students). These relatively low rates of full-time employment for academic participants reflect the fact that many of them were in the younger age groups and were attending college on a full-time basis. On the other hand, their part-time employment was relatively high. Twenty-nine percent of them were employed part-time compared with 22 percent of the vocational and 14 percent of the continuing education students. Unemployment was highest among the participants in vocational education (8.5 percent compared with 4.5 percent for each of the other two categories). This may have been one of the factors that encouraged them to seek additional education.

Trends in Enrollment

The past 13 years was a period of significant changes in higher education, according to data collected from universities and colleges by the National Center for Education Statistics. In the first half of the 1970's, enrollment rose rapidly from 8,581,000 in 1970 to 11,185,000 in 1975, an increase of 30 percent (entry 2.4). After some fluctuations, this number increased to 12,097,000 in 1980, an increase of 8 percent over 1975. Between 1980 and 1983, college enrollment again rose slowly to reach 12,465,000. For the remainder of the 1980's and early 1900's, higher education enrollment is projected to decrease somewhat as declines in the traditional college-age population reduce the pool of potential students. From the record level in 1983, enrollment is projected to fall to about 11,676,000 in 1993, a decrease of 6 percent.

This total college enrollment decline will be less than the 18 percent expected reduction in the traditional college-age (18- to 24-year-old) population because moderate increases of older students are expected to compensate somewhat for the loss of younger students. For a brief period in the late 1980's, there may even be small gains, as the growth in the number of older students more than offsets the loss of those under 25 years of age. It is not expected that a larger proportion of 18- to 24-year-olds will attend college since the Bureau of the Census has reported participation rates by this age group did not change significantly between 1975 and 1983. In addition, the expected increase in part-time students will offset to some extent the decrease in full-time enrollment.

Changing Character of Enrollment

During the past 13 years, profound developments have occurred in higher education enrollment, resulting in changing patterns in the characteristics of both students and institutions.

Between 1970 and 1983, for example, the enrollment of males increased by 19 percent from 5,044,000 to 6,024,000. This number is expected to decline to about 5,641,000 by 1993, a decrease of 6 percent from 1983. The increase in the enrollment of women was even more impressive between 1970 and 1983. Their number rose from 3,537,000 to 6,441,000, an increase of 82 percent. Since 1979, women have comprised the majority of college students. By 1993, the number of women college students is expected to recede to about 6,035,000, a decrease during the decade of 6 percent.

From 1970 to 1983, full-time enrollment overall increased by 25 percent, but between 1983 and 1993 it is projected to decline by 17 percent. Part-time enrollment increased significantly, from 2,766,000 in 1970 to 5,204,000 in 1983, an increase of 88 percent. The increased attendance of women made a major contribution to the rise in part-time enrollment. By 1993, part-time enrollment is expected to increase moderately to about 5,639,000, a gain of 8 percent from 1983.

Increases in part-time enrollment have been accompanied by changes in the age composition of students. While enrollment of students under 25 years old increased by 20 percent from 1970 to 1983, during the following decade it is expected to fall by 20 percent. In contrast, the number of older students has more than doubled in those 13 years, rising from an estimated 2,386,000 in 1970 to 5,062,000 in 1983. The enrollment of students 25 years old and over is expected to continue to increase to about 5,720,000 in 1993, a 13-percent increase during the decade.

When the distribution of higher education enrollment is examined by age and sex, it is obvious that significant changes in the number of younger and older students occurred between 1970 and 1983 (entry 2.5). While older female students registered the most substantial increases, females in the traditional college-age group also showed larger increases than did males, a 41 percent rise contrasted with a 7 percent increase. Nonetheless, enrollment of both sexes in the younger age group is expected to fall off at about the same rate by 1993.

The enrollment of men 25 to 34 years old increased to 1,684,000 in 1983, a rise of 54 percent from 1970, and is expected to increase slightly to 1,732,000 in 1993. The enrollment of women in this age group more than tripled between 1970 and 1983, to 1,662,000. By 1993, this number is expected to remain stable at about 1,661,000. For persons 35 years old and over and enrolled in college, the number of men rose by 48 percent, from an estimated 415,000 in 1970 to 613,000 in 1983. This number is expected to climb to 855,000 by 1993, a rise of 39 percent. The number of women 35 years old and over who were enrolled in college more than doubled, from an estimated 409,000 in 1970 to 1,103,000 in 1983, and is expected to rise to about 1,474,000 in 1993, a 34 percent increase.

Changes in institutional characteristics were also evident between 1970 and 1983 (entry 2.6). The increase in enrollment between 1970 and 1983 largely reflected the expansion of 2-year institutions. Often offering open admissions, low tuition, and flexible scheduling, these institutions generally serve the needs of part-time students who combine education and work. Enrollment in these institutions rose from 2,223,000 in 1970 to 4,726,000 in 1983, an increase of 113 percent. This number is expected to remain at about 4.7 million throughout the projected period. Enrollment in 4-year institutions increased by 22 percent from 6,358,000 in 1970 to 7,739,000 in 1983, but is expected to drop 10 percent to about 6,968,000 by 1993.

Enrollment in public institutions grew from 6,428,000 in 1970 to 9,683,000 in 1983, an increase of 51 percent. This increase primarily reflects the rapid rise of enrollment in public 2-year institutions. By 1993, this number is expected to recede somewhat to 9,185,000. By contrast, private enrollment grew more moderately, increasing by 29 percent between 1970 and 1983. It is expected to show a 10 percent decline by 1993.

Enrollment by level also changed significantly between 1970 and 1983. Undergraduate enrollment grew rapidly, from 7,736,000 in 1970 to 10,864,000 in 1983, an increase of 47 percent. By 1993, this number is expected to decline to about 9,968,000, a reduction of 8 percent from 1983. Graduate enrollment also rose between 1970 and 1983, from 1,031,000 to 1,339,000, an increase of 30 percent. By 1993, this number is expected to increase slightly to about 1,418,000, a gain of 6 percent from 1983. From 1970 to 1983, first-professional enrollment grew from 175,000 to 279,000, an increase of 59 percent. Enrollment is expected to rise to 290,000 by 1993, an increase of 4 percent over the decade.

Trends in Full-Time-Equivalent (FTE) Enrollment

When expressed in full-time equivalents, the enrollment increases over the past decade appear less pronounced, while the declines anticipated through 1993 are more substantial. Total FTE enrollment in institutions of higher education rose from 6,737,000 in 1970 to 9,166,000 in 1983, an increase of 36 percent (entry 2.7). By 1993, this number is projected to decline to about 8,043,000, a drop of 12 percent in the decade. This compares with a decrease of only 6 percent for total enrollment (full-time plus part-time). FTE enrollment in private institutions is expected to decline somewhat more than in public institutions (14 percent versus 12 percent). The fall in FTE enrollment is projected to be somewhat larger in 4-year institutions than in 2-year institutions (13 percent versus 10 percent). When expressed in full-time-equivalents, undergraduate enrollment is expected to decrease by 14 percent, while graduate and first-professional enrollments are projected to increase 4.5 percent and 4 percent, respectively.

Recent Changes in Enrollment, by Type of Institution

The enrollment trends in some types of institutions between fall 1982 and fall 1983 represented a change from patterns that had existed between fall 1978 and fall 1982 (entry 2.8). While the total enrollment continued its upward trend with a small increase, various types of institutions registered more actual enrollment declines than in any recent year since 1978. Specifically, enrollments fell for general baccalaureate institutions and for new institutions (i.e., institutions recently admitted to the National Center for Education Statistics universe of colleges or universities) in both the public and private sectors.

The main changes from past trends occurred in the public sector. Total enrollment in public institutions declined from 1982 to 1983, along with enrollment in four of the six institutional types: comprehensive, general baccalaureate, 2-year, and new. This is the first time since 1978 that a decrease occurred in any of the institutional types. Only the doctoral and specialized institutions in the public sector continued their upward enrollment trends. Although total enrollment in private institutions continued its upward trend from 1982 to 1983, half of the institutional types had declining enrollments—doctoral and general baccalaureate, which continued their slight downward trends from 1980, plus a large decrease for new institutions. Some of these changes in enrollment by type and control of institution may have resulted from the addition of new institutions or the reclassification of institutions from one category to another.

Males continued their gradual decrease as a percentage of total higher-education enrollment and in all types of institutions except for new institutions and private 2-year colleges. In public institutions of higher education, males comprised 48 percent of the total enrollment, whereas in private institutions they still comprised the majority. Males made up over 50 percent of the students in doctoral and specialized institutions, both public and private, and less than 50 percent of the enrollment in general baccalaureate and 2-year institutions.

In 1983, the downward trend of full-time students as a percentage the total enrollment was reversed by a slight increase. This was due to a small move upward for public institutions. In private institutions the trend continued downward, although the percentage of students attending full time in private institutions is much higher than in public institutions.

Minority Enrollment Trends

The racial/ethnic minority share of enrollment in higher education remained relatively stable between 1976 and 1982 (entry 2.9). Minority enrollment represented 13 percent of total enrollment in 4-year institutions in 1976 and 14 percent in 1982. In 2-year institutions, minorities accounted for 20 percent of the students in 1976 and 21 percent in 1982. Each of the major racial/ethnic groups constituted a higher proportion of the enrollment in 2-year colleges than in 4-year institutions in 1982. In contrast, nonresident aliens comprised 4 percent of the total enrollment in 4-year institutions and only 1 percent in 2-year colleges.

A quarter of a century ago, the majority of black students attended traditionally black institutions located primarily in the Southern and border States. Today there are still more than 100 of these institutions, and they continue to provide higher education for a substantial number of students. A preponderance of black students, however, now attend other institutions. Continuing a long-range trend, the proportion of black students attending traditionally black colleges dropped from 18 percent in 1976 to 16 percent in 1982 (entry 2.10). Contributing to the stability of these institutions is the fact that they are now enrolling an increasing number of students other than blacks.

Participation in Remedial/Developmental Courses

In 1983-84, the percentages of institutions of higher education that offered remedial/developmental courses in reading, writing, and mathematics were 65, 73, and 71 percent, respectively (see entry 2.11). The percentages of public institutions offering such courses were 87, 89, and 88, much higher than for private institutions, where the percents were 43, 56, and 53. For 2-year institutions, the percents were 80, 78, and 82 versus 53, 69, and 61 percent for 4-year institutions.

In institutions which offered such courses, the average percentage of entering freshmen who needed those courses was highest in mathematics with 32 percent, compared to 27 and 28 percent, respectively, in reading and writing. The percentages for each of the three fields of study were higher in public institutions than in private institutions and higher in 2-year than in 4-year institutions. For students who took the remedial courses, the completion rate across institutions for each of the fields of remedial work was about three-fourths.

Resources

Trends in Instructional Staff

Higher education faculty members (excluding graduate teaching assistants) were estimated to number 702,000 in 1983 (entry 2.12). The number of instructional faculty has generally followed enrollment trends, increasing rapidly in the early to mid-1970's and then rising at a slower rate through 1983. During the next 10-year period, senior instructional faculty are projected to decrease to 635,000 by 1993, a 10 percent decline as compared with a 6 percent drop in students.

Much of the faculty growth since 1970 occurred among part-time instructors in public and 2-year institutions. The decrease projected through 1993 is expected to be felt across the public and private sectors, various types of institutions, and full-time and part-time positions. Reductions in the number of faculty members are likely to be more pronounced in private and 4-year institutions than in public and 2-year colleges.

Salaries of Full-Time Instructional Faculty

Between the academic years 1972-73 and 1982-83, the average salary of full-time instructional faculty on 9-month contracts[3] rose from $13,850 to $27,196, an increase of 96 percent (entry 2.13). At the same time, the cost of living, as measured by the Bureau of Labor Statistics' Consumer Price Index, increased by 129 percent. College faculty members thus experienced a substantial drop in purchasing power. In the past 3 years, faculty members have regained some of the ground they lost in the 8 preceding years, but their salaries in 1983-84 were still about 12 percent lower in constant dollars than in 1972-73.

The level of faculty salaries tends to be associated with academic rank, length of service, educational attainment, and the output of scholarly publications. Based upon unpublished data from the survey of salaries, tenure, and fringe benefits by the National Center for Education Statistics, women continued to be concentrated in the lower academic ranks in 1982-83, and their salaries overall averaged about 81 percent of those received by men. Even within ranks, the salaries received by women were slightly less than those paid their male colleagues.

Finance

Changes in Revenue Sources

Institutions of higher education depend on a combination of public and private sources for their financial support. The mix of revenue sources is largely dependent on the control of the institution—that is, whether it is publicly or privately governed—and, to a lesser extent, on the level of the institution. Public institutions derive their current funds primarily from governmental sources, while private institutions rely much more heavily on student sources (entry 2.14).

Of the governmental sources in 1981-82, States contributed the largest share of funds for public institutions and the Federal Government provided the most for private institutions. The States funded generally through appropriations, while (direct) Federal funding was often provided through contracts and grants. Governmental revenues, as reported by the colleges and universities, exclude student aid to higher education through Pell grants and student loans directly funded, subsidized, guaranteed, or otherwise supported

[3]In 1972-73, the salary is for full-time instructional faculty on 9- to 10-month contracts.

by the Federal government and some student assistance programs funded by State governments. These student assistance programs make up a significant share of the revenues reported from student sources. Budget figures show that Federal appropriations for postsecondary student aid in the collegiate and noncollegiate sectors rose dramatically from $0.5 to $9.3 billion between 1970-71 and 1981-82. This latter amount includes postsecondary student support programs throughout the Federal Government.

In 1981-82, State revenues comprised 44 percent of all funding for public 4-year institutions and 50 percent for public 2-year institutions, but only 2 percent for all private institutions. The State share of funding for colleges and universities increased from 1970-71 to 1981-82, particularly at public 2-year institutions, where funding shifted appreciably from local to State governmental sources. In addition, some forms of State financial support for higher education, such as direct-to-student financial aid, are not reported in these figures. Thus, the level of State support is somewhat understated.

While the Federal contribution to higher education more than doubled, the Federal share of higher education institutional funding declined from 19 percent in 1970-71 to 13 percent in 1981-82. The decline was particularly evident at public 4-year institutions, which obtained 13 percent of their revenues from the Federal Government in 1981-82 compared with 20 percent in 1970-71. The Federal share of revenues for private 4-year institutions also decreased, but remained a larger proportion of total revenues at these institutions than at public 4-year institutions. Two-year institutions received less from the Federal Government than did the 4-year institutions in both years.

Students were the most important funding source for private institutions and the second most important source, after governments, for public institutions of higher education. In 1981-82, students paid about one-third of the total cost for higher education. About two-thirds of the revenues from students derived from tuition charges. Private 4-year institutions obtained 37 percent of their revenues from tuition compared with only 13 percent for public 4-year institutions. Private 2-year institutions relied the most on students for revenues, receiving about two-thirds of their revenues from tuition. Despite substantial increases in tuition charged by institutions of higher education, the proportion of revenues from tuition for all institutions combined rose only about 1 percentage point from 1970-71 to 1981-82.

Federal Funds for the Financial Assistance of Postsecondary Students

Federal financial assistance for postsecondary education in recent years has come mainly from three Government agencies: the Department of Education (ED), the Department of Health and Human Services (HHS), and the Veterans Administration (VA) (entry 2.15). Students in higher education were the largest beneficiaries of these postsecondary funds. The Department of Education provided the largest amounts, increasing them in each fiscal year from 1980 to 1984, except for 1982. Assistance from the VA decreased steadily after 1980, while aid from HHS dropped substantially after 1981 mainly because of large decreases in Social Security postsecondary student benefits.

Off-budget assistance generated by Department of Education funds was the largest single source of financial assistance for postsecondary students in the 1980's. Guaranteed Student Loans (GSL's) provided some 90 percent of this off-budget assistance. GSL's are student loans approved and capitalized by financial institutions with interest subsidized and loans guaranteed by the Federal Government. In fiscal 1984, off-budget assistance accounted for 50 percent of the total Federal and federally generated funds for postsecondary students.

Trends in Basic Student Charges

Between the academic years 1973-74 and 1983-84, average charges for undergraduate tuition and fees, room, and board rose by 108 percent at public institutions of higher education and by 137 percent at private institutions (entry) 2.16). During the same period, the cost of living, as measured by the Bureau of Labor Statistics' Consumer Price Index, increased by 118 percent.

For the 1983-84 academic year, basic student charges averaged $3,156 at public institutions and $7,509 at private institutions. Most of the difference in the cost of attending public and private institutions may be attributed to the substantially higher tuition charges at private institutions.

Besides the variation in charges between public and private institutions, charges by the various types of institutions also differed widely. The most expensive institutions for students to attend were the private universities, where costs rose by 150 percent to $9,307 over the past decade. The least costly schools were the public 2-year colleges, where charges rose

99 percent, considerably less than the rate of inflation, in the past 10 years. Student charges at public 2-year institutions averaged $2,534 in academic year 1983-84. The growth in average college costs at public institutions generally appears to have been restrained by the increased proportion of students attending these relatively inexpensive institutions.

Since 1980-81, average charges have increased at a faster rate than inflation. Between 1982-83 and 1983-84, living costs rose less than 4 percent, but the cost of attending a public institution increased by more than 7 percent, and charges at private colleges grew by 8.5 percent.

College costs tend to lag behind changes in the cost of living because student charges are often established months before the academic year begins, and college officials are reluctant to change their fees in mid-year. In the recent past, for example, inflation rates were highest between the academic years 1978-79 and 1979-80, but the rate of increase in college costs did not peak until 2 years later.

Trends in Expenditures

Trends in current-fund expenditures by institutions of higher education also reflect the impact of inflation and differing growth rates in the various institutional sectors. In 1970-71, higher education institutions spent $23.4 billion, which by 1981-82 had tripled to $70.3 billion (entry 2.17).

Expenditures at public institutions generally rose faster than at private institutions. The largest increase in expenditures occurred at public 2-year institutions, which nearly quadrupled their outlays between 1970-71 and 1981-82. These were the institutions that also experienced the largest enrollment growth during the 1970's and early 1980's.

The impact of inflation during this period can be measured by adjusting the expenditures with the Higher Education Price Index, which is a widely used measure that accounts for price changes in goods and services purchased by higher education institutions. Between 1970-71 and 1981-82, higher education prices increased 126 percent. Besides increases in price levels, increases in enrollments affected higher education expenditures in all types of institutions. Simultaneously controlling for these increases in prices and enrollments reveals that little of the nominal increase in spending translated into real growth in current-fund expenditures per full-time-equivalent (FTE) student. Expenditures per FTE student at both public and private institutions generally rose, particularly during the late 1970's, but after 1979-80, expenditures per FTE student began to decline. By 1981-82, expenditures per FTE student were slightly lower than in 1970-71.

Degrees

Trends in degrees awarded reflect earlier changes in the number of students enrolled, tempered by changes in the composition of enrollment. Nowhere is this more obvious than in the tremendous growth in degrees earned by women. While the number of degrees awarded to men registered small declines or moderate growth, the number of degrees awarded to women increased appreciably during the 1970's and early 1980's, having risen from levels significantly lower than those of men. The National Center for Education Statistics estimated that in 1982-83 women earned the majority of bachelor's degrees and master's degrees, one-third of doctor's degrees, and more than one-fourth of first-professional degrees.

In comparison, gains by racial/ethnic minorities in earned degrees have been relatively small. Minorities obtained 11 percent of the bachelor's and master's degrees, 8 percent of the doctor's, and 9 percent of the first-professional degrees in 1980-81 (entry 2.18). These figures represent slight increases from 1975-76 in the percent of minorities receiving degrees at each level.

By contrast, the share of degrees awarded to nonresident aliens varied by degree level in 1980-81. They received 2 percent of the bachelor's, 8 percent of the master's, 13 percent of the doctor's, and 1 percent of the first-professional degrees. The number of nonresident alien degree recipients rose between 1975-76 and 1980-81 for all degree levels except first-professional.

Trends in Bachelor's Degrees

Between 1970-71 and 1982-83, the number of bachelor's degrees awarded increased from 839,700 to an estimated 970,000, or 16 percent (entry 2.19). This number is expected to remain stable at 970,000 in 1983-84. Thereafter, a drop to 887,000 is expected by 1993-94, a 9 percent decrease from 1982-83. While the number of bachelor's degrees awarded to men increased slightly between 1970-71 and 1982-83, the number awarded to women rose significantly, registering a 35 percent increase. As a share of all bachelor's degrees, the percent awarded to women rose from 43 percent in 1970-71 to about 51 percent in 1982-83. For the remainder of the

1980's, more than half of the all bachelor's degrees are projected to be awarded to women.

About three-fourths of the bachelor's degrees in education were awarded to females in 1970-71 and 1981-82 (entry 2.20). They received an even larger proportion of the degrees conferred in the health sciences. In the other major disciplines of business and management, engineering, life sciences, and social sciences, males continued to predominate in 1981-82, though females registered dramatic increases over the decade. For example, in engineering, only 1 percent of the degrees were awarded to females in 1970-71. However, in 1981-82, they earned 12 percent of these degrees. The percent of degrees in business and management received by females increased almost fivefold during this period, from 8 percent to 39 percent.

Trends in Master's Degrees

The number of master's degrees awarded increased rapidly in the 1970's, peaking at 317,200 in 1976-77 (entry 2.19). This number has since declined to an estimated 295,000 in 1982-83. It is projected to continue decreasing slowly, reaching 284,000 by 1993-94. Again, women represented a steadily increasing share of master's degrees awarded, rising from 40 percent in 1970-71 to about 52 percent in 1982-83. The proportion received by women is projected to increase to 53 percent by 1993-94.

Among the six disciplines in which the most master's degrees are awarded, a majority of education, health sciences, and public affairs degrees went to females in 1981-82 (entry 2.20). In business and management, engineering, and the social sciences, most master's degree recipients were males. Nevertheless, the strong increases in the share received by women in business and management were similar to the trends at the bachelor's level.

Trends in Doctor's Degrees

The number of doctor's degrees awarded changed very little between 1970-71 and 1982-83 and is projected to be relatively unchanged through the 1980's (entry 2.21). However, hidden in this overall stability are sharply contrasting trends among male and female recipients. While the number of degrees awarded to men declined by about one-fifth between 1970-71 and 1982-83, the number to women rose by an estimated 134 percent for the same period. In the 1980's, this trend is expected to continue. This means that the share of doctor's degrees awarded to women, which increased from 14 percent in 1970-71 to about 33 percent in 1982-83, is expected to reach 49 percent by 1993-94. This rise should offset the expected decline in male recipients, resulting in a fairly stable production of doctoral degrees in the 1980's and early 1990's. One factor which has served as a deterrent for some persons considering doctoral work is the expected decline in the college-age population during the next decade. This may limit the number of new Ph.D.'s who will be able to find employment as college teachers in the years ahead.

In terms of doctor's degrees received in 1981-82, men continued to predominate in most disciplines (entry 2.20). However, women received more than half of the doctorates conferred in foreign languages, home economics, letters, and library and archival sciences. They received between 40 and 50 percent of the doctor's degrees in area and ethnic studies, education, health sciences, liberal/general studies, psychology, protective services, public affairs, and visual and performing arts.

Trends in First-Professional Degrees

The number of first-professional degrees awarded increased from 37,900 in 1970-71 to an estimated 72,500 in 1982-83, an increase of 91 percent (entry 2.21). The number awarded to women during this period contributed greatly to the total rise. The women's proportion increased from 6 percent in 1970-71 to about 29 percent in 1982-83. By 1993-94, this proportion is expected to increase to 34 percent. However, the total number of degrees awarded is projected to decrease to 67,800, a drop of 6 percent from 1982-83.

While men continued to receive a majority of the first-professional degrees, substantial changes occurred between 1970-71 and 1981-82 in the proportions awarded to women in all fields (entry 2.22). In law, for example, the proportion of degrees awarded to women rose from 7 percent to 33 percent of the total; and in theology, from 2 to 16 percent. In medicine, women increased their share of the total from 9 to 25 percent. Increases of similar magnitude were recorded by females in a number of other health professions.

Changing Patterns in Undergraduate Majors

During the 15-year period ending in 1981-82, the undergraduate majors of college students shifted significantly. There was a clearly discernible movement away from a number of the traditional arts and sciences, while the number and percent of students who majored in business and management and some other occupationally oriented fields increased substantially (entry 2.23).

In 1966-67, degrees in biological sciences, English and literature, physical sciences, history, mathematics, and modern foreign languages constituted 28 percent of all bachelor's degrees conferred. By 1971-72, even though the total number of degrees in these fields had increased, they made up only 22 percent of all bachelor's degrees awarded. By 1981-82 they had declined to 14 percent of the total. The proportion of degrees conferred in these arts and sciences was thus reduced by one-half over the 15-year period.

As for degrees in business and management, engineering, health professions, public affairs and services, and computer and information sciences, they comprised 22 percent of all bachelor's degrees conferred in 1966-67. In 1971-72, they accounted for 25 percent; and in 1981-82, 43 percent of the total. Thus the percent of degrees conferred in these job-related fields virtually doubled between 1966-67 and 1981-82.

At least one occupationally oriented field did not experience a rise in recent years. Bachelor's degrees in education comprised 22 percent of the bachelor's degrees conferred as recently as 1971-72, but in 1981-82 they made up only 11 percent of the total. This decline may reflect the student response to changing conditions in the labor market. Public school enrollment declined annually throughout the decade, reducing the demand for new elementary and secondary school teachers.

Test Score Changes

The tremendous increase in degrees awarded has resulted in the most educated generation in our Nation's history. Yet disturbing evidence exists that the most educated cannot necessarily be equated with the best educated. The evidence comes from a National Institute of Education analysis of changes over two decades in student performance on graduate and professional school admissions tests (entry 2.24). The 23 types of tests examined included tests of general learned abilities[4] and tests of advanced achievement in 15 specific subject areas. For most of these tests, the analysis covers the years 1964 to 1982. Test-takers, although not statistically representative of all graduates, do comprise a significant sample, and their performance can be used as one indicator of the changing quality of student learning in U.S. higher education. While the data are variable and the analysis is by no means final, the results suggest performance has declined in several areas. Among the findings:

- Of 23 examinations, performance declined on 15 (principally Graduate Record Examination subject area tests), remained stable on 4, and advanced on 4. The magnitude of the change is also revealing in that of the 15 that declined, 6 showed "large" or "extreme" decreases, but none of the 4 that increased did so by a large amount. The greatest declines occurred in subjects requiring high verbal skills. Included among these were the Graduate Record Examination (GRE) Verbal and GRE subject area tests in French, History, English Literature, Sociology, and Political Science.
- Most of the relationships between numbers of test-takers and trends in scores on individual examinations did not follow the conventional wisdom that performance is inversely related to the number of test-takers. In other words, falling scores were not generally associated with rising numbers of test-takers.
- None of the basic demographic variables—age, race, or gender of the test-takers—in and of itself, could explain the observed changes in performance over the period.
- Neither citizenship nor fluency in English, in themselves, could explain the observed changes in performance. Only in combination with undergraduate major did these variables begin to offer plausible hypotheses on what influences test score trends.
- The performance and participation of U.S. students from different undergraduate majors appeared to offer the most convincing explanation of observed changes. Students with undergraduate majors in most professional and occupational fields (the most rapidly growing group among both degree grantees and test-takers) did not perform as well as others. Students with undergraduate majors in science, mathematics, and engineering outperformed all others on these examinations. Majors in philosophy and economics also performed higher than average.

Taken as a whole, these findings suggest the test performance of at least a significant subset of college graduates has generally declined. Even in the recent past, from 1976 to 1982, scores generally continued to decline, though more moderately than in the middle and late 1960's and with some exceptions, such as on the law school admissions test and some quantitatively oriented subtests.

[4]For example, the Graduate Record Examination/Verbal and Quantitative, the Law School Admissions Test, the Graduate Management Admissions Test, and sub-tests in Reading and Quantitative Analysis of the Medical College Admissions Test.

Conclusion

The 1970's and early 1980's have been a time of rapid change for institutions of higher education in the United States. During the early years, the ranks of college students were swelled by the coming-of-age of the "baby boom" generation. More recently, college enrollments have been augmented by the increased attendance of women, part-time students, and older students. To keep up with the growing numbers, colleges spent more over this period, though the increases were not generally reflected in raises for faculty or in greater dollars spent per student. The larger groups of students enrolled also resulted in substantial growth in the number of degrees granted. In the 13 years from 1970-71 through 1982-83, American colleges and universities conferred approximately 17 million bachelor's and higher degrees, or about the same number of degrees that were conferred in the 50-year period ending in 1969-70.

In terms of the number of years they have spent in school, today's young adults are the most "educated" group in our history. A larger proportion of them have attended and have graduated from college than in any previous generation. That many of them are oriented toward the world of work is evidenced by the fact that college majors in job-related fields, like business and management, health professions, and computer science, are growing rapidly. Yet, a look at changes in the test scores for admission to graduate and professional schools suggests some disturbing declines over the last two decades. Equally troublesome is the evidence that the greater number and the changing composition of test-takers only partially account for the declines.

Table 2.1

Past and Projected Trends in the College-Age and Adult Populations: United States, 1970 to 1993

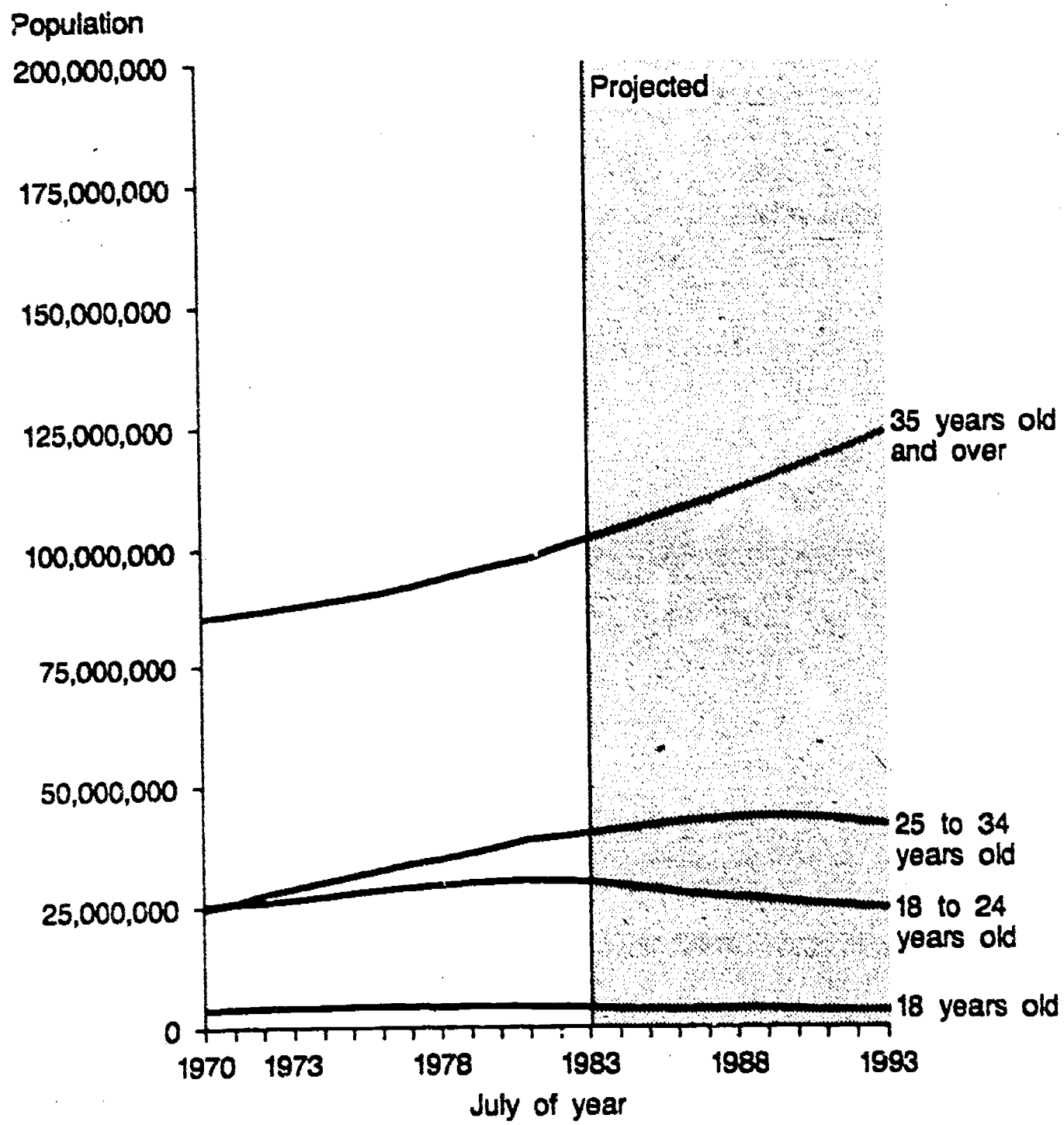
Year (July 1)	18 Years Old and Over	18 Years Old	18 to 24 Years Old	25 to 34 Years Old	35 Years Old and Over
	(In Thousands)				
1970	135,290	3,781	24,712	25,323	85,255
1971	137,852	3,878	25,874	25,958	86,020
1972	140,476	3,976	26,076	27,623	86,777
1973	143,145	4,053	26,635	28,939	87,571
1974	145,867	4,103	27,233	30,225	88,409
1975	148,805	4,256	28,005	31,471	89,329
1976	151,784	4,266	28,645	32,759	90,380
1977	154,776	4,257	29,174	33,998	91,604
1978	157,810	4,247	29,622	34,963	93,225
1979	160,950	4,316	30,048	36,203	94,699
1980	164,055	4,258	30,357	37,601	96,097
1981	166,809	4,239	30,486	39,033	97,290
1982	169,497	4,193	30,422	39,559	99,516
1983	171,921	4,022	30,148	40,334	101,439
			Projected*		
1984	173,806	3,774	29,501	41,020	103,285
1985	175,792	3,658	28,739	41,788	105,265
1986	177,673	3,574	27,838	42,515	107,320
1987	179,624	3,667	27,246	43,098	109,280
1988	181,657	3,772	26,783	43,429	111,445
1989	183,673	3,777	26,375	43,620	113,678
1990	185,321	3,431	25,794	43,529	115,998
1991	186,833	3,317	25,338	43,159	118,336
1992	188,205	3,199	24,881	42,548	120,776
1993	189,633	3,276	24,583	41,830	123,220

*Projection data are from the middle series.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Population Estimates and Projections", Series P-25, No. 917, July 1982, and No. 949, May 1984.

Chart 2.1

National Population Trends, by Age Group



The age composition of the national population has shifted since the 1970's. While the population in the younger adult groups is expected to decline in the 1980's and into the 1990's, the older age groups are projected to increase significantly.

Table 2.2

Participants in Postsecondary Academic, Vocational, and Continuing Education, by Sex, Race, and Age Group: United States, October 1982

Sex, Race, and Age Group	Type of Postsecondary Education					
	Academic[1]		Vocational[2]		Continuing[3]	
	Number (in Thousands)	Percentage Distribution	Number (in Thousands)	Percentage Distribution	Number (in Thousands)	Percentage Distribution
Total	9,243	100.0	3,787	100.0	5,177	100.0
Male	4,629	**50.1**	1,712	**45.2**	1,808	**34.9**
Female	4,614	**49.9**	2,074	**54.8**	3,368	**65.1**
White	7,933	**85.8**	3,199	**84.5**	4,731	**91.4**
Black	918	**9.9**	449	**11.9**	255	**4.9**
Other races	392	**4.2**	138	**3.6**	190	**3.7**
16 to 24 years old	6,208	**67.2**	1,833	**48.4**	848	**16.4**
25 to 34 years old	2,145	**23.2**	1,078	**28.5**	1,667	**32.2**
35 to 44 years old	624	**6.8**	522	**13.8**	1,121	**21.7**
45 to 54 years old	198	**2.1**	240	**6.3**	717	**13.8**
55 to 64 years old	56	**.6**	95	**2.5**	514	**9.9**
65 years old and over	12	**.1**	19	**.5**	309	**6.0**

[1]Academic students pursued coursework, either full- or part-time, for the purpose of obtaining an undergraduate, graduate, or professional degree.

[2]Vocational students took coursework (either full- or part-time) in an occupational or technical field for the purpose of obtaining a vocational credential, such as a vocational certificate, occupational license, or other vocational diploma or degree.

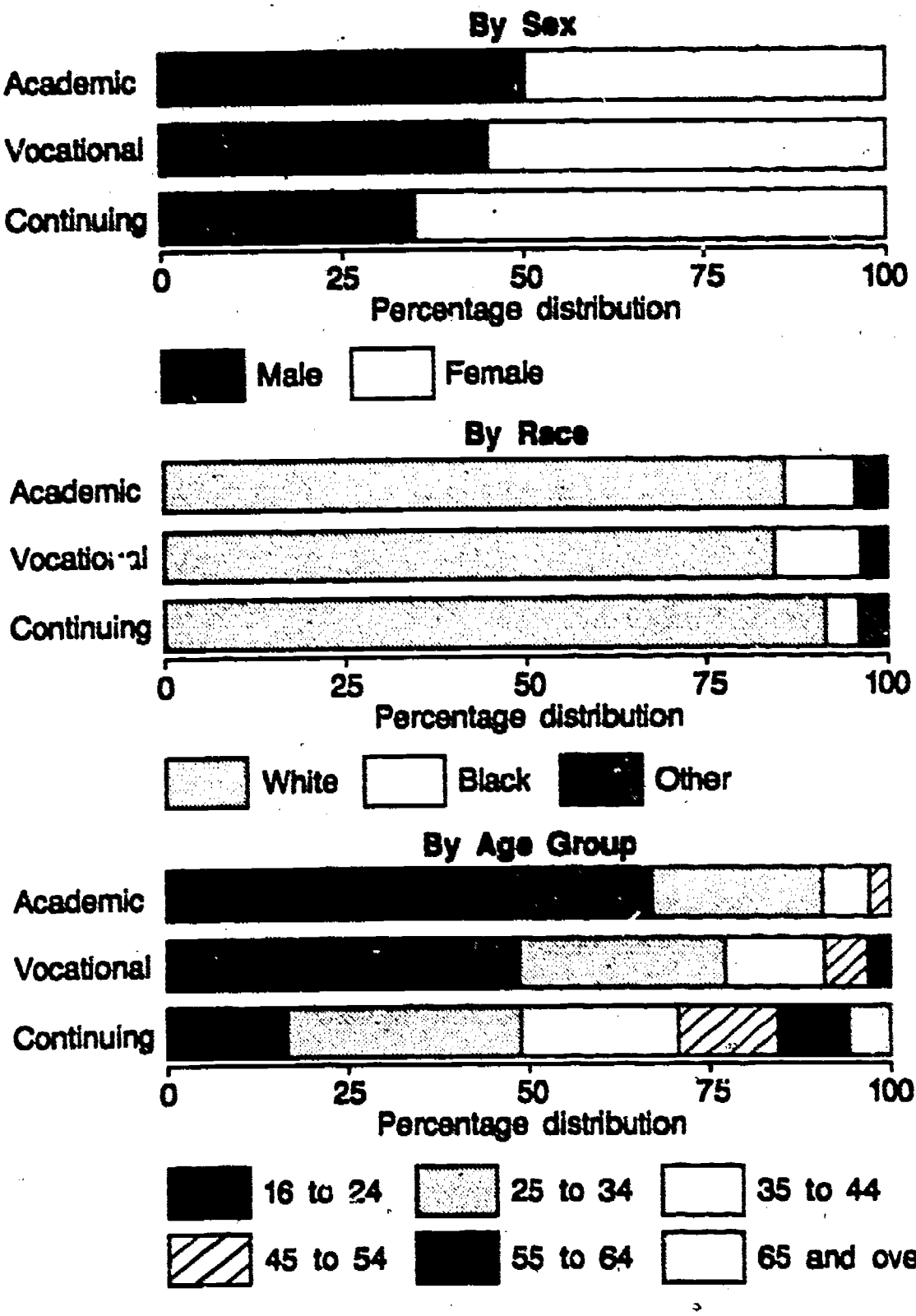
[3]Continuing education students were postsecondary education participants not otherwise classified as academic or vocational students who were taking college credit courses but not seeking a degree or who were taking noncredit courses for job improvement, personal development or social/recreational purposes (excluding adult basic education courses to improve basic skills in reading, writing, or arithmetic).

NOTE: Data revised from those previously published. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Special Report, *Participants in Postsecondary Education: October 1982*, 1984, based on data from Current Population Survey of the Bureau of the Census.

Chart 2.2

Composition of Postsecondary Education Participants, by Type of Program



While the composition of postsecondary participants in academic programs was evenly divided between the sexes, females outnumbered males in vocational and continuing education programs. Sixteen- to 24-year-olds comprised two-thirds of participants in academic programs, but they represented less than half of vocational education participants and less than a fifth of those in continuing education.

Table 2.3

Participants in Postsecondary Academic, Vocational, and Continuing Education, by Labor Force Status and Sex: United States, October 1982

Labor Force Status and Sex	Type of Postsecondary Education					
	Academic[1]		Vocational[2]		Continuing[3]	
	Number (in Thousands)	Percentage Distribution	Number (in Thousands)	Percentage Distribution	Number (in Thousands)	Percentage Distribution
Total	9,243	100.0	3,787	100.0	5,177	100.0
Not in labor force	**3,893**	42.1	**955**	25.2	**1,271**	24.6
Employed full-time	**2,236**	24.2	**1,676**	44.3	**2,944**	56.9
Employed part-time	**2,697**	29.2	**834**	22.0	**728**	14.1
Unemployed	**416**	4.5	**321**	8.5	**234**	4.5
Men	4,629	100.0	1,712	100.0	1,808	100.0
Not in labor force	1,992	43.0	312	18.2	190	10.5
Employed full-time	1,119	24.2	934	54.6	1,378	76.2
Employed part-time	1,292	27.9	321	18.8	135	7.5
Unemployed	227	4.9	145	8.5	105	5.8
Women	4,614	100.0	2,074	100.0	3,368	100.0
Not in labor force	1,902	41.2	644	31.1	1,080	32.1
Employed full-time	1,117	24.2	741	35.7	1,566	46.5
Employed part-time	1,406	30.5	513	24.7	593	17.6
Unemployed	189	4.1	176	8.5	129	3.8

[1]Academic students pursued coursework, either full- or part-time, for the purpose of obtaining an undergraduate, graduate, or professional degree.

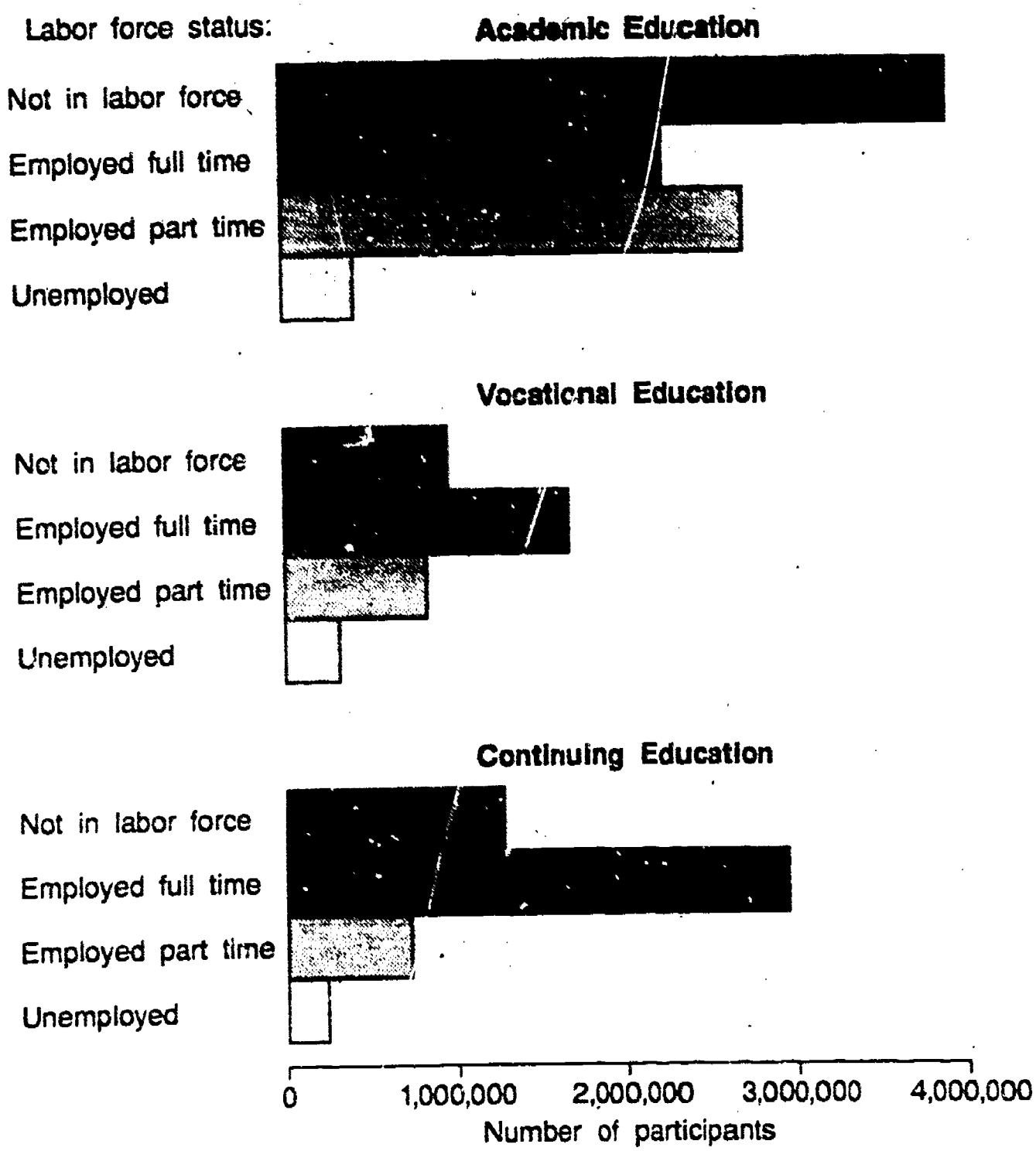
[2]Vocational students took coursework (either full- or part-time), in an occupational or technical field for the purpose of obtaining a vocational credential, such as a vocational certificate.

[3]Continuing education students were postsecondary education participants not otherwise classified as academic or vocational students who were taking college credit courses but not seeking a degree or who were taking noncredit courses for job improvement, personal development or social/recreational purposes (excluding adult basic education courses to improve basic skills in reading, writing, or arithmetic).

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Special Report, *Participants in Postsecondary Education: October 1982*, 1984, based on data from Current Population Survey of the Bureau of the Census.

Participants in Postsecondary Academic, Vocational, and Continuing Education, by Labor Force Status



Large numbers of persons not in the labor force or employed part-time participated in academic education. The participants in vocational and continuing education were more likely to be employed full-time.

Table 2.4

Past and Projected Trends in Total Enrollment in Institutions of Higher Education, by Sex, Attendance Status, and Age Group: United States, Fall 1970 to Fall 1993

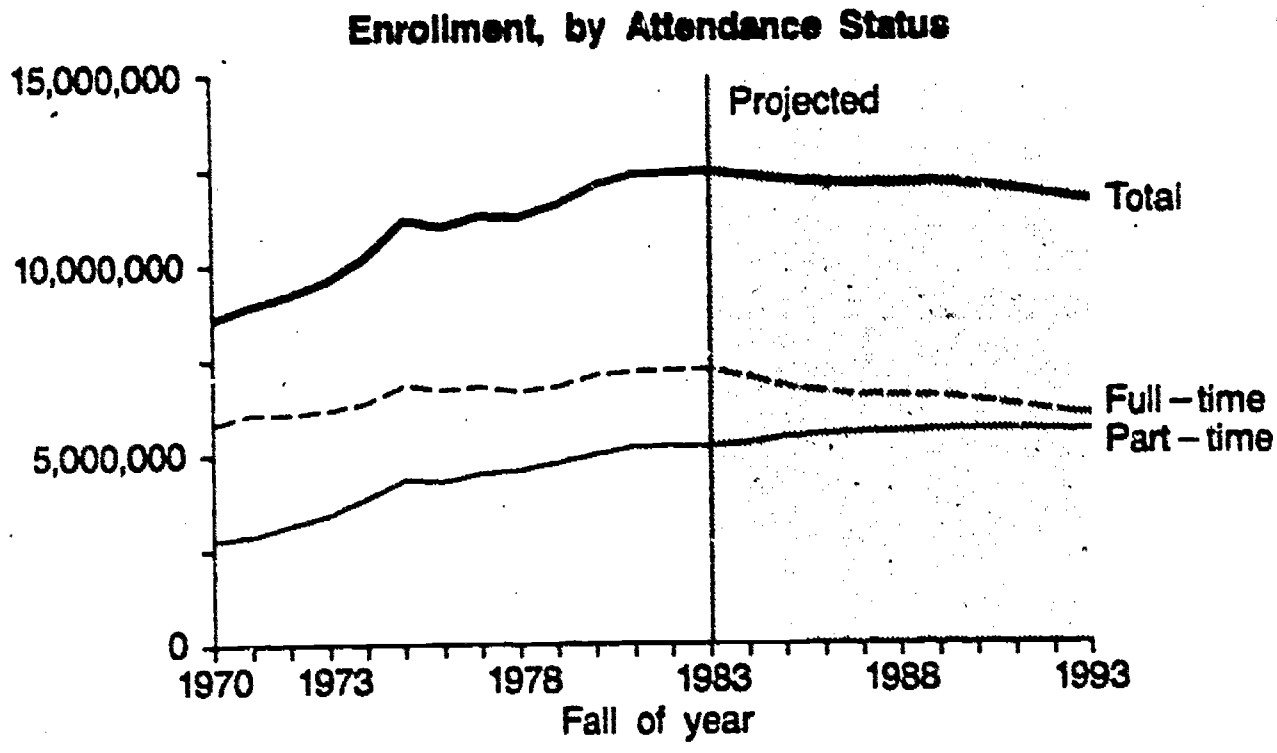
(In thousands)

Fall of Year	Total Enrollment	Sex		Attendance Status		Age Group (Estimated)	
		Male	Female	Full-Time	Part-Time	Under 25 Years Old	25 Years Old and Over
1970	8,581	5,044	3,537	5,815	2,766	6,194	2,386
1971	8,949	5,207	3,742	6,077	2,871	6,399	2,550
1972	9,215	5,239	3,976	6,072	3,142	6,401	2,815
1973	9,602	5,371	4,231	6,189	3,413	6,511	3,090
1974	10,224	5,622	4,601	6,370	3,853	6,631	3,593
1975	11,185	6,149	5,036	6,841	4,344	7,061	4,123
1976	11,012	5,811	5,201	6,717	4,295	7,066	3,945
1977	11,286	5,789	5,497	6,793	4,493	6,992	4,294
1978	11,259	5,640	5,619	6,667	4,592	7,035	4,225
1979	11,570	5,683	5,887	6,793	4,776	7,117	4,453
1980	12,097	5,874	6,223	7,098	4,999	7,560	4,537
1981	12,372	5,975	6,397	7,181	5,190	7,538	4,834
1982	12,426	6,031	6,394	7,221	5,205	7,578	4,848
1983	12,465	6,024	6,441	7,261	5,204	7,402	5,063
				Projected*			
1984	12,345	6,020	6,325	7,045	5,300	7,225	5,120
1985	12,247	5,996	6,251	6,790	5,457	6,952	5,295
1986	12,162	5,944	6,218	6,645	5,517	6,734	5,428
1987	12,136	5,918	6,218	6,566	5,570	6,603	5,533
1988	12,141	5,909	6,232	6,541	5,600	6,533	5,608
1989	12,161	5,908	6,253	6,524	5,637	6,476	5,684
1990	12,093	5,867	6,226	6,430	5,663	6,351	5,742
1991	11,989	5,805	6,184	6,303	5,686	6,214	5,775
1992	11,810	5,715	6,095	6,152	5,658	6,065	5,745
1993	11,676	5,641	6,035	6,037	5,639	5,955	5,720

*For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, *Fall Enrollment in Colleges and Universities*, various years; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984).

Enrollment Trends in Institutions of Higher Education, by Student Characteristics



In contrast to its expansion in the 1970's, higher education enrollment is projected to decline throughout the rest of the 1980's and into the 1990's. While declines in enrollment are projected for men and full-time students, part-time enrollment is projected to increase for several more years.

Table 2.5

Past and Projected Trends in Total Enrollment in Institutions of Higher Education, by Sex, Age Group, and Percent in Full-Time Attendance Status: United States, Selected Years, Fall 1970 to Fall 1993

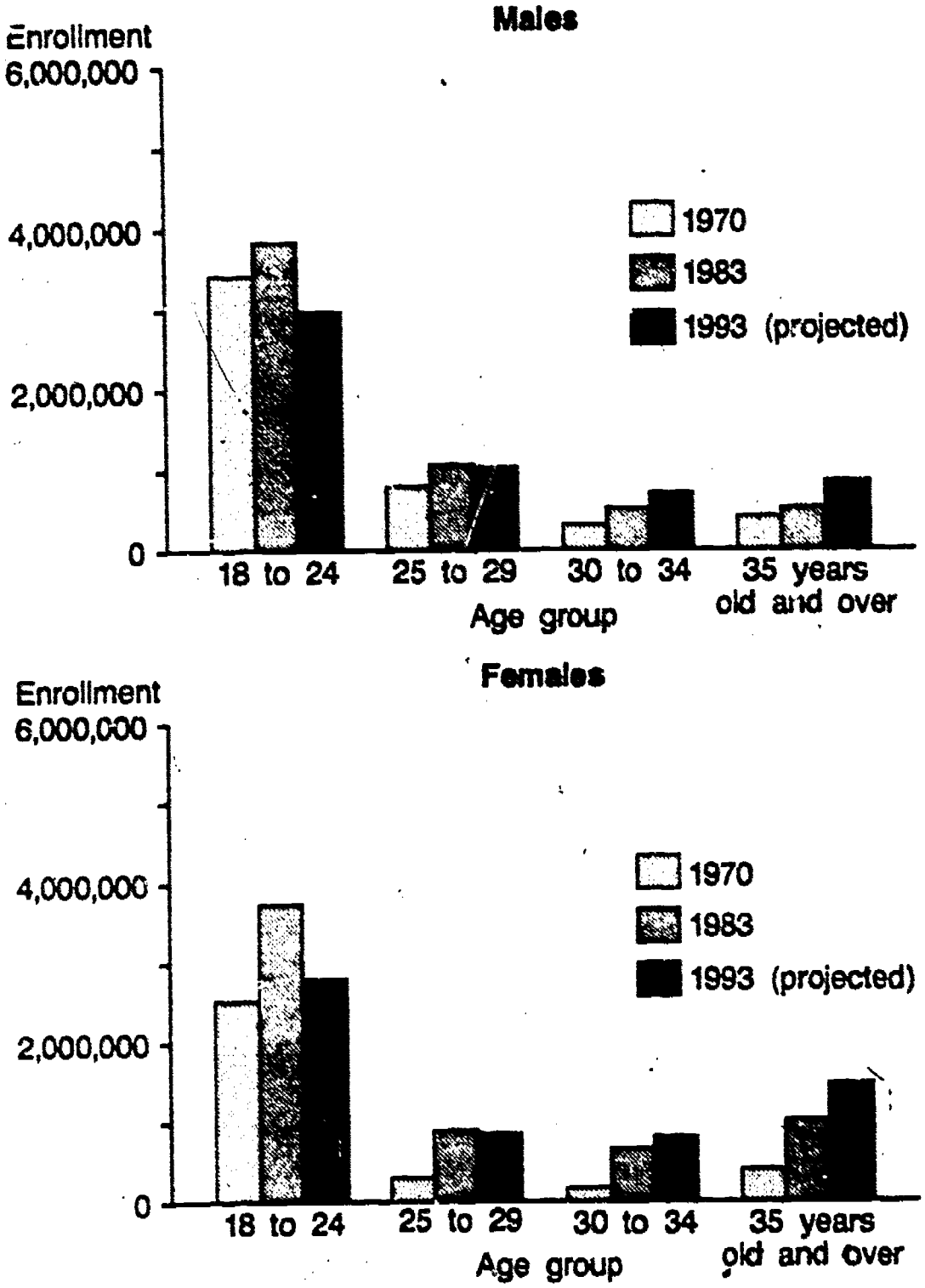
Sex and Age Group	Estimated Enrollment								Projected Enrollment*			
	1970		1973		1978		1983		1988		1993	
	Number (in Thousands)	Percent Full-Time	Number (in Thousands)	Percent Full-Time	Number (in Thousands)	Percent Full-Time	Number (in Thousands)	Percent Full-Time	Number (in Thousands)	Percent Full-Time	Number (in Thousands)	Percent Full-Time
Both sexes	8,581	67.8	9,602	64.4	11,259	59.2	12,465	57.1	12,141	53.9	11,676	51.7
14 to 17 years	258	93.4	297	89.6	263	91.6	214	89.2	213	89.7	183	89.6
18 and 19 years	2,599	92.5	2,526	91.9	2,756	87.9	2,710	88.3	2,439	88.3	2,121	88.3
20 and 21 years	1,880	87.6	2,109	85.6	2,213	82.1	2,392	82.9	2,023	82.7	1,888	82.8
22 to 24 years	1,457	60.5	1,578	61.0	1,803	62.7	2,086	59.9	1,860	59.9	1,762	59.9
25 to 29 years	1,075	37.9	1,485	32.6	1,731	34.7	2,032	36.4	2,110	36.4	1,870	36.4
30 to 34 years	487	20.5	658	23.1	1,037	25.8	1,314	23.1	1,459	23.1	1,521	23.1
35 years and over	824	16.3	947	20.5	1,458	12.9	1,716	14.8	2,037	14.9	2,329	14.9
Male	5,044	69.5	5,371	66.6	5,640	62.5	6,024	61.2	5,909	58.2	5,641	56.3
14 to 17 years	129	96.1	121	90.9	105	90.5	91	87.0	92	87.0	79	86.1
18 and 19 years	1,349	93.8	1,299	92.2	1,327	88.2	1,283	89.2	1,171	89.2	1,019	89.3
20 and 21 years	1,095	90.4	1,149	86.2	1,157	84.4	1,205	84.8	1,033	84.6	966	84.7
22 to 24 years	964	67.4	992	68.6	1,027	67.6	1,148	65.3	1,041	65.1	988	65.2
25 to 29 years	783	41.8	993	37.0	985	38.3	1,087	40.3	1,150	40.3	1,022	40.3
30 to 34 years	308	23.4	387	27.4	523	25.4	597	27.4	676	27.5	710	27.5
35 years and over	415	18.1	428	28.7	516	15.7	613	14.7	744	14.8	855	14.7
Female	3,537	65.3	4,231	61.7	5,619	55.9	6,441	53.1	6,232	49.8	6,035	47.4
14 to 17 years	129	90.7	175	89.1	157	93.0	123	91.7	121	90.9	104	91.3
18 and 19 years	1,250	91.2	1,228	91.6	1,429	87.6	1,427	87.4	1,266	87.5	1,101	87.5
20 and 21 years	785	83.7	961	84.8	1,054	79.7	1,187	80.9	989	80.9	922	80.8
22 to 24 years	493	46.9	585	48.4	776	56.2	938	53.3	818	53.3	773	53.3
25 to 29 years	292	27.4	492	23.4	746	29.8	945	31.7	960	31.7	849	31.7
30 to 34 years	179	15.6	270	17.0	513	26.3	717	19.2	782	19.2	812	19.2
35 years and over	409	14.4	518	13.5	942	11.4	1,103	14.9	1,294	14.9	1,474	14.9

*For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, *Fall Enrollment in Colleges and Universities*, various years; *Projections of Education Statistics to 1992-93*, 1985, and unpublished tabulations (December 1984).

Past and Projected Enrollment Patterns in Higher Education, by Sex and Age Group



The number of 18- to 24-year-olds enrolled in college is projected to decline throughout the rest of the 1980's and into the 1990's, while the number of students 25 years old and over is expected to continue rising.

Table 2.6

Past and Projected Trends in Total Enrollment in Institutions of Higher Education, by Control and Type of Institution and by Level of Student: United States, Fall 1970 to Fall 1993

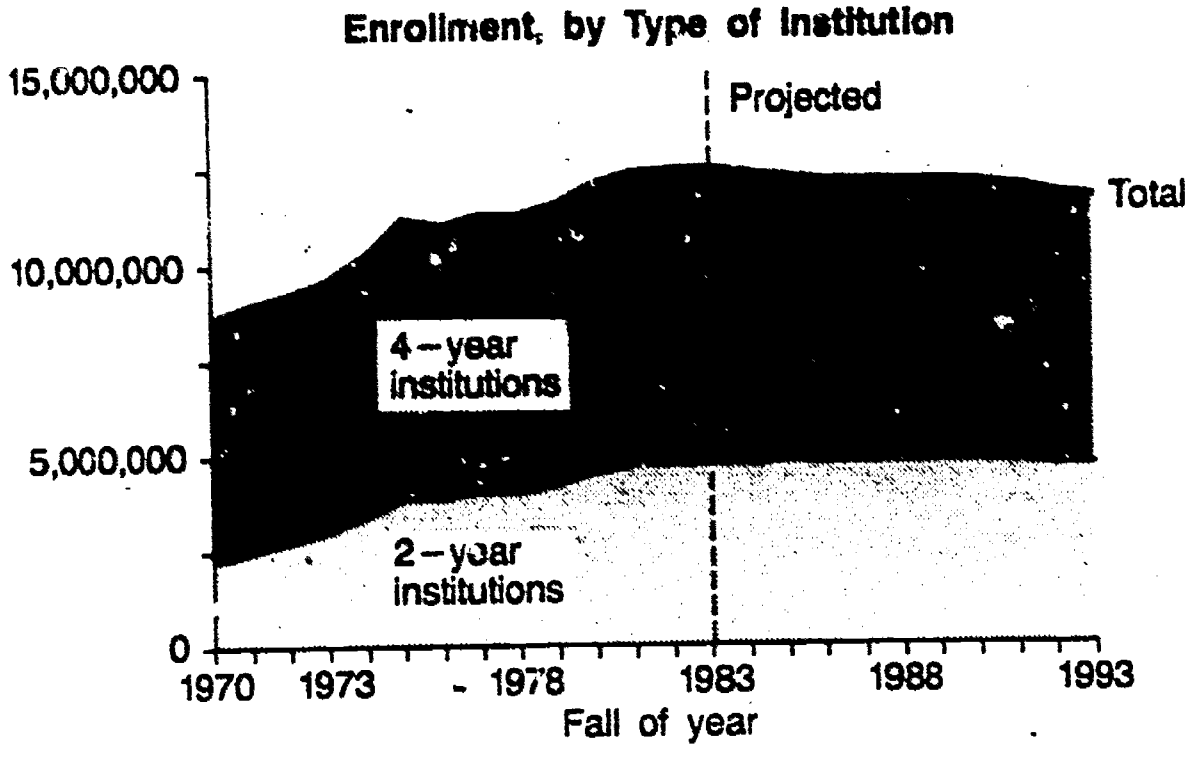
(In Thousands)

Fall of Year	Total Enrollment	Control of Institution		Type of Institution		Level		
		Public	Private	4-Year	2-Year	Undergraduate and Unclassified	Graduate and Postbaccalaureate Unclassified	First-Professional
1970	8,581	6,428	2,153	6,358	2,223	7,376	1,031	175
1971	8,949	6,804	2,144	6,463	2,486	7,743	1,012	194
1972	9,215	7,071	2,144	6,459	2,756	7,941	1,066	207
1973	9,602	7,420	2,183	6,590	3,012	8,261	1,123	218
1974	10,224	7,989	2,235	6,820	3,404	8,798	1,190	236
1975	11,185	8,835	2,350	7,215	3,970	9,679	1,263	245
1976	11,012	8,653	2,359	7,129	3,883	9,429	1,333	251
1977	11,286	8,847	2,437	7,242	4,042	9,714	1,318	251
1978	11,259	8,784	2,475	7,232	4,028	9,684	1,319	257
1979	11,570	9,037	2,533	7,353	4,217	9,998	1,309	263
1980	12,097	9,457	2,640	7,571	4,526	10,475	1,343	278
1981	12,372	9,647	2,724	7,655	4,716	10,754	1,343	275
1982	12,426	9,696	2,730	7,654	4,772	10,825	1,323	278
1983	12,465	9,683	2,782	7,739	4,726	10,846	1,339	279
				Projected*				
1984	12,345	9,645	2,700	7,600	4,745	10,715	1,345	285
1985	12,247	9,591	2,656	7,437	4,810	10,551	1,398	298
1986	12,162	9,533	2,629	7,358	4,804	10,447	1,413	302
1987	12,136	9,518	2,618	7,317	4,819	10,410	1,424	302
1988	12,141	9,528	2,613	7,303	4,838	10,417	1,424	300
1989	12,161	9,548	2,613	7,306	4,855	10,439	1,425	297
1990	12,093	9,498	2,595	7,264	4,829	10,371	1,427	295
1991	11,989	9,419	2,570	7,195	4,794	10,266	1,430	293
1992	11,810	9,284	2,526	7,071	4,739	10,096	1,422	292
1993	11,676	9,185	2,491	6,968	4,708	9,968	1,418	290

*For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, *Fall Enrollment in Colleges and Universities*, various years; *Projections of Education Statistics to 1992-93*, 1985, and unpublished tabulations (December 1984).

Enrollment Trends in Institutions of Higher Education, by Institutional Characteristics



Enrollment in 4-year institutions is projected to decrease significantly during the 1980's and into the 1990's, while enrollment in 2-year institutions is projected to decline slightly in the early 1990's. Enrollments in both public and private institutions are expected to fall over the next decade.

Table 2.7

Past and Projected Trends in Full-Time-Equivalent (FTE) Enrollment in Institutions of Higher Education, by Control and Type of Institution and by Level of Student: United States, Fall 1970 to Fall 1993

(In Thousands)

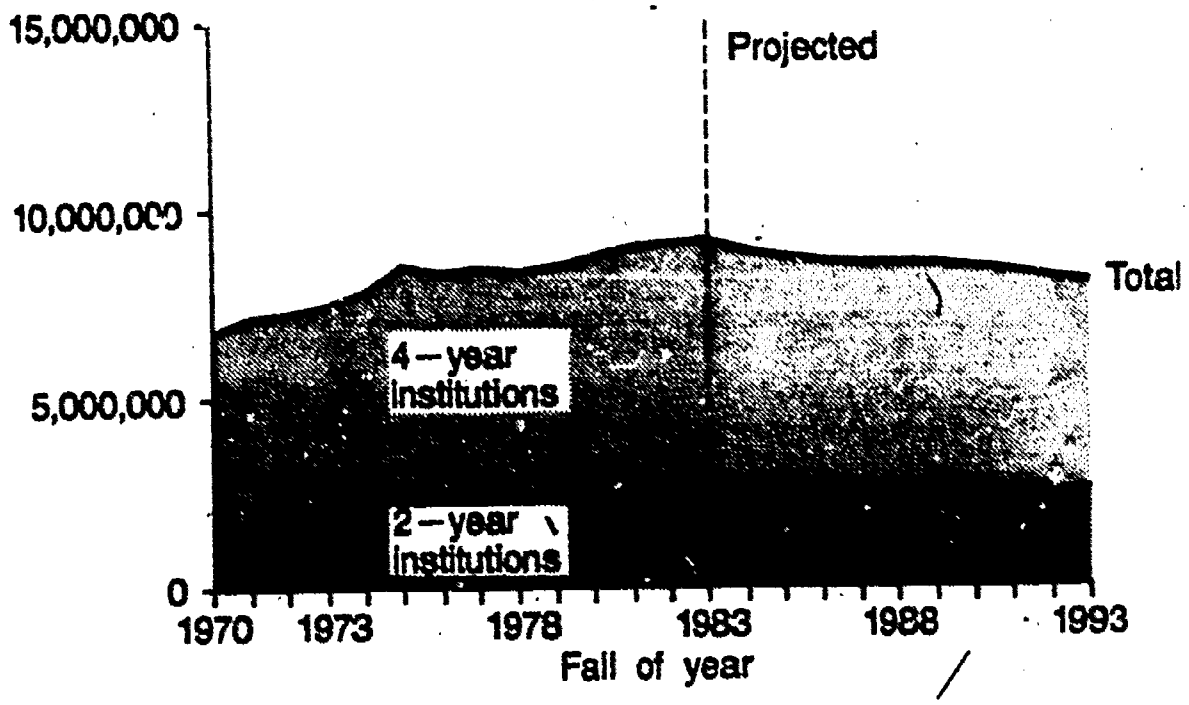
Fall of Year	Total FTE Enrollment	Control of Institution		Type of Institution		Level		
		Public	Private	4-Year	2-Year	Undergraduate and Unclassified	Graduate and Postbaccalaureate Unclassified	First-Professional
1970	6,737	4,953	1,784	5,220	1,518	5,976	599	163
1971	7,149	5,344	1,804	5,430	1,719	6,351	613	185
1972	7,254	5,453	1,801	5,407	1,847	6,434	622	198
1973	7,453	5,630	1,824	5,439	2,014	6,574	669	210
1974	7,805	5,945	1,861	5,606	2,199	6,869	710	226
1975	8,481	6,523	1,958	5,899	2,581	7,493	758	229
1976	8,313	6,350	1,963	5,852	2,464	7,299	781	234
1977	8,415	6,396	2,018	5,934	2,480	7,398	776	240
1978	8,335	6,270	2,066	5,924	2,410	7,308	777	249
1979	8,487	6,393	2,095	6,017	2,471	7,460	778	250
1980	8,749	6,574	2,175	6,160	2,589	7,697	791	261
1981	9,012	6,778	2,234	6,250	2,764	7,952	801	261
1982	9,092	6,851	2,241	6,249	2,842	8,036	788	267
1983	9,166	6,881	2,285	6,324	2,842	8,095	806	266
				Projected*				
1984	8,866	6,671	2,195	6,107	2,759	7,756	835	275
1985	8,730	6,570	2,160	6,008	2,722	7,601	845	284
1986	8,607	6,480	2,127	5,908	2,699	7,467	852	288
1987	8,547	6,438	2,109	5,850	2,697	7,402	858	287
1988	8,533	6,433	2,100	5,825	2,708	7,393	855	285
1989	8,529	6,433	2,097	5,815	2,713	7,394	852	282
1990	8,445	6,371	2,075	5,761	2,684	7,316	849	280
1991	8,326	6,278	2,048	5,683	2,642	7,199	848	278
1992	8,165	6,159	2,007	5,567	2,598	7,044	844	277
1993	8,043	6,069	1,974	5,471	2,572	6,925	842	276

*For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

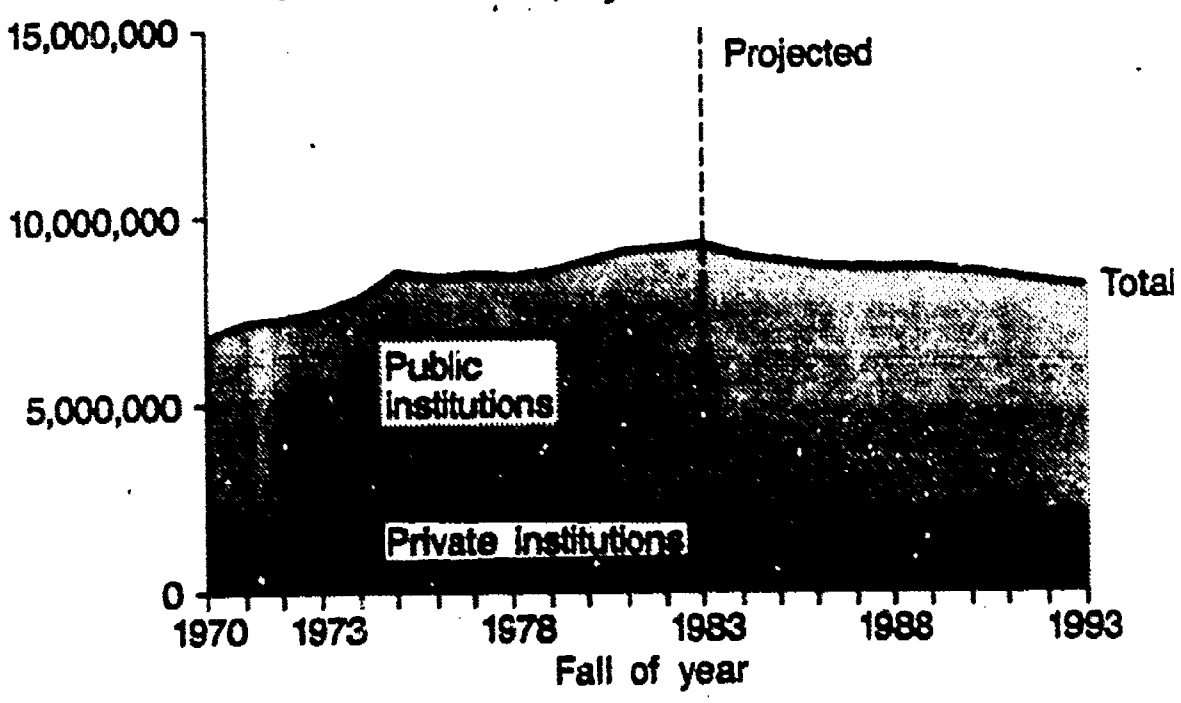
SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, *Fall Enrollment in Colleges and Universities*, various years; *Projections of Education Statistics to 1992-93*, 1985, and unpublished tabulations (December 1984).

Full-Time-Equivalent (FTE) Enrollment Trends in Institutions of Higher Education, by Institutional Characteristics

FTE Enrollment, by Type of Institution



FTE Enrollment, by Control of Institution



When converted to full-time-equivalence, enrollments in both 4-year and 2-year institutions are expected to decline throughout the rest of the 1980's and into the 1990's. These declines should be felt in both public and private institutions.

Table 2.8

Trends in Total, Male, and Full-Time Enrollment in Institutions of Higher Education, by Control and New Institutional Classification: United States, Fall 1978 to Fall 1983

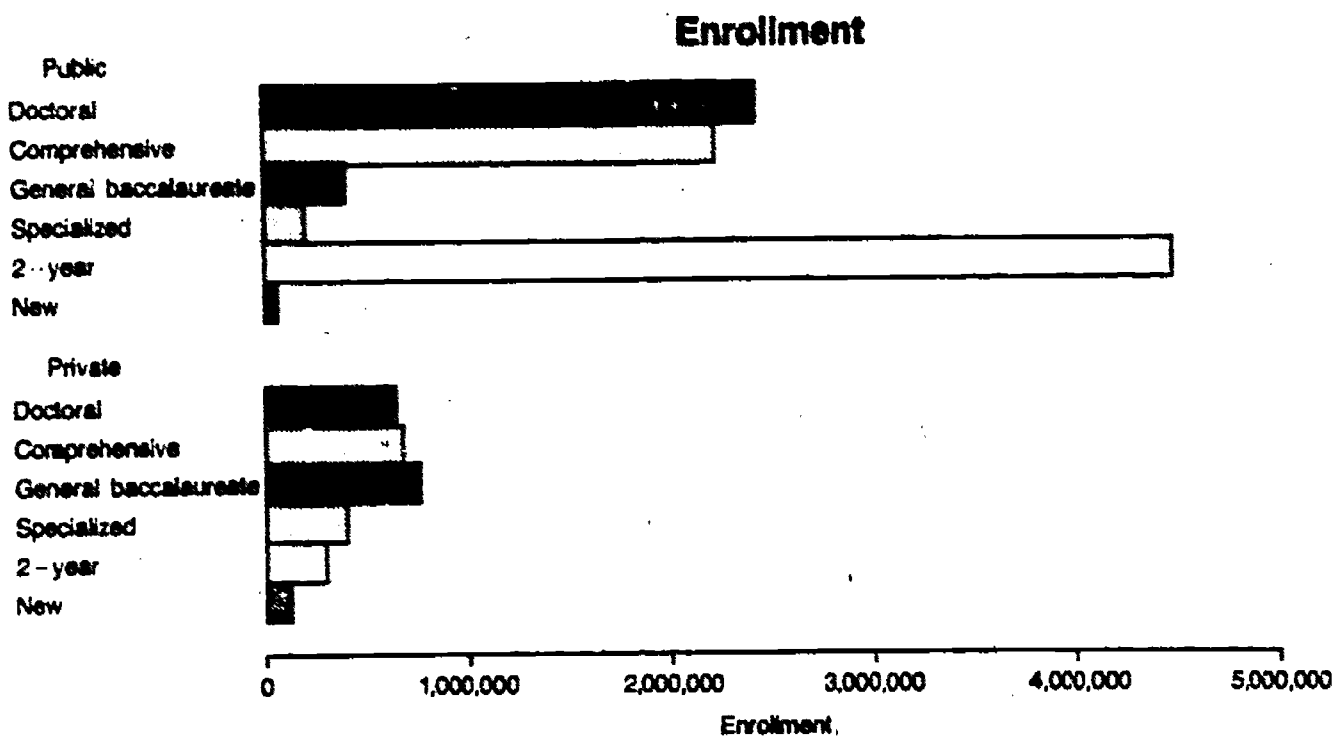
Control and Type of Institution	1978	1980	1982	1983	1978	1980	1982	1983
	Number (in Thousands)				Indexed to 1978 (1978 = 100.0)			
Total, all institutions	11,260	12,097	12,426	12,465	100.0	107.4	110.4	110.7
Doctoral	2,902	3,029	3,028	3,044	100.0	104.4	104.3	104.9
Comprehensive	2,721	2,814	2,838	2,877	100.0	103.4	104.3	105.7
General baccalaureate	1,103	1,173	1,181	1,150	100.0	106.3	107.1	104.3
Specialized	483	543	575	599	100.0	112.4	119.0	124.0
2-year	4,051	4,472	4,666	4,725	100.0	110.4	115.2	116.6
New	1	66	137	69	100.0	—	—	—
Public	8,786	9,457	9,696	9,683	100.0	107.6	110.4	110.2
Doctoral	2,262	2,364	2,366	2,411	100.0	104.5	104.6	106.6
Comprehensive	2,133	2,208	2,225	2,208	100.0	103.5	104.5	103.5
General baccalaureate	370	395	410	397	100.0	106.8	110.8	107.3
Specialized	139	180	193	199	100.0	129.5	138.8	143.2
2-year	3,881	4,284	4,464	4,456	100.0	110.4	115.0	114.8
New	0	27	37	12	100.0	—	—	—
Private	2,474	2,640	2,730	2,782	100.0	106.7	110.3	112.4
Doctoral	639	665	662	633	100.0	104.1	103.6	99.1
Comprehensive	588	606	613	669	100.0	103.1	104.3	113.8
General baccalaureate	733	777	771	753	100.0	106.1	105.2	102.7
Specialized	344	363	382	400	100.0	105.5	111.0	116.3
2-year	169	188	202	269	100.0	111.2	119.5	159.2
New	1	39	100	58	100.0	—	—	—
	Male Students as Percent of Total				Full-Time Students as Percent of Total			
Total	50.1	48.6	48.5	48.3	59.2	58.7	58.1	58.2
Public	49.3	47.8	47.8	47.6	55.5	54.8	54.5	54.7
Doctoral	53.8	52.6	52.5	52.4	76.1	76.3	76.2	75.6
Comprehensive	47.8	46.7	47.0	46.9	64.1	64.5	64.8	65.7
General baccalaureate	48.6	47.2	47.5	47.4	62.6	60.8	60.4	61.2
Specialized	65.5	68.3	68.1	66.5	80.3	83.0	83.6	81.7
2-year	47.0	45.0	44.8	44.5	37.1	36.5	36.2	36.2
New	—	48.0	49.0	49.2	—	24.2	32.6	50.9
Private	52.9	51.2	51.2	50.8	72.5	72.5	70.9	70.5
Doctoral	58.0	56.6	55.8	55.6	71.7	71.4	72.5	72.8
Comprehensive	53.8	51.7	51.0	50.4	64.1	64.7	64.0	63.2
General baccalaureate	45.9	44.4	44.2	44.0	79.9	78.4	76.7	76.3
Specialized	62.1	59.6	58.1	57.3	57.2	69.3	66.9	65.5
2-year	42.5	39.0	39.6	45.0	76.6	78.2	78.0	79.7
New	74.2	68.6	73.8	74.3	90.5	88.1	59.6	46.9

—Not applicable.

NOTE: See the Definitions of Selected Terms in the appendix for the new institutional classification. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, Fall Enrollment in Colleges and Universities, unpublished tabulations (October 1984).

Total Enrollment in Higher Education, by Control and Classification of Institution: Fall 1983



Two-year institutions enrolled the largest number of students in the public sector, and general baccalaureate colleges enrolled the largest number in the private sector. In the fall of 1983, males represented the majority of students only at doctoral and specialized institutions and at private comprehensive and new institutions.

Table 2.9

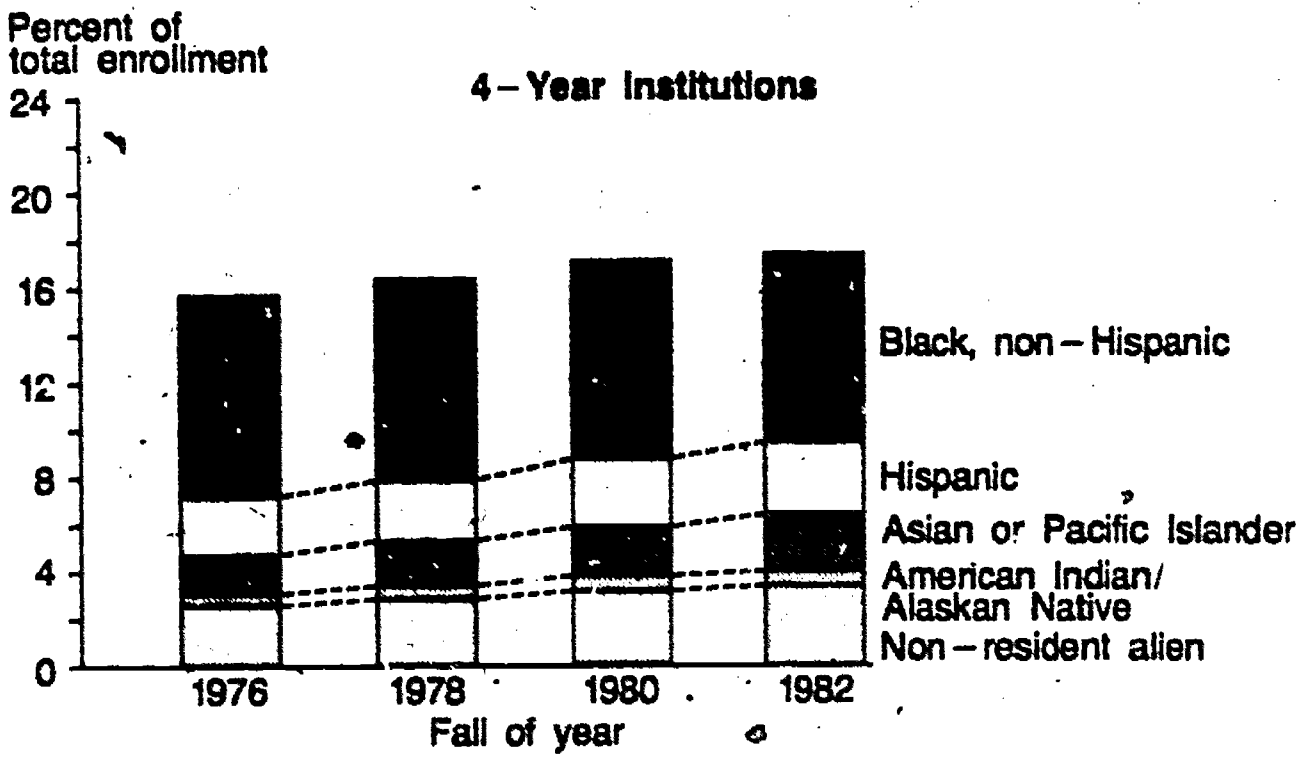
Trends in Total Enrollment in Institutions of Higher Education, by Type of Institution and by Race/Ethnicity of Student: United States, Fall 1976 to Fall 1982

Type and Race/Ethnicity	1976	1978	1980	1982	1976	1978	1980	1982
	Number (in Thousands)				Percentage Distribution			
4-year institutions	7,107	7,203	7,565	7,648	100.0	100.0	100.0	100.0
White, non-Hispanic	5,999	6,027	6,275	6,306	84.4	83.7	82.9	82.5
Total minority	931	975	1,050	1,073	13.1	13.5	13.9	14.0
Black, non-Hispanic	604	612	634	612	8.5	8.5	8.4	8.0
Hispanic	174	190	217	229	2.4	2.6	2.9	3.0
Asian or Pacific Islander	119	138	162	193	1.7	1.9	2.1	2.5
American Indian/ Alaskan Native	35	35	37	39	.5	.5	.5	.5
Non-resident alien	177	201	241	270	2.5	2.8	3.2	3.5
2-year institutions	3,879	4,028	4,521	4,740	100.0	100.0	100.0	100.0
White, non-Hispanic	3,077	3,167	3,558	3,692	79.3	78.6	78.7	77.9
Total minority	760	810	899	987	19.6	20.1	19.9	20.8
Black, non-Hispanic	429	443	472	489	11.1	11.0	10.4	10.3
Hispanic	210	227	255	291	5.4	5.6	5.6	6.1
Asian or Pacific Islander	79	97	124	158	2.0	2.4	2.7	3.3
American Indian/ Alaskan Native	41	43	47	49	1.1	1.1	1.0	1.0
Non-resident alien	42	52	64	61	1.1	1.3	1.4	1.3

NOTE: Data for all years exclude a small number of students not reported by race. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, Office for Civil Rights, *Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education, Fall 1976*; and National Center for Education Statistics, *Fall Enrollment in Higher Education, 1976*; *Digest of Education Statistics*, 1981 and 1983-84; and unpublished tabulations (March 1985).

Minority and Non-Resident Alien Representation in Total Higher Education Enrollment



Minorities represented about 14 percent of enrollment at 4-year institutions and about 21 percent at 2-year institutions in the fall of 1982, proportions essentially unchanged from 1976. Non-resident aliens made up 4 and 1 percent of students at 4- and 2-year institutions, respectively.

Table 2.10

Black Students Enrolled in All Institutions of Higher Education and in Traditionally Black Institutions, by Type and Control of Institution: United States, Fall 1976 and Fall 1982

Type and Control of Institution	All Institutions[1]		Traditionally Black Institutions (TBI)[2]		TBI Share of Black Enrollment	
	1976	1982	1976	1982	1976	1982
All institutions	1,033,000	1,101,500	185,800	177,000	**18.0**	**16.1**
4-year institutions	604,000	612,300	177,500	169,100	29.4	27.6
Universities	149,000	144,300	12,200	13,200	8.2	9.2
Other 4-year institutions	455,000	468,000	165,300	155,900	36.3	33.3
2-year institutions	429,000	489,200	8,300	7,900	1.9	1.6
Publicly controlled institutions	831,000	873,100	136,400	121,300	16.4	13.9
4-year institutions	422,000	420,700	130,300	114,800	**30.9**	**27.3**
Universities	104,000	99,700	4,900	4,000	4.8	4.1
Other 4-year institutions	318,000	321,000	125,400	110,800	39.4	34.5
2-year institutions	409,000	452,400	6,000	6,500	**1.5**	**1.4**
Privately controlled institutions	202,000	228,400	49,400	55,700	24.5	24.4
4-year institutions	182,000	191,600	47,100	54,300	**25.9**	**28.4**
Universities	45,000	44,600	7,200	9,200	16.1	20.7
Other 4-year institutions	137,000	147,000	39,900	45,100	29.1	30.7
2-year institutions	20,000	26,800	2,300	1,400	**11.6**	**3.8**

[1]Data for 1976 are approximations only; data for both years exclude a small number of students not reported by race.

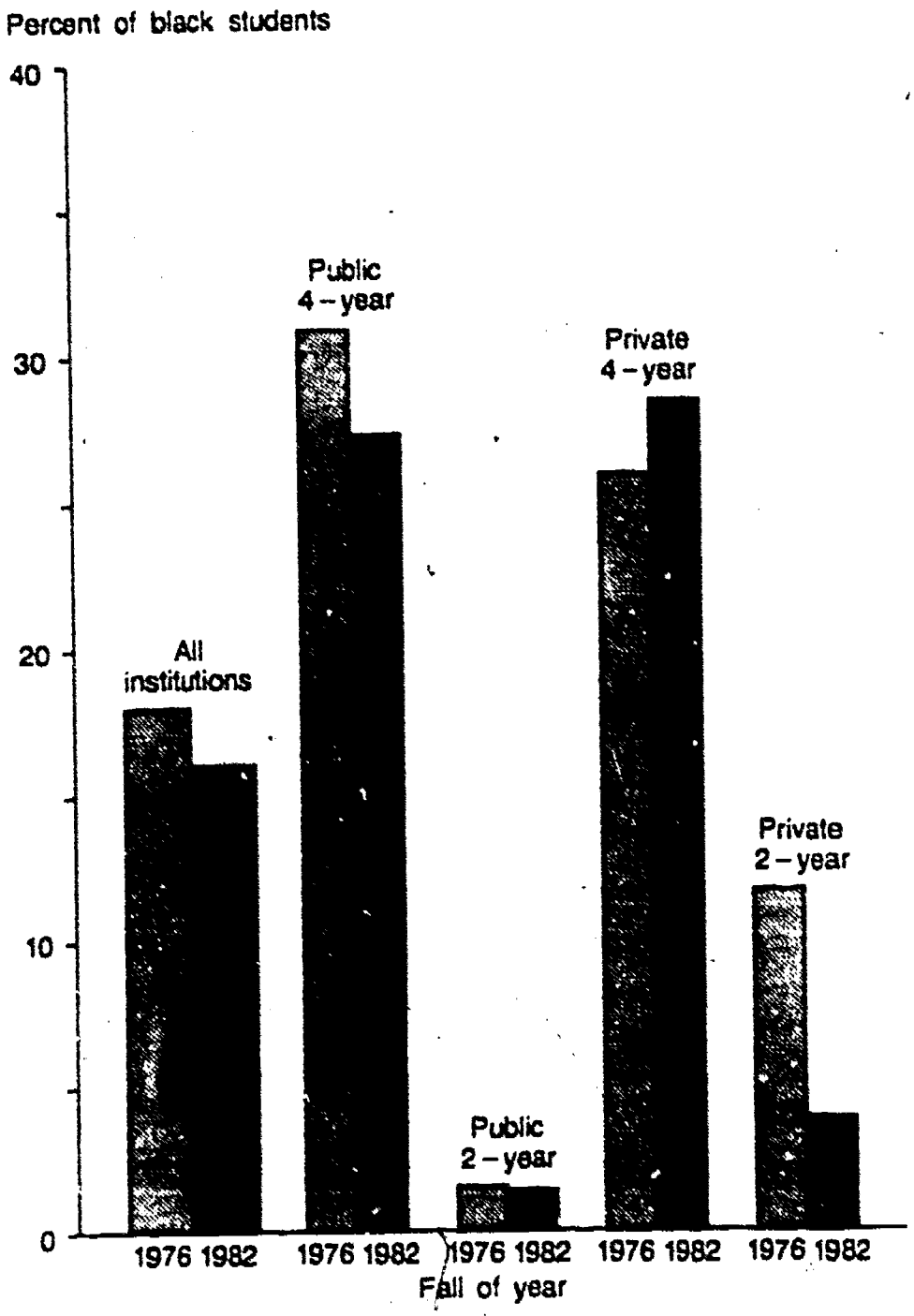
[2]Although the number of black students in traditionally black institutions declined from 1976 to 1982, the total enrollment in these institutions remained about the same because of an increase in the number of students of other races.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Fall Enrollment in Higher Education, 1976*, 1978; and unpublished tabulations (January 1985).

Chart 2.10

Percent of Black College Students Enrolled in Traditionally Black Institutions, by Type and Control of Institution



Of the black student population, the proportion attending traditionally black institutions (TBI's) decreased from 18 to 16 percent between 1976 and 1982. Only private 4-year TBI's enrolled a larger share of black students in 1982 than in 1976.

Table 2.11

Participation in Remedial/Developmental Courses in Reading, Writing, and Mathematics Offered by Institutions of Higher Education: United States, Academic Year 1983-84

Subject of Course and Control and Type of Institution	Percent of Institutions With Remedial/Developmental Courses	For Institutions Offering Remedial/Developmental Courses in the Subject		
		Average Percent* of Entering Freshmen Who:		Average Percent* of Students Enrolled in Remedial Courses Who Passed or Successfully Completed Them
		Needed Remedial Course(s)	Enrolled in Remedial Course(s)	
Reading				
All institutions	65	27	23	77
Public	87	30	22	74
Private	43	22	23	84
4-year	53	21	21	82
2-year	80	32	24	74
Writing				
All institutions	73	28	25	73
Public	89	32	26	71
Private	56	24	24	77
4-year	69	24	23	76
2-year	78	33	28	71
Mathematics				
All institutions	71	32	30	73
Public	88	37	31	68
Private	53	26	28	81
4-year	61	26	27	74
2-year	82	39	32	72

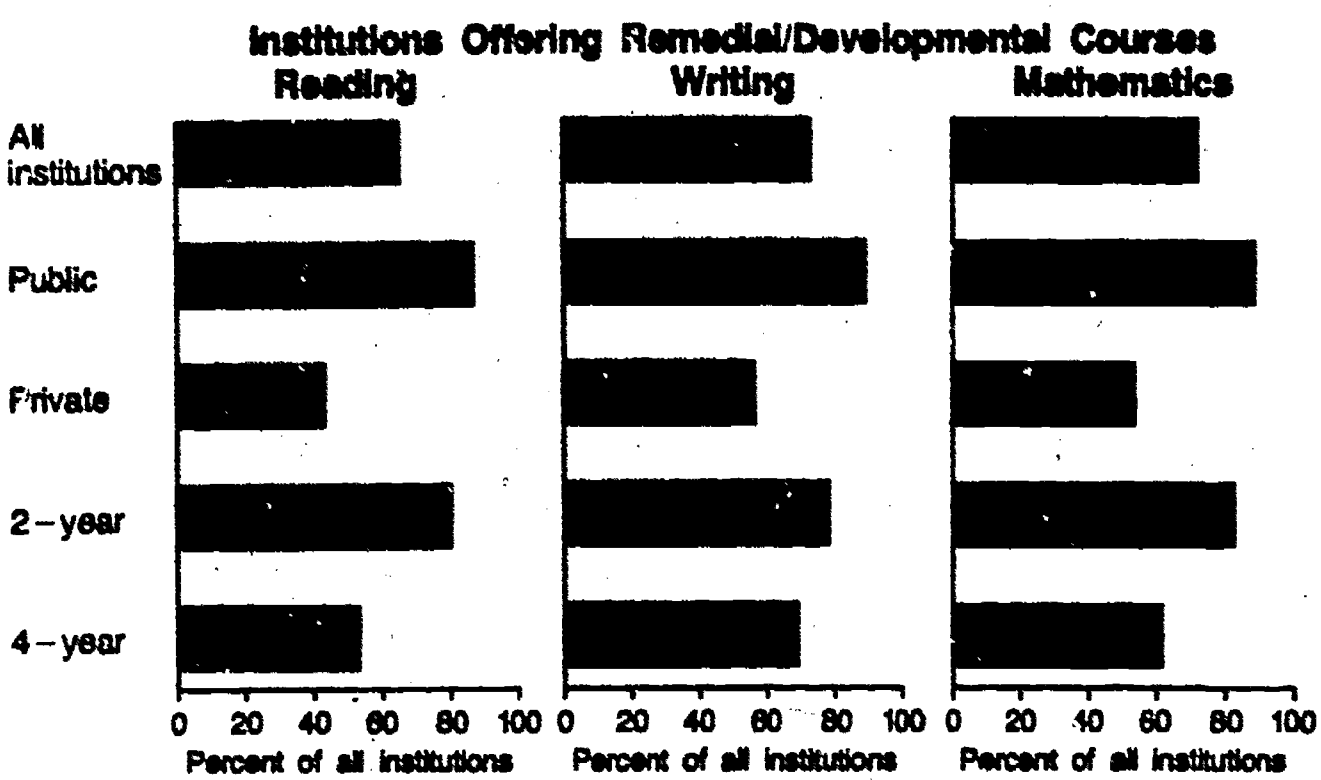
*These percents are institutional averages for institutions offering remedial courses in the subject. These percents have not been weighted by the enrollment size of the institutions.

NOTE: Responses are based at the national level on an estimated 2,780 institutions of higher education with first-year students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Survey of Remedial Studies in Institutions of Higher Education, 1985.

Chart 2.11

Participation in Remedial/Developmental Courses Offered by Institutions of Higher Education



Of the freshmen entering institutions that offered remedial/developmental courses in 1983-84, about one-fourth enrolled in such courses in reading, writing, and mathematics. About three-fourths of those who enrolled in remedial courses completed them successfully.

Table 2.12

Past and Projected Trends in Full-Time and Part-Time Senior Instructional Staff[1] in Institutions of Higher Education, by Control and Type of Institution: United States, Fall 1970 to Fall 1993

(In Thousands)

Fall of Year	Total	Employment Status		Control		Type	
		Full-Time	Part-Time	Public	Private	4-Year	2-Year
1970	474	369	104	314	160	382	92
1971	492	379	113	333	159	387	105
1972	500	380	120	343	157	384	116
1973	527	389	138	365	162	401	126
1974	567	406	161	397	170	427	140
1975	628	440	188	443	185	467	161
1976	633	434	199	450	183	467	166
1977	656	445	211	468	188	483	173
1978	656	441	215	467	189	485	171
1979	675	445	230	488	187	494	182
1980[2]	685	450	236	495	191	494	192
1981	696	452	245	500	196	498	198
1982[2]	701	455	246	506	195	499	202
1983[2]	702	457	245	507	195	500	202
			Projected[3]				
1984	700	455	245	506	194	498	202
1985	694	454	240	504	190	494	200
1986	684	447	237	497	187	485	198
1987	678	443	235	493	185	480	198
1988	677	442	235	493	184	478	199
1989	677	442	235	493	184	478	199
1990	670	437	233	488	182	473	197
1991	661	431	230	481	180	467	194
1992	648	423	225	472	176	457	191
1993	635	415	220	463	172	447	188

[1]Faculty members with the title of professor, associate professor, assistant professor, instructor, lecturer, assisting professor, adjunct professor, or interim professor (or its equivalent). Excluded are graduate students with titles such as graduate or teaching fellow who assist senior staff.

[2]Estimated on the basis of enrollment.

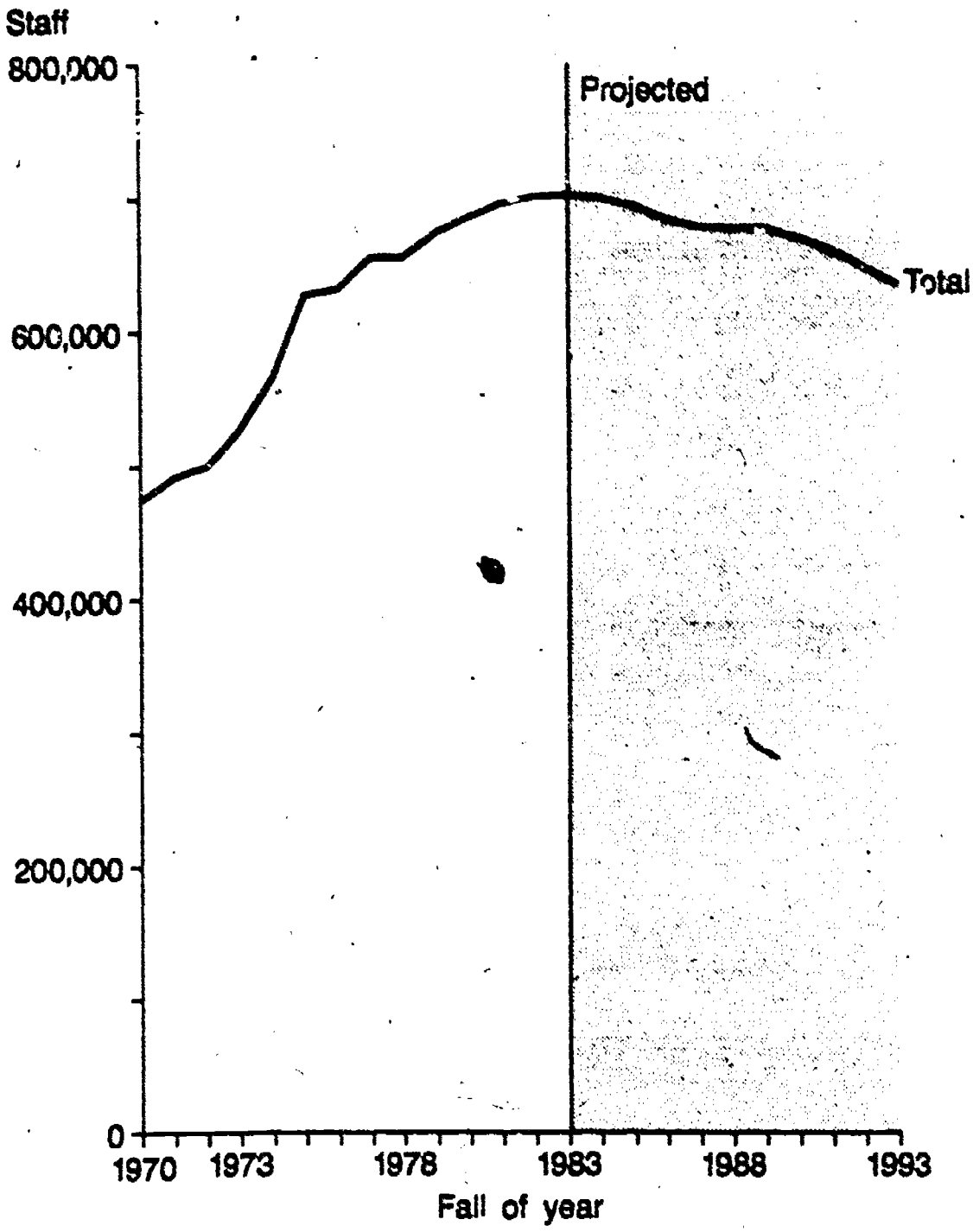
[3]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Employees in Institutions of Higher Education*, various years; *Projections of Education Statistics to 1992-93*, 1985; Equal Employment Opportunity Commission, Higher Education Staff Information Report File, various years; and unpublished tabulations (December 1984).

Chart 2.12

Senior Instructional Staff in Institutions of Higher Education



The number of instructional staff in institutions of higher education is expected to decline somewhat into the 1990's, reflecting the anticipated decrease in enrollment.

Table 2.13

Average Salary of Full-Time Instructional Faculty in Institutions of Higher Education, by Academic Rank and by Sex: United States, Selected Years, 1972-73 to 1983-84

Academic Year and Sex	Constant (1983-84) Dollars	Current Dollars						
		All Ranks	Professor	Associate Professor	Assistant Professor	Instructor	Lecturer	Undesignated or no Academic Rank
1972-73								
Total	**$32,935**	**$13,850**	$19,182	$14,572	$12,029	$10,737	$11,637	$12,676
Male	34,279	14,415	19,405	14,714	12,190	11,147	12,105	13,047
Female	28,358	11,925	17,122	13,827	11,510	10,099	10,775	11,913
1975-76								
Total	**30,523**	**16,634**	22,611	17,026	13,966	13,682	12,887	15,201
Male	31,907	17,388	22,866	17,167	14,154	14,440	13,577	15,764
Female	26,226	14,292	20,257	16,336	13,506	12,580	11,870	14,098
1979-80								
Total	**28,012**	**21,367**	28,371	21,431	17,459	14,021	16,151	20,479
Male	29,396	22,423	28,653	21,627	17,712	14,321	16,987	21,247
Female	24,116	18,395	25,910	20,642	16,971	13,749	15,142	19,069
1980-81								
Total	**27,380**	**23,302**	30,753	23,214	18,901	15,178	17,301	22,334
Male	28,786	24,499	31,082	23,451	19,227	15,545	18,281	23,170
Female	23,495	19,996	27,959	22,295	18,302	14,854	16,168	20,843
1981-82								
Total	**27,510**	**25,449**	33,437	25,278	20,608	16,450	18,756	24,331
Male	28,966	26,796	33,799	25,553	21,025	16,906	19,721	25,276
Female	23,568	21,802	30,438	24,271	19,866	16,054	17,676	22,672
1982-83								
Total	**28,202**	**27,196**	35,540	26,921	22,056	17,601	20,072	25,557
Male	29,724	28,664	35,956	27,262	22,586	18,160	21,225	26,541
Female	24,122	23,261	32,221	25,738	21,130	17,102	18,830	23,855
1983-84								
Total*	**29,100**	**29,100**	—	—	—	—	—	—

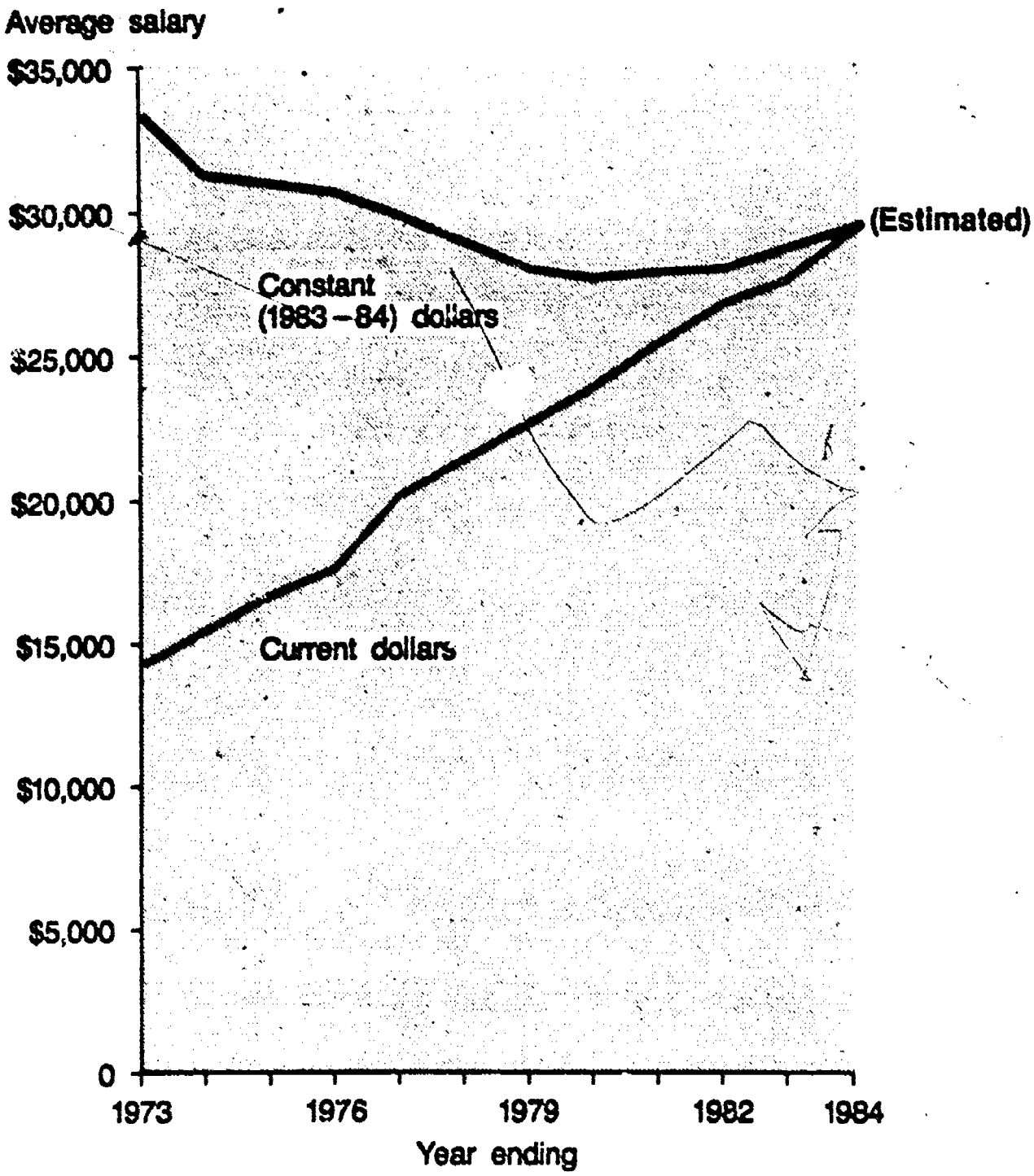
*Estimated.

—Not available.

NOTE. Data for 1972-73 and 1975-76 are for faculty on 9- to 10-month contracts; data for 1979-80 to 1983-84 are for faculty on 9-month contracts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty, various years, and unpublished tabulations (December 1984).

Average Salary of Full-Time Instructional Staff, All Academic Ranks Combined



College faculty members generally suffered losses in the purchasing power of their salaries from 1972-73 to 1980-81. While they have recouped some of their losses in the past 3 years, their salaries in 1983-84 were still below those in 1972-73.

Table 2.14

Sources of Current-Fund Revenues for Institutions of Higher Education, by Control and Type of Institution: United States, 1970-71 and 1981-82

Year and Source	Total	Public Institutions		Private Institutions	
		4-Year	2-Year	4-Year	2-Year
	Amount, in Millions of Dollars				
1970-71					
Total	$23,879	$13,260	$2,266	$8,115	$237
Government[1]	12,106	8,291	1,778	2,020	16
Federal[2]	4,601	2,616	153	1,819	13
State	6,595	5,528	924	140	3
Local	910	147	701	61	1
Private sources	1,227	348	11	838	31
Students[3]	8,146	3,485	437	4,043	181
Tuition and fees	5,021	1,738	295	2,871	118
Auxiliary enterprises[4]	3,125	1,748	143	1,173	62
Institutional[5]	2,401	1,136	41	1,215	9
1981-82					
Total	72,191	38,715	8,556	24,181	739
Government[1]	33,378	22,302	6,225	4,802	49
Federal[2]	9,592	4,882	491	4,187	32
State	21,849	17,142	4,255	438	14
Local	1,938	279	1,478	177	4
Private sources	3,564	1,236	41	2,230	57
Students[3]	23,896	9,583	1,935	11,792	586
Tuition and fees	15,774	5,014	1,381	8,896	483
Auxiliary enterprises[4]	8,122	4,569	554	2,896	103
Institutional[5]	11,353	5,594	355	5,358	46
	Percentage Distribution				
1970-71					
Total	100.0	100.0	100.0	100.0	100.0
Government[1]	50.7	62.5	78.5	24.9	6.8
Federal[2]	19.3	19.7	6.8	22.4	5.5
State	27.6	41.7	40.8	1.7	1.1
Local	3.8	1.1	30.9	.8	.3
Private sources	5.1	2.6	.5	10.3	12.9
Students[3]	34.1	26.3	19.3	49.8	76.3
Tuition and fees	21.0	13.1	13.0	35.4	49.9
Auxiliary enterprises[4]	13.1	13.2	6.3	14.4	26.4
Institutional[5]	10.1	8.6	1.8	15.0	3.9
1981-82					
Total	100.0	100.0	100.0	100.0	100.0
Government[1]	46.2	57.6	72.8	19.9	6.7
Federal[2]	13.3	12.6	5.7	17.3	4.3
State	30.3	44.3	49.7	1.8	1.9
Local	2.7	.7	17.3	.7	.5
Private sources	4.9	3.2	.5	9.2	7.7
Students[3]	33.1	24.8	22.6	48.8	79.4
Tuition and fees	21.9	13.0	16.1	36.8	65.4
Auxiliary enterprises[4]	11.3	11.8	6.5	12.0	14.0
Institutional[5]	15.7	14.5	4.1	22.2	6.3

[1]Includes appropriations, restricted and unrestricted grants and contracts.

[2]Excludes Federal aid going directly to students, e.g., Pell grants. Includes appropriations, restricted and unrestricted grants and contracts, and independent operations such as Federally Funded Research and Development Centers (FFRDC).

[3]Includes Federal aid going to students, e.g., Pell grants.

[4]Includes revenues generated by operations that were essentially self-supporting within the institutions, such as residence halls, food services, student health services, and college unions. Nearly all such revenues are derived from students.

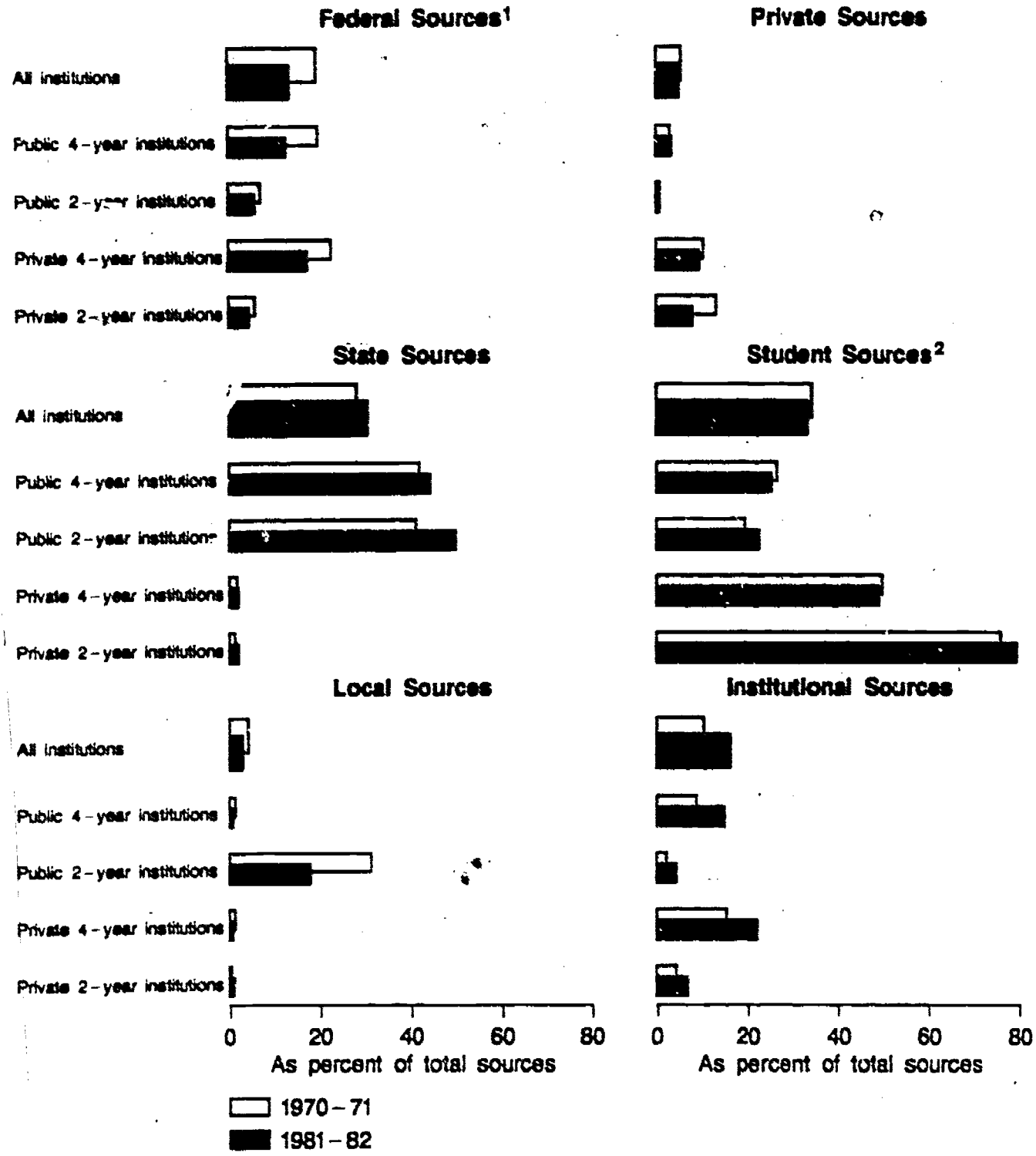
[5]Includes endowment income, sales and services of educational activities, sales and services of hospitals, and other sources.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education: Current Funds Revenues and Expenditures, 1970-71*, 1974; and Higher Education General Information Survey, Financial Statistics of Institutions of Higher Education, for Fiscal Year 1982, unpublished tabulations (November 1983).

Chart 2.14

Sources of Current-Fund Revenues for Institutions of Higher Education



[1]Excludes Federal aid that goes directly to students, e.g., Pell grants.
[2]Includes Federal aid that goes directly to students, e.g., Pell grants.

State funding for public higher education, already the largest single source, increased proportionately more than funding from Federal and local governments between 1970-71 and 1981-82. Students revenues continued to represent the largest single source for private institutions.

Table 2.15

Trends in Federal and Federally Generated Funds for the Financial Assistance of Postsecondary Students: United States and Outlying Areas, Fiscal Years 1980 to 1984

(In Thousands)

Source of Funds	1980	1981	1982	1983	1984
Total	$14,380,761	$18,906,024	$16,100,962	$16,578,759	$17,265,715
Total (excluding federally generated funds)	**8,946,261**	**10,537,024**	**9,270,362**	**9,032,859**	**8,666,315**
Department of Education	**5,090,766**	**6,165,008**	**5,755,930**	**6,599,136**	**7,059,020**
Student Financial Assistance[1]	3,682,789	3,906,285	2,732,467	4,043,597	4,097,216
Guaranteed Student Loans[2]	1,407,977	2,258,723	3,023,463	2,555,539	2,961,804
Department of Health and Human Services	**2,039,266**	**2,541,442**	**1,909,947**	**1,077,670**	**431,085**
Health Professions Training Programs	395,800	444,633	368,420	266,894	161,703
National Health Services Corps Scholarships	70,667	88,207	59,767	32,016	14,622
National Institute of Occupational Safety and Health Training Grants	12,899	7,602	5,760	5,760	8,760
Social Security Postsecondary Student Benefits	1,559,900	2,001,000	1,476,000	773,000	246,000
Veterans Administration	**1,783,954**	**1,757,676**	**1,525,778**	**1,268,353**	**1,088,091**
College Student Support	1,606,698	1,567,950	1,333,676	1,088,913	892,396
Post-Vietnam Veterans	922	4,603	14,438	24,871	41,740
Veteran Dependents Education	176,334	185,123	177,664	154,569	153,955
Other Departments and Programs	**32,295**	**72,898**	**78,707**	**87,700**	**82,119**
Department of the Interior Indian Programs – Higher Education Scholarships and Contracts	27,890	27,290	26,281	24,605	13,967
Department of Defense Tuition Assistance for Military Personnel	—	43,500	50,800	61,300	71,900
Other Programs	4,405	2,108	1,626	1,795	2,252
Off-budget assistance[3]	**5,434,500**	**8,369,000**	**6,830,600**	**7,545,900**	**8,599,400**
College Work Study Program[4]	110,200	74,000	102,300	100,500	93,800
National Direct Student Loans[5]	407,500	394,200	416,600	457,400	503,600
State Student Incentive Grants[6]	76,800	76,800	73,700	60,000	76,000
Guaranteed Student Loans[7]	4,840,000	7,824,000	6,238,000	6,928,000	7,926,000

—Not applicable.

[1]Includes: Pell Grants (BEOG); Supplementary Education Opportunity Grants (SEOG); College Work-Study Program (CWSP); National Direct Student Loans (NDSL); and State Student Incentive Grants (SSIG).

[2]Federal interest subsidy payments

[3]Financial aid generated by Department of Education student aid provisions.

[4]Estimated employer contribution to student earnings. Amount of aid for student, less appropriations.

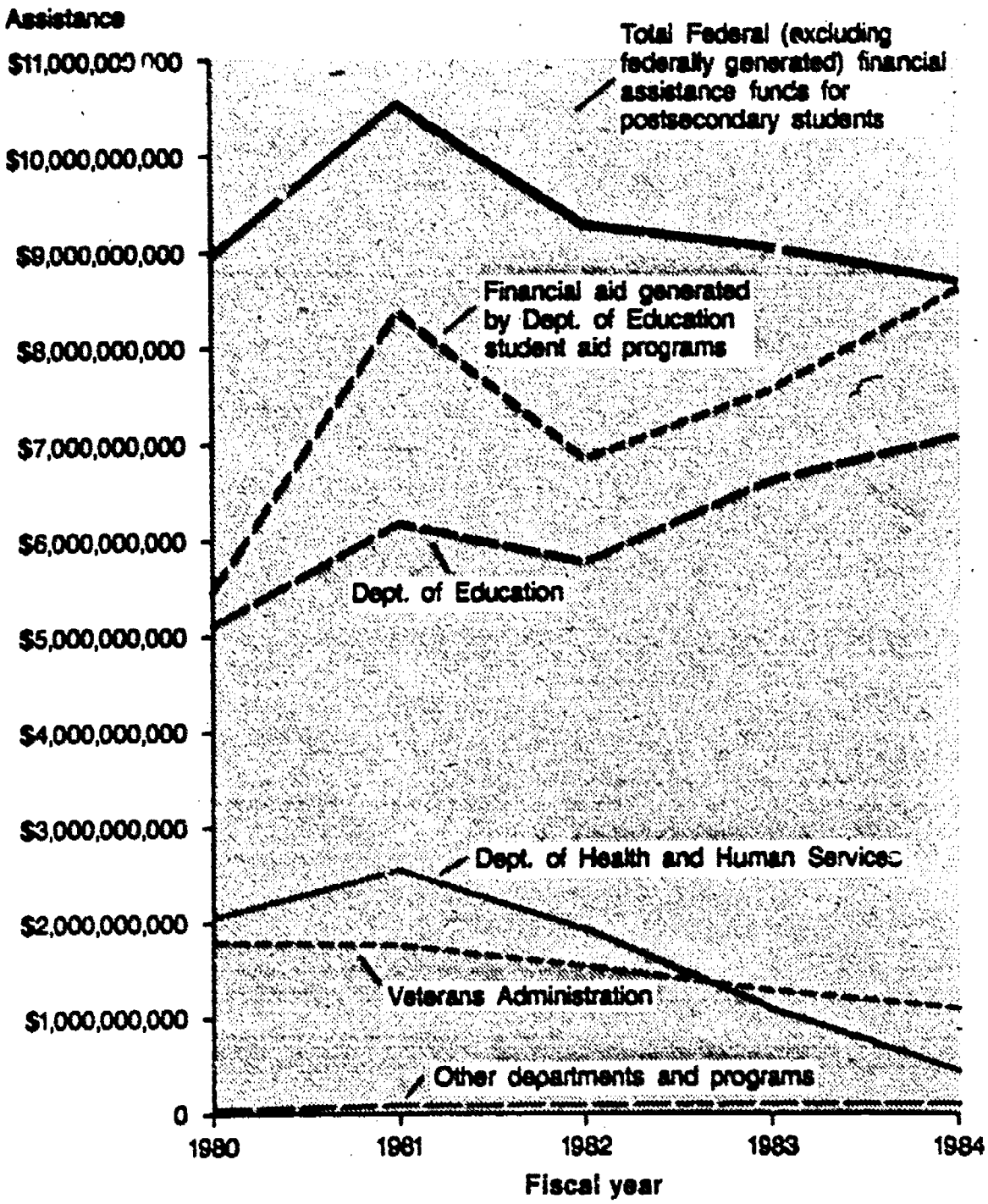
[5]Loans created with revolving funds derived from repayments of outstanding loans.

[6]State matching grants.

[7]New student loans created with government guarantees.

SOURCE: Office of Management and Budget, *Appendix, Budget of the U.S. Government*, volumes for Fiscal Years 1982 to 1985; and budget officials of the various Federal agencies.

Federal and Federally Generated Financial Assistance for Postsecondary Students



Most of the Federal funds for student assistance came from the Department of Education (ED). Over the last 4 years, funds for student assistance from ED and the Department of Defense generally increased, while from other departments and agencies they generally declined.

Table 2.16

Trends in Estimated Average Undergraduate Tuition and Room and Board Rates in Institutions of Higher Education Compared With Inflation Index,[1] by Type and Control of Institution: United States, 1973-74 to 1983-84

Year and Control of Institution	Total Tuition, Room and Board				Tuition				Inflation Index[1] (1973-74 = 100.0)
	All Institutions	Universities	Other 4-Year[2]	2-Year	All Institutions	Universities	Other 4-Year[2]	2-Year	
1973-74:									
Public	$1,517	$1,707	$1,506	$1,274	$438	$581	$463	$274	100.0
Private	3,184	3,717	3,040	2,410	1,989	2,375	1,925	1,303	
1974-75:									
Public	1,563	1,760	1,558	1,339	432	599	448	277	111.1
Private	3,403	4,076	3,156	2,591	2,117	2,614	1,954	1,367	
1975-76:									
Public	1,666	1,935	1,657	1,386	433	642	469	245	118.9
Private	3,663	4,467	3,385	2,711	2,272	2,881	2,084	1,427	
1976-77:									
Public	1,789	2,066	1,828	1,490	479	689	564	283	125.8
Private	3,907	4,716	3,714	2,971	2,467	3,051	2,351	1,592	
1977-78:									
Public	1,888	2,170	1,932	1,589	512	736	596	306	134.3
Private	4,158	5,033	3,968	3,148	2,624	3,240	2,520	1,706	
1978-79:									
Public	1,994	2,289	2,027	1,691	543	777	622	327	146.9
Private	4,514	5,403	4,326	3,389	2,867	3,487	2,771	1,831	
1979-80:									
Public	2,165	2,487	2,198	1,821	583	840	662	355	166.4
Private	4,912	5,888	4,699	3,755	3,130	3,811	3,020	2,062	
1980-81:									
Public	2,371	2,711	2,420	2,020	633	915	721	385	185.7
Private	5,458	6,566	5,249	4,290	3,498	4,275	3,390	2,413	
1981-82:									
Public	2,668	3,079	2,701	2,217	721	1,042	813	432	201.8
Private	6,184	7,439	5,949	4,840	3,972	4,887	3,855	2,697	
1982-83:									
Public	2,944	3,403	3,032	2,390	798	1,164	936	473	210.5
Private	6,920	8,537	6,646	5,364	4,439	5,583	4,329	3,008	
1983-84[3]:									
Public	3,156	3,628	3,285	2,534	891	1,284	1,052	528	218.2
Private	7,509	9,307	7,244	5,571	4,851	6,217	4,726	3,099	

[1]Index constructed using Consumer Price Index data averaged on a school-year time frame with a base year of 1973-74.

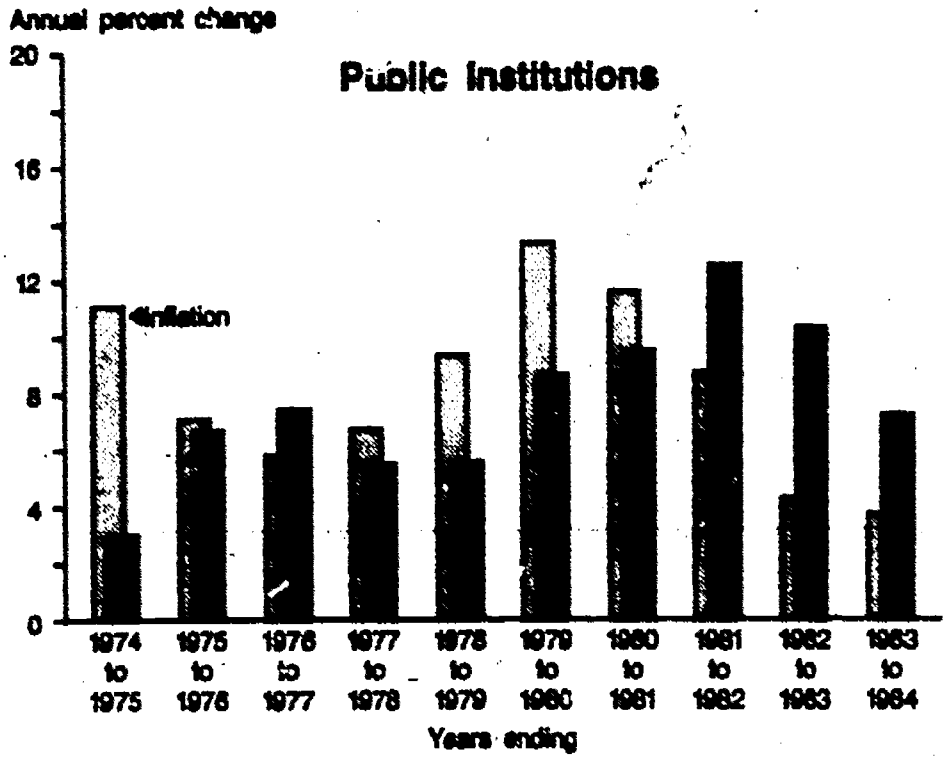
[2]Includes liberal arts colleges, teachers colleges, professional schools, and all other 4-year institutions except universities.

[3]Data have been revised since originally published.

NOTE: Data are for the entire academic year and are weighted average charges. Tuition and fees were calculated on the basis of full-time-equivalent students (including undergraduate resident and nonresident students). Room and board rates were based on full-time students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics to 1986-87*, 1978; *Higher Education, Basic Student Charges, 1974-75*, 1976; and unpublished tabulations (January 1985).

Annual Percent Change in Average Undergraduate Tuition and Room and Board Rates, by Control of Institution



Increases in undergraduate charges generally followed the inflation rate, but frequently lagged behind it by a few years. Thus, when inflation dropped sharply after 1980-81, charges continued to rise.

Table 2.17

Trends in Current-Fund Expenditures and Mandatory Transfers of Institutions of Higher Education, and Expenditures per Full-Time-Equivalent (FTE) Student, by Control of Institution: United States, 1970-71 to 1981-82

Control of Institution and Year	Current-Fund Expenditures, in Millions		Current-Fund Expenditures per FTE Student, in Constant (1981-82) Dollars*
	Current Dollars	Constant (1981-82) Dollars*	
All institutions:			
1970-71	$23,375	$52,785	$7,834
1971-72	25,560	54,658	7,646
1972-73	27,956	56,771	7,827
1973-74	30,714	58,258	7,816
1974-75	35,058	61,256	7,848
1975-76	38,903	63,756	7,519
1976-77	42,600	65,559	7,697
1977-78	45,971	66,318	7,681
1978-79	50,721	67,909	8,134
1979-80	56,914	69,357	8,172
1980-81	64,053	70,485	7,992
1981-82	70,339	70,339	7,803
Public:			
1970-71	14,996	33,863	6,837
1971-72	16,484	35,251	6,596
1972-73	18,204	36,968	6,780
1973-74	20,336	38,574	6,852
1974-75	23,490	41,044	6,904
1975-76	26,184	42,911	6,579
1976-77	28,635	44,068	6,940
1977-78	30,725	44,325	6,930
1978-79	33,733	45,164	7,193
1979-80	37,768	46,025	7,200
1980-81	42,280	46,526	7,004
1981-82	46,219	46,219	6,816
Private:			
1970-71	8,379	18,921	10,602
1971-72	9,075	19,407	10,756
1972-73	9,752	19,804	10,997
1973-74	10,377	19,684	10,792
1974-75	11,568	20,212	10,863
1975-76	12,719	20,845	10,649
1976-77	13,965	21,491	10,950
1977-78	15,246	21,994	10,894
1978-79	16,988	22,745	10,992
1979-80	19,146	23,331	11,138
1980-81	21,773	23,960	11,007
1981-82	24,120	24,120	10,801

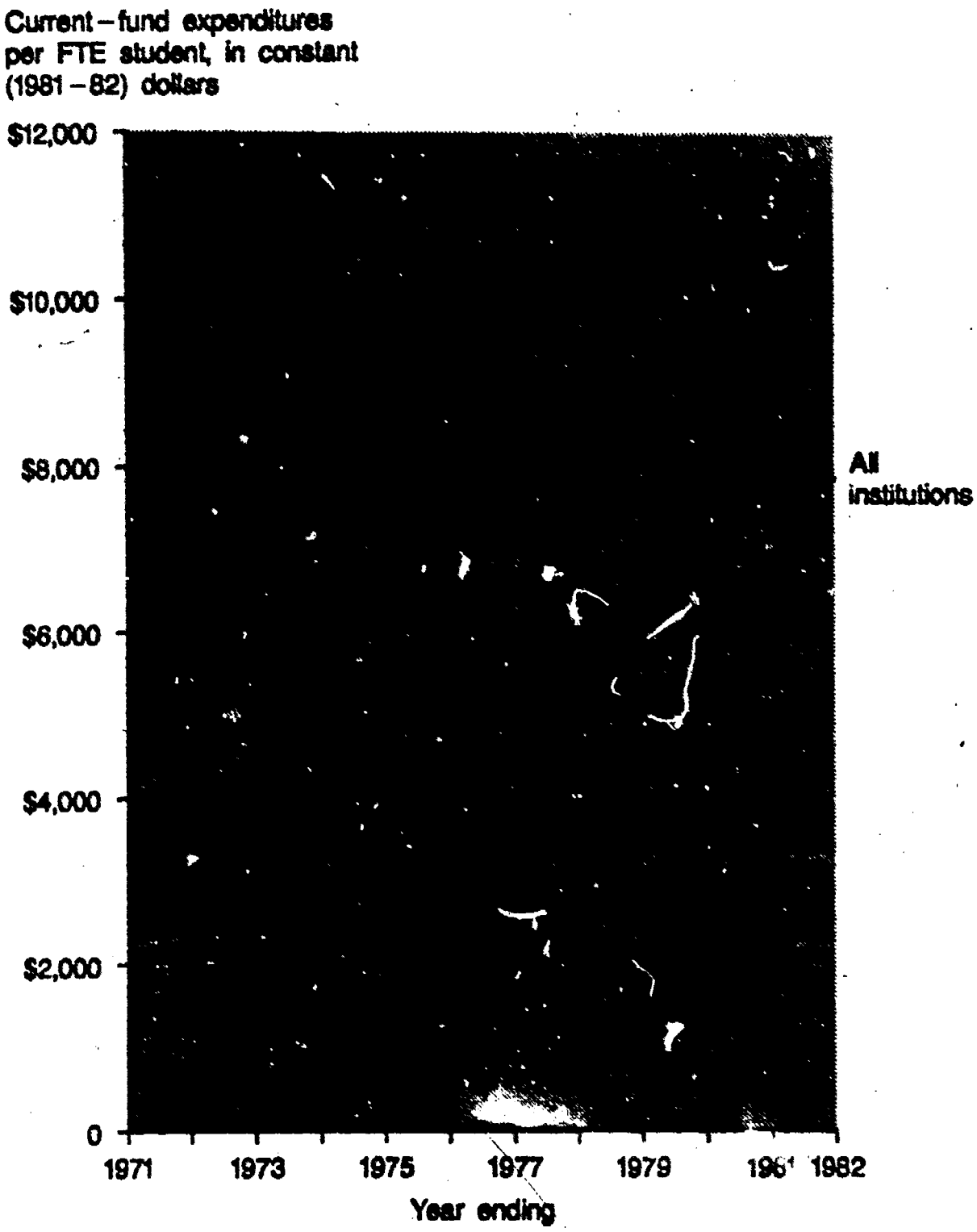
*Dollars adjusted using the Higher Education Price Index, from National Institute of Education, *Inflation Measures for Schools and Colleges*, 1983.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, Financial Statistics of Institutions of Higher Education and Fall Enrollment in Colleges and Universities, unpublished tabulations (November 1983).

Chart 2.17

Higher Education Current-Expenditures Per Full-Time-Equivalent Student



When adjusted for inflation, current-fund expenditures per full-time-equivalent student rose slightly from 1970-71 to 1979-80, but have fallen somewhat since then.

Table 2.18

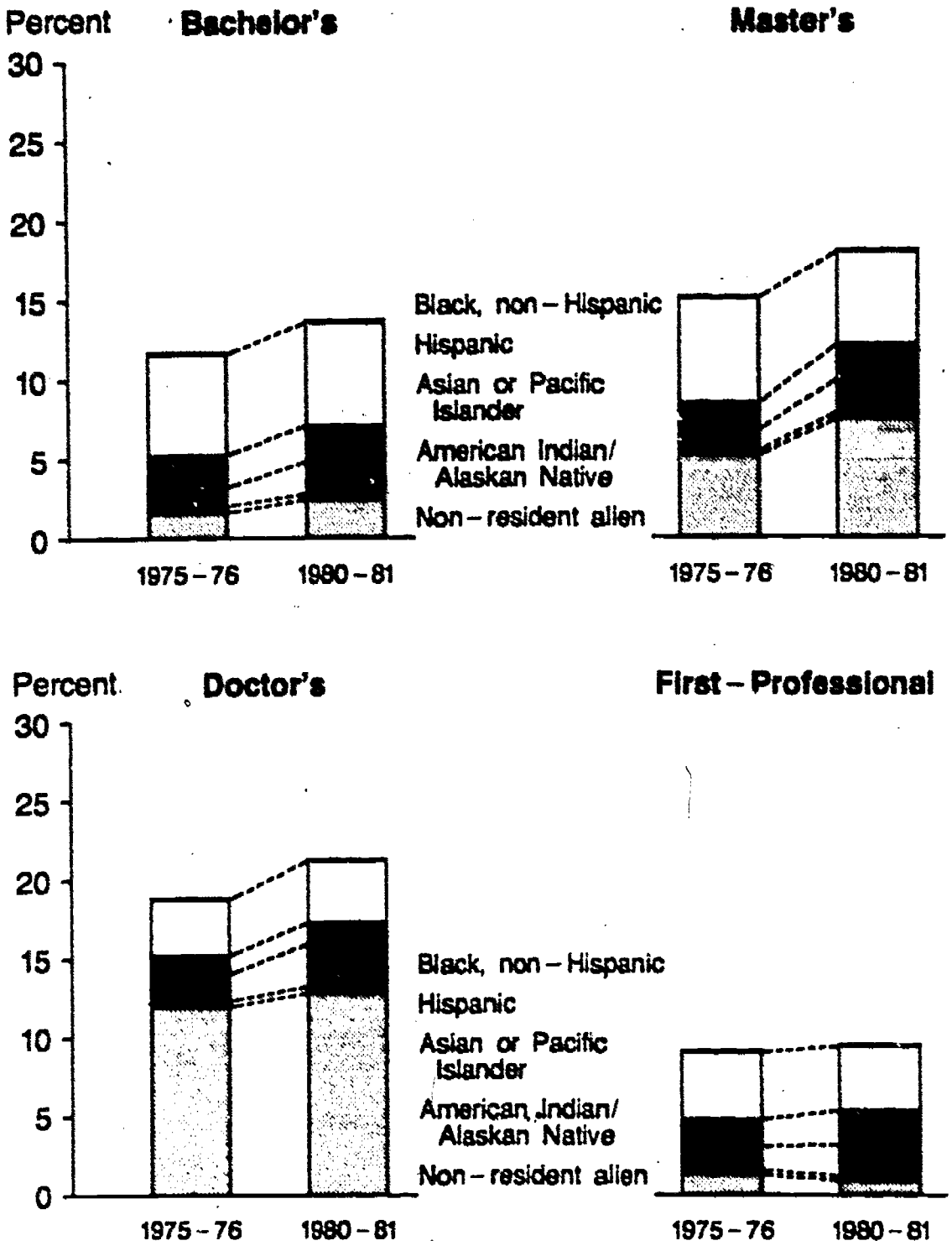
Earned Degrees Conferred* by Institutions of Higher Education, by Level of Degree and by Race/Ethnicity of Recipient: United States, 1975-76 and 1980-81

Level and Race/Ethnicity	1975-76	1980-81	1975-76	1980-81
	Number		Percentage Distribution	
Bachelor's	918,388	931,583	100.0	100.0
White, non-Hispanic	811,599	804,469	88.4	86.4
Total minority	91,777	104,541	10.0	11.2
Black, non-Hispanic	59,122	60,533	6.4	6.5
Hispanic	17,964	21,731	2.0	2.3
Asian or Pacific Islander	11,193	18,693	1.2	2.0
American Indian/ Alaskan Native	3,498	3,584	.4	.4
Non-resident alien	15,012	22,573	1.6	2.4
Master's	309,263	294,182	100.0	100.0
White, non-Hispanic	262,771	241,215	85.0	82.0
Total minority	30,418	30,910	9.8	10.5
Black, non-Hispanic	20,345	17,133	6.6	5.8
Hispanic	5,299	6,461	1.7	2.2
Asian or Pacific Islander	3,991	6,282	1.3	2.1
American Indian/ Alaskan Native	783	1,034	.3	.4
Non-resident alien	16,074	22,057	5.2	7.5
Doctor's	33,787	32,839	100.0	100.0
White, non-Hispanic	27,434	25,908	81.2	78.9
Total minority	2,285	2,728	6.8	8.3
Black, non-Hispanic	1,213	1,265	3.6	3.9
Hispanic	396	456	1.2	1.4
Asian or Pacific Islander	583	877	1.7	2.7
American Indian/ Alaskan Native	93	130	.3	.4
Non-resident alien	4,068	4,203	12.0	12.8
First-professional	62,085	71,273	100.0	100.0
White, non-Hispanic	56,332	64,490	90.7	90.5
Total minority	4,924	6,114	7.9	8.6
Black, non-Hispanic	2,694	2,929	4.3	4.1
Hispanic	1,079	1,540	1.7	2.2
Asian or Pacific Islander	962	1,454	1.5	2.0
American Indian/ Alaskan Native	189	191	.3	.3
Non-resident alien	829	669	1.3	.9

*Excludes degrees conferred by U.S. Service Schools, included in tabulations presented elsewhere in this publication.

SOURCE: U.S. Department of Education, Office for Civil Rights, *Data on Earned Degrees Conferred from Institutions of Higher Education, by Race, Ethnicity, and Sex*, 1975-76 and 1980-81.

Minority and Non-Resident Alien Share of Earned Degrees Conferred, by Level of Degree



Minorities represented approximately one-tenth of degree recipients at each level in 1980-81, a minimal increase from 1975-76. Representation of non-resident aliens varied considerably by level; in 1980-81 they comprised 2 percent of bachelor's, 8 percent of master's, 13 percent of doctor's, and 1 percent of first-professional degree recipients.

Table 2.19

Past and Projected Trends in Bachelor's and Master's Degrees Conferred by Institutions of Higher Education, by Sex of Recipient: United States, 1970-71 to 1993-94

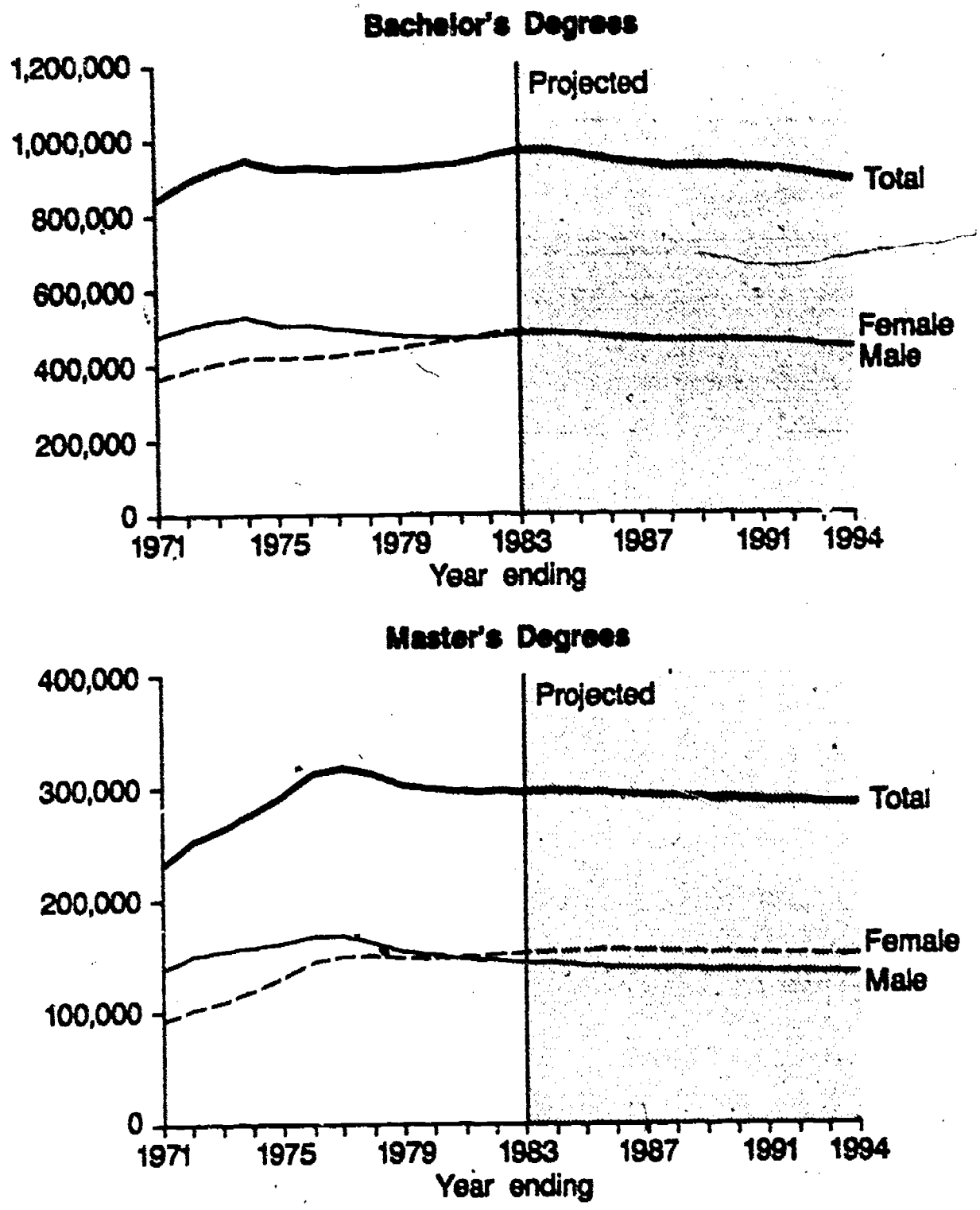
Year	Bachelor's				Master's			
	Total	Male	Female	Percent Awarded to Females	Total	Male	Female	Percent Awarded to Females
1970-71	839,730	475,594	364,136	43.4	230,509	138,146	92,363	40.1
1971-72	887,273	500,590	386,683	43.6	251,633	149,550	102,083	40.6
1972-73	922,382	518,191	404,171	43.8	263,371	154,468	108,903	41.3
1973-74	945,776	527,313	418,463	44.2	277,033	157,842	119,191	43.0
1974-75	922,933	504,841	418,092	45.3	292,450	161,570	130,880	44.8
1975-76	925,746	504,925	420,821	45.5	311,771	167,248	144,523	46.4
1976-77	919,549	495,545	424,004	46.1	317,184	167,783	149,381	47.1
1977-78	921,204	487,347	433,857	47.1	311,620	161,212	150,408	48.3
1978-79	921,390	477,344	444,046	48.2	301,079	153,370	147,709	49.1
1979-80	929,417	473,611	455,806	49.0	296,081	150,748	147,332	49.4
1980-81	935,140	469,883	465,257	49.8	295,739	147,043	148,696	50.3
1981-82	952,998	473,364	479,634	50.3	295,546	145,532	150,014	50.8
1982-83[1]	970,000	490,000	490,000	50.5	296,000	143,000	152,000	51.5
				Projected[2]				
1983-84	970,000	485,000	485,000	50.0	296,000	143,000	153,000	51.7
1984-85	960,000	480,000	480,000	50.0	295,000	141,000	154,000	52.2
1985-86	945,000	470,000	475,000	50.3	294,000	139,000	155,000	52.7
1986-87	935,000	465,000	470,000	50.3	292,000	138,000	154,000	52.7
1987-88	927,000	462,000	465,000	50.2	291,000	138,000	153,000	52.6
1988-89	927,000	462,000	465,000	50.2	289,000	137,000	152,000	52.6
1989-90	927,000	462,000	465,000	50.2	289,000	137,000	152,000	52.6
1990-91	922,000	460,000	462,000	50.1	287,000	136,000	151,000	52.6
1991-92	915,000	456,000	459,000	50.2	287,000	136,000	151,000	52.6
1992-93	900,000	449,000	451,000	50.1	285,000	135,000	150,000	52.6
1993-94	887,000	442,000	445,000	50.2	284,000	134,000	150,000	52.8

[1]Estimated.

[2]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey, *Earned Degrees Conferred by Institutions of Higher Education*, various years; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984).

Trends in Bachelor's and Master's Degrees Conferred, by Sex of Recipient



The number of bachelor's degrees awarded annually fluctuated slightly during the 1970's and is expected to reach a high point in the first half of the 1980's. Having peaked at 317,200 in 1976-77, the number of master's degrees awarded annually has declined slightly and is expected to remain under 300,000 into the 1990's.

Table 2.20

Percent of Earned Degrees Awarded to Females by Institutions of Higher Education, by Level of Degree and Discipline Division (New Classification): United States, 1970-71 and 1981-82

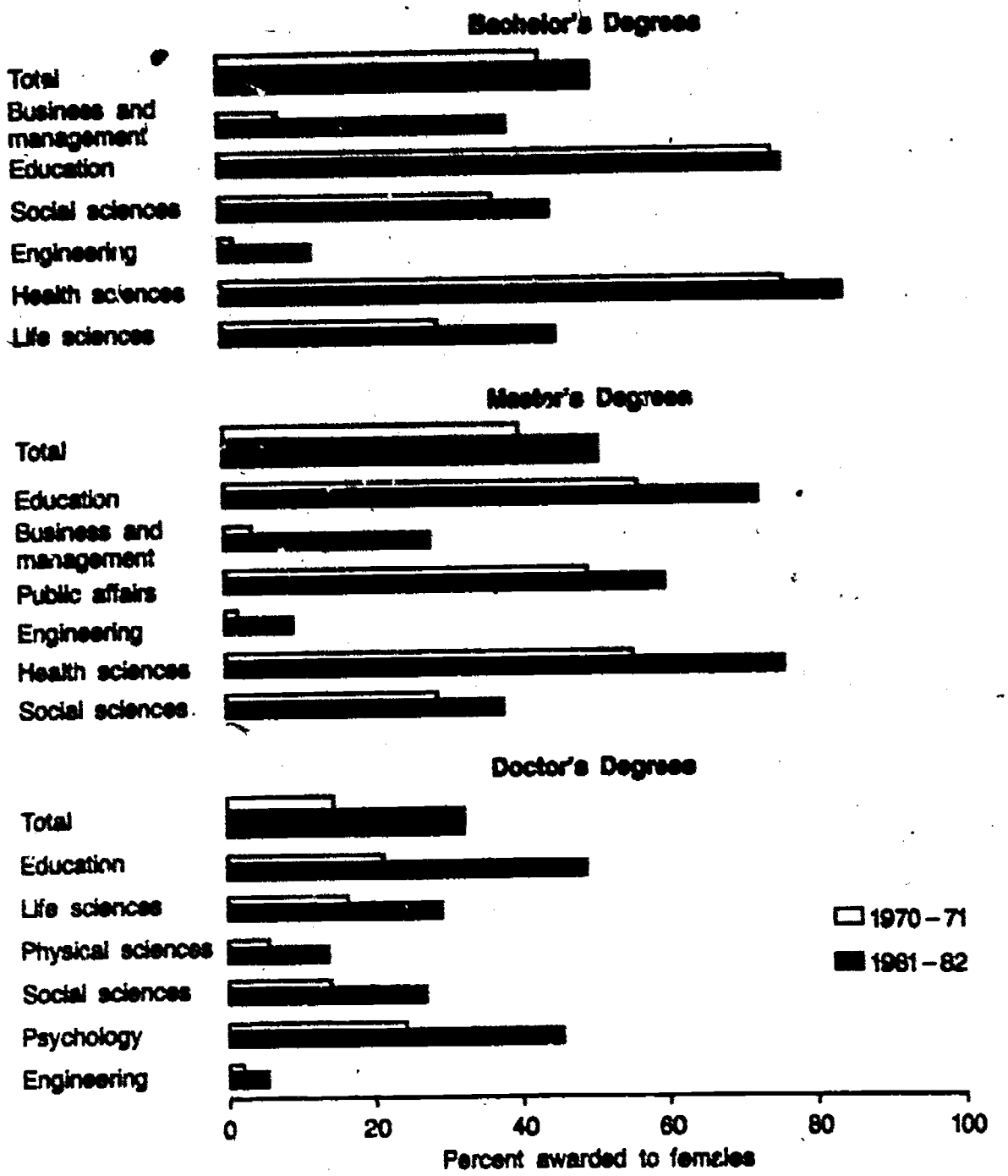
Discipline Division	Bachelor's		Master's		Doctor's	
	1970-71	1981-82	1970-71	1981-82	1970-71	1981-82
	Percent Awarded to Females					
Total	**43.4**	**50.3**	**40.1**	**50.8**	**14.3**	**32.1**
Agribusiness and agricultural production	1.6	20.2	3.7	19.1	1.6	11.4
Agricultural sciences	6.2	36.8	7.5	28.0	3.8	15.6
Renewable natural resources	2.1	28.0	2.9	23.4	0	12.4
Architecture and environmental design	11.9	29.8	13.8	32.6	8.3	27.5
Area and ethnic studies	52.4	63.9	38.3	49.3	16.7	43.1
Business and management	**8.1**	**39.0**	**3.9**	**27.8**	2.9	17.7
Business and office	97.4	95.9	—	50.0	—	—
Communications	35.5	57.0	34.6	53.3	13.1	31.9
Communications technologies	31.0	45.9	34.9	42.6	0	33.3
Computer and information sciences	13.6	34.8	10.3	26.5	2.3	8.4
Education	**74.5**	**75.9**	**56.2**	**72.3**	**21.3**	**48.6**
Engineering	**.8**	**12.3**	**1.1**	**9.0**	**.6**	**5.3**
Engineering and engineering-related technologies	.8	6.7	0	13.3	0	13.3
Foreign languages	74.6	75.7	65.5	69.7	38.0	54.9
Allied health	85.3	86.2	79.3	78.1	0	25.0
Health sciences	**75.2**	**83.9**	**55.4**	**75.8**	16.7	45.3
Home economics	98.4	95.8	94.2	91.4	60.3	70.4
Vocational home economics	62.6	51.9	81.2	93.3	100.0	—
Law	5.0	50.8	4.8	20.2	0	9.1
Letters	65.5	65.7	60.3	64.9	28.0	52.2
Liberal/general studies	29.0	55.9	44.3	61.1	27.3	42.9
Library and archival sciences	92.0	86.0	81.3	82.3	28.2	63.1
Life sciences	**29.1**	**45.4**	33.6	41.7	**16.3**	**29.1**
Mathematics	38.0	43.2	29.2	33.2	7.8	13.8
Military sciences	.3	7.4	0	2.0	—	—
Multi/interdisciplinary studies	28.4	48.2	30.9	37.8	13.8	38.0
Parks and recreation	34.7	62.4	29.8	47.5	50.0	21.2
Philosophy and religion	24.8	33.3	32.3	40.3	7.9	21.2
Theology	27.2	25.6	24.4	34.8	1.9	8.0
Physical sciences	13.8	25.7	13.3	21.7	**5.6**	**13.7**
Psychology	44.5	[illegible]8	37.2	58.8	**24.0**	**45.4**
Protective services	9.2	.2	10.3	27.1	0	41.7
Public affairs	60.2	[illegible]9.4	**49.2**	**59.8**	23.8	46.0
Social sciences	**36.8**	**44.6**	**28.5**	**37.7**	**13.9**	**26.9**
Visual and performing arts	59.7	63.3	47.4	55.8	22.2	43.3

—Not applicable.

NOTE: Caution should be exercised in comparing 1971 and 1982 figures when actual number of degrees conferred in specialty is small.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Earned Degrees Conferred: An Examination of Recent Trends*, 1981; and Higher Education General Information Survey, Earned Degrees Conferred, unpublished tabulations (October 1983).

Percent of Earned Degrees Awarded to Females, by Level and in Largest Discipline Divisions



Female degree recipients continued to dominate education and health sciences, two of the largest discipline divisions at the bachelor's and master's levels. Females also substantially increased their representation in degree fields traditionally dominated by males, notably in business and management.

Table 2.21

Past and Projected Trends in Doctor's and First-Professional Degrees Conferred by Institutions of Higher Education, by Sex of Recipient: United States, 1970-71 to 1993-94

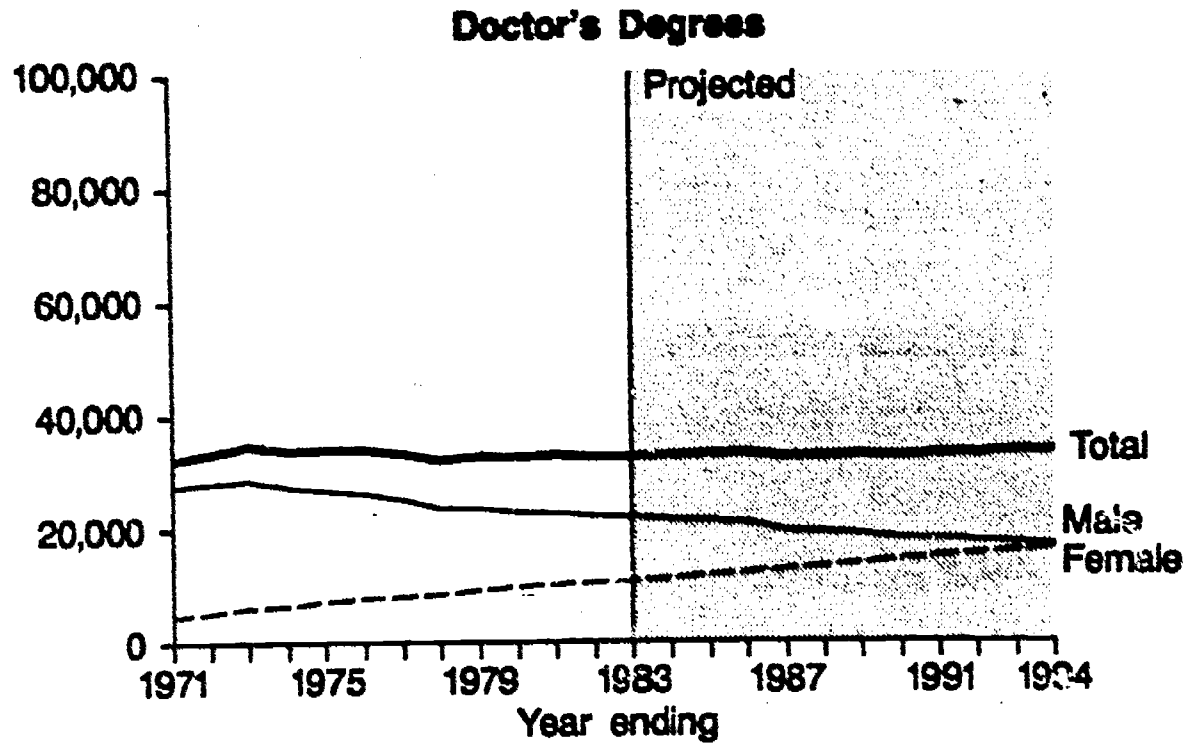
Year	Doctor's				First-Professional			
	Total	Male	Female	Percent Awarded to Females	Total	Male	Female	Percent Awarded to Females
1970-71	32,107	27,530	4,577	14.3	37,946	35,544	2,402	6.3
1971-72	33,363	28,090	5,273	15.8	43,411	40,723	2,688	6.2
1972-73	34,777	28,571	6,206	17.8	50,018	46,489	3,529	7.1
1973-74	33,816	27,365	6,451	19.1	53,815	48,530	5,285	9.8
1974-75	34,683	26,817	7,266	21.3	55,916	48,956	6,960	12.4
1975-76	34,064	26,267	7,797	22.9	62,648	52,892	9,757	15.6
1976-77	33,232	25,142	8,090	24.3	63,359	52,374	10,985	17.3
1977-78	32,131	23,658	8,473	26.4	66,581	52,270	14,311	21.5
1978-79	32,730	23,541	9,189	28.1	68,848	52,652	16,196	23.5
1979-80	32,515	22,943	9,572	29.7	70,131	52,716	17,415	24.8
1980-81	32,958	22,711	10,247	31.1	71,956	52,792	19,164	26.6
1981-82	32,707	22,224	10,483	32.1	72,032	52,223	19,809	27.5
1982-83[1]	32,700	22,000	10,700	32.7	72,500	51,500	21,000	29.0
				Projected[2]				
1983-84	33,000	21,700	11,300	34.2	73,500	51,500	22,000	29.9
1984-85	33,200	21,400	11,800	35.5	73,700	50,700	23,000	31.2
1985-86	33,400	21,100	12,300	36.8	73,500	50,200	23,300	31.7
1986-87	32,600	19,700	12,900	39.6	73,400	49,900	23,500	32.0
1987-88	32,800	19,400	13,400	40.9	70,200	47,100	23,100	32.9
1988-89	33,100	19,100	14,000	42.3	69,900	46,300	22,600	32.8
1989-90	32,900	18,300	14,500	44.2	68,300	45,500	22,800	33.4
1990-91	33,200	18,100	15,100	45.5	67,800	44,900	22,900	33.8
1991-92	33,400	17,800	15,600	46.7	67,800	44,900	22,900	33.8
1992-93	33,600	17,500	16 100	47.9	67,800	44,800	22,900	33.8
1993-94	33,700	17,200	16,500	49.0	67,800	44,800	23,000	33.9

[1]Estimated.

[2]For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

SOURCE: U.S. Department of Education, National Center for Educat'·n Statistics, Higher Education General Information Survey, *Earned Degrees Conferred by Institutions of Higher Education*, various years; *Projections of Education Statistics to 1992-93*, 1985; and unpublished tabulations (December 1984).

Trends in Doctor's and First-Professional Degrees Conferred, by Sex of Recipient



The annual number of doctor's degrees awarded in the remainder of the 1980's is expected to show little change, continuing the pattern set in the 1970's. The number of first-professional degrees awarded annually nearly doubled during the 1970's but is projected to stabilize in the mid-1980's and then decline slightly into the 1990's.

Table 2.22

First-Professional Degrees Conferred by Institutions of Higher Education, by Discipline Specialty and Percent Awarded to Females: United States, 1970-71 and 1981-82

Discipline Specialty	1970-71		1981-82		Percent Change in Total Between 1970-71 and 1981-82
	Total	Percent Awarded to Females	Total	Percent Awarded to Females	
Total	37,946	6.3	72,032	27.5	[1]82.3
Dentistry	3,745	1.1	5,282	15.4	41.0
Medicine	8,919	9.1	15,814	25.0	77.3
Optometry	531	2.4	1,110	19.9	109.0
Osteopathic medicine	472	2.3	1,047	17.9	121.8
Pharmacy	([2])	([2])	625	41.6	—
Podiatry	240	2.1	598	10.5	149.2
Veterinary medicine	1,252	7.8	2,038	36.2	62.8
Chiropractic medicine	([2])	([2])	2,626	17.9	—
Law	17,421	7.1	35,991	33.4	106.6
Theology	5,055	2.3	6,901	15.7	36.5
Other	311	21.2	0	—	—

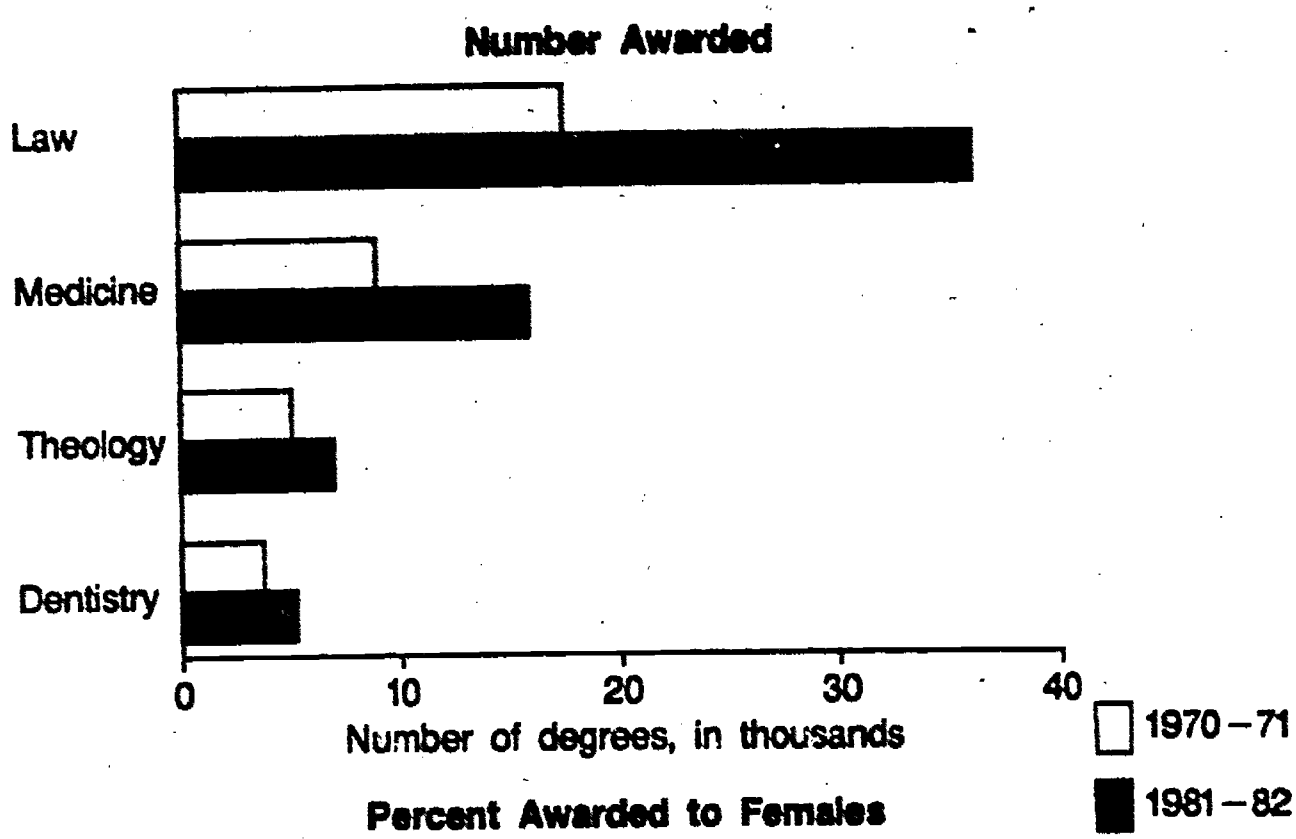
—Not applicable.

[1]Adjusted for reporting differences. The decrease in "other" in 1981-82 is partly due to a reporting change. Pharmacy and chiropractic medicine were not classified as first-professional degrees in 1970-71. The total figures used for calculating the percent change exclude pharmacy (625) and chiropractic medicine (2,626) in 1981-82 and "other" (311) in 1970-71.

[2]Pharmacy and chiropractic medicine were not classified as first-professional degrees in 1970-71.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Earned Degrees Conferred: An Examination of Recent Trends*, 1981; and Higher Education General Information Survey, Earned Degrees Conferred, unpublished tabulations (October 1983).

First-Professional Degrees Conferred in Largest Discipline Specialties



Between 1970-71 and 1981-82, the number of first-professional degrees awarded more than doubled in law and increased by three-fourths in medicine. Females increased their representation appreciably across all first-professional fields.

Table 2.23

Bachelor's Degrees Conferred in Some of the Traditional Arts and Sciences and in Selected Job-Related Fields: United States, 1966-67 to 1981-82

Major Field of Study	1966-67		1971-72		1976-77		1981-82	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All fields[1]	558,852	100.0	887,273	100.0	919,549	100.0	952,998	100.0
Arts and sciences:								
Biological sciences	28,806	5.2	37,293	4.2	53,605	5.8	41,639	4.4
English and literature	42,257	7.6	55,991	6.3	31,996	3.5	26,152	2.7
Physical sciences	17,739	3.2	20,745	2.3	22,497	2.4	24,052	2.5
History	31,676	5.7	43,695	4.9	25,433	2.8	17,146	1.8
Mathematics	21,207	3.8	23,713	2.7	14,196	1.5	11,599	1.2
Modern foreign languages	15,069	2.7	18,140	2.0	13,630	1.5	9,577	1.0
Job-related fields:								
Business and management	70,011	12.5	122,009	13.8	152,088	16.5	215,817	22.6
Education	119,799	21.4	191,172	21.5	143,658	15.6	101,063	10.6
Engineering	35,954	6.4	51,164	5.8	49,283	5.4	80,005	8.4
Health professions	[2]15,908	2.8	28,611	3.2	57,328	6.2	63,653	6.7
Public affairs and services	[2]2,278	.4	12,605	1.4	36,341	4.0	34,428	3.6
Computer and information sciences	222	([3])	3,402	.4	6,407	.7	20,267	2.1

[1]Includes fields not listed below.

[2]Data are not strictly comparable with those for subsequent years.

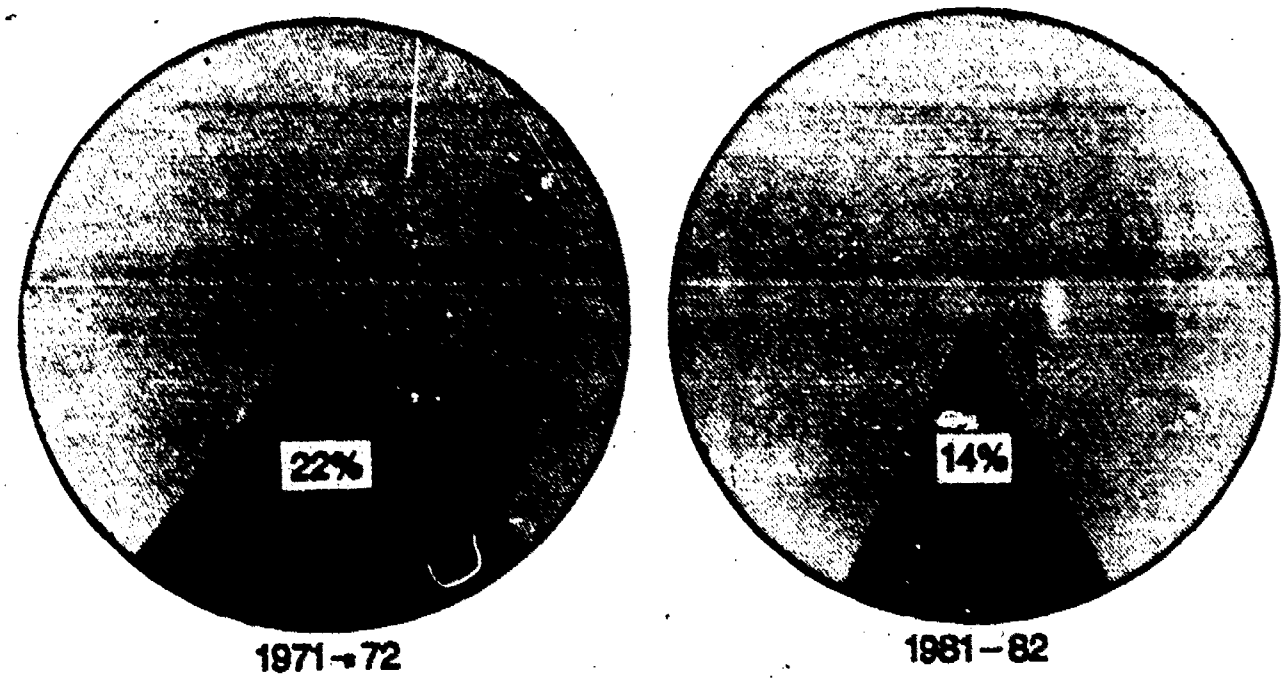
[3]Less than 0.05 percent.

NOTE: This table was developed from the classification of degrees, by field, that the National Center for Education Statistics employed in its surveys from 1970-71 through 1981-82. Details may not add to totals because of rounding.

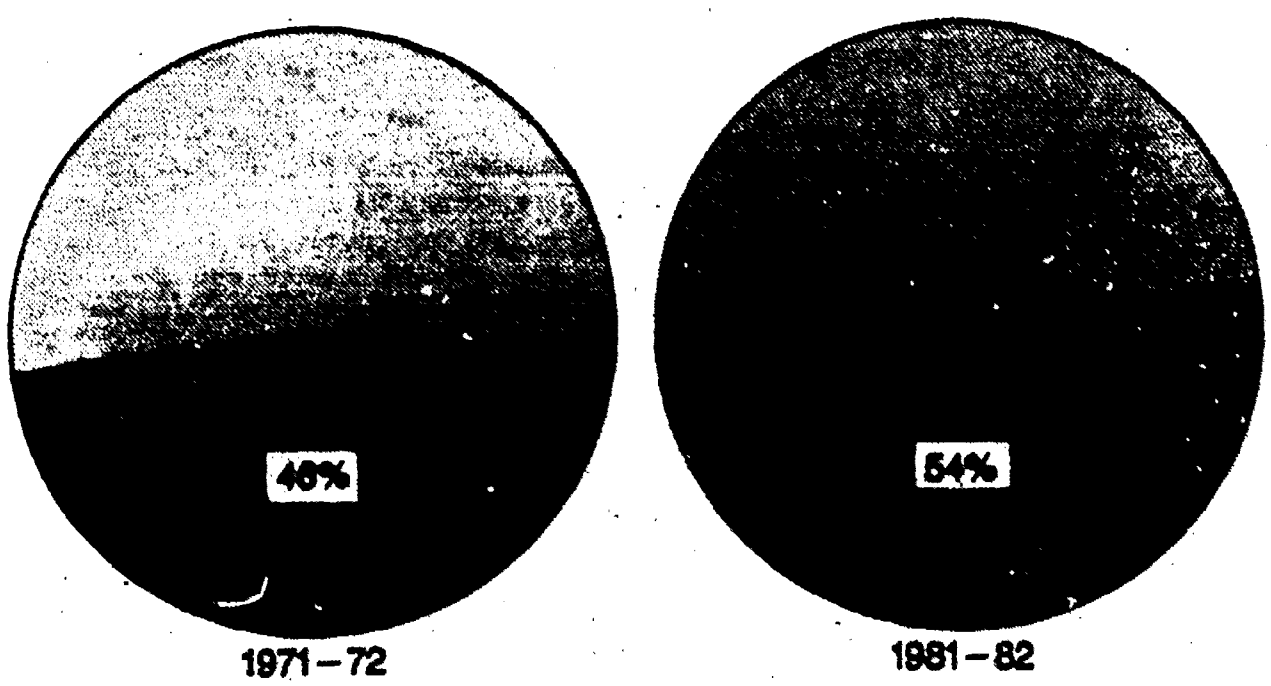
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, selected years; *Earned Degrees Conferred*, selected years; and unpublished tabulations (December 1984).

Trends in Bachelor's Degrees Conferred in Selected Fields

Percent in Traditional Arts and Sciences [1]



Percent in Job–Related Fields [2]



[1]Includes degrees in the biological sciences, English and literature, physical sciences, history, mathematics, and modern foreign languages.

[2]Includes degrees in business and management, education, engineering, health professions, public affairs and services, and computer and information sciences.

The proportion of bachelor's degrees conferred in several of the arts and sciences dropped sharply in the decade from 1971-72 to 1981-82. A strong growth trend persisted in most of the job-related majors. An exception was the field of education: its share of bachelor's degrees was cut in half.

Table 2.24

Changes in Score on Graduate Record Examinations and Professional School Admission Tests: United States, 1964 to 1982[1]

Type of Change and Test	Change in Standard Deviation Units*
Large increase (+ .40 and above):	
None	—
Moderate increase (+ .20 to + .39):	
Mathematics (GRE[2] area test)	+ 0.28
LSAT[3] (1975-1982)	+ .21
Small increase (+ .10 to + .19):	
Physics (GRE)	+ .17
Biology (MCAT[4] sub-test, 1977-1982)	+ .15
No change (- .09 to + 09):	
Chemistry (MCAT sub-test; 1977-1982)	+ .07
LSAT (1968-1974)	+ .04
GRE quantitative	.00
Biology (GRE)	- .01
Economics (GRE)	- .08
Small decline (- .10 to - 19):	
Reading (MCAT sub-test; 1977-1982)	- .10
Chemistry (GRE)	- .11
GMAT[5]	- .16
Moderate decline (- .20 to - .39):	
MCAT quantitative (1977-1982)	- .22
Engineering (GRE)	- .22
Music (GRE) 1966-82	- .25
Psychology (GRE)	- .26
Education (GRE)	- .28
Geology (GRE) 1967-82	- .35
Large decline (- 40 to - .74):	
GRE verbal	- .48
French (GRE) 1964-79	- .58
History (GRE)	- .70
English literature (GRE)	- .72
Extreme decline (- .75 and below):	
Sociology (GRE)	- .96
Political science (GRE)	- 1.02

*Computed as the change in scale points divided by the mean standard deviation for the beginning and end years.
— Not applicable.

[1]Test score changes are for these years unless indicated otherwise.

[2]GRE - Graduate Record Examination.

[3]LSAT - Law School Admissions Test.

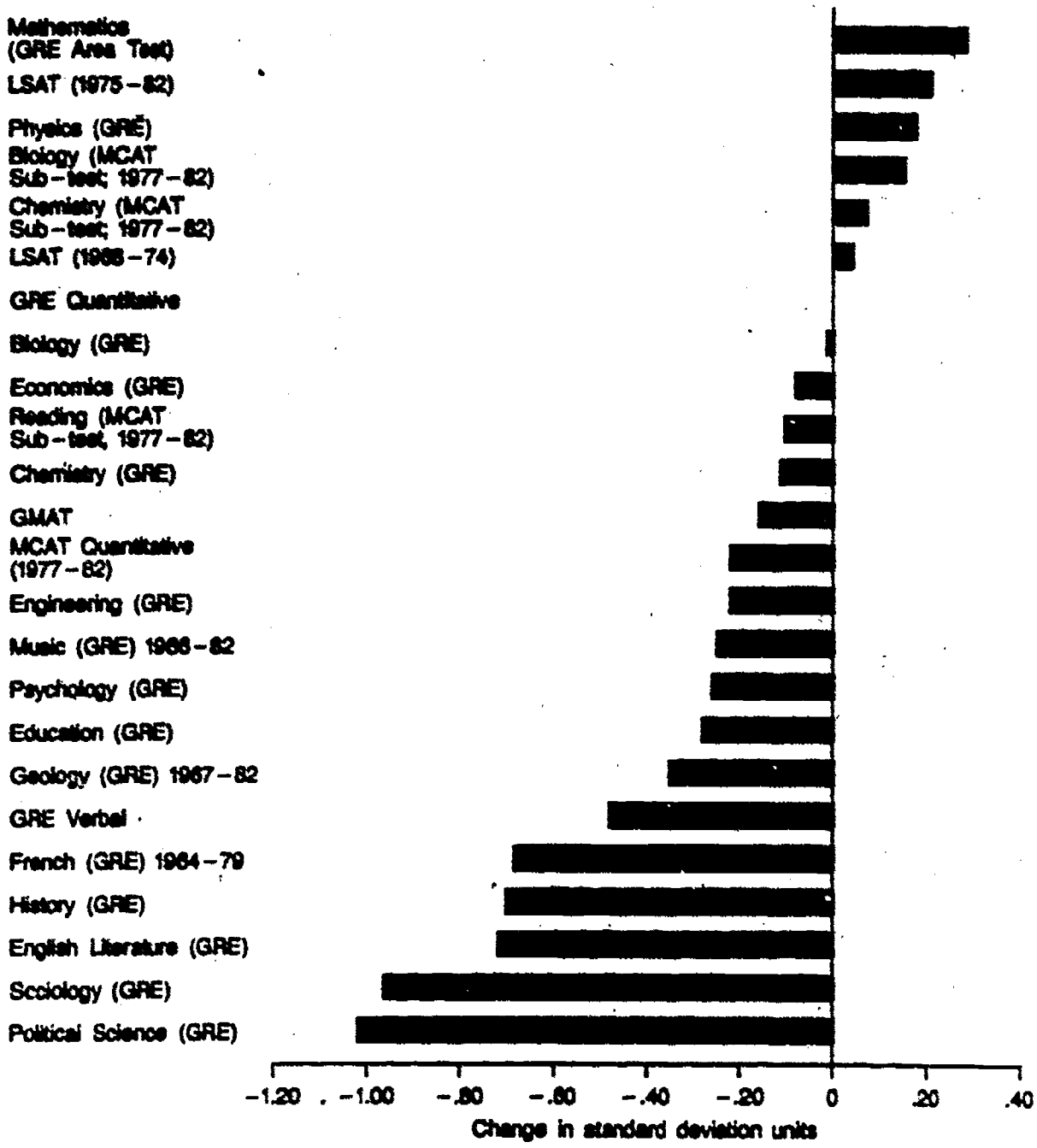
[4]MCAT - Medical College Admission Test.

[5]GMAT - Graduate Management Admissions Test.

SOURCE: U.S. Department of Education, National Institute of Education, *The Standardized Test Scores of College Graduates, 1964-1982*, 1985.

Chart 2.24

Changes in Performance on Graduate Record Examinations (GRE) and Professional School Admissions Tests: 1964 to 1982



Scores on the Graduate Record Examination tests and on admission tests to professional schools have varied considerably by field in recent years. Scores have moved upward in some of the scientific and technical fields but have declined substantially in some social sciences and language disciplines.

Chapter 3
Elementary and Secondary School Teachers

The enrollment upswing projected for the latter half of the 1980's in elementary schools is expected to generate demand for additional teachers. This increased demand should reach the secondary school level after 1990. Paralleling the need for sufficient nu nbers of teachers in the next 10-15 years is the concern expressed by many national experts that teachers be of adequate quality.

This chapter provides statistical trends and projections of teacher supply and demand nationally and shows current data on shortages by field and in various types of school systems. Additional statistics in this first section report on the extent of new hires by school systems, a further measure of market conditions. Trends in basic demographic and social characteristics of teachers are then presented as indicators of the changing composition of the teaching force, some of which have clear implications for future supply and demand considerations. Another section profiles recent data on the extent to which current teachers and new hires are certified in their fields of assignment, which addresses in part the question of qualifications. The chapter concludes by showing the types of incentives being offered to recruit and retain teachers and the degree to which various incentives have been adopted by school systems.

Teacher Supply and the Demand for Additional Teachers

Trends in Teacher Demand and Supply

The total annual demand for additional teachers includes those needed to respond to increased enrollments and to improved teacher-student ratios (see entry 1.9), and those needed to replace teachers leaving the profession (teacher turnover). In recent years, 1980 to 1983, the annual estimated demand for additional teachers has ranged between 115,000 and 164,000 (entry 3.1). In the mid-1980's, when student enrollment decline is expected to bottom out and begin a steady climb, the annual demand for additional teachers is expected to increase somewhat. Therefore, the demand for additional teachers between 1990 and 1993 is expected to climb significantly, approaching or even exceeding 200,000 each year. The secondary school proportion of the total demand for additional teachers, which ranged between 34 percent and 43 percent in the early 1980's, is projected to fall further still to around 25 percent late in the decade and not return to early 1980 levels until 1992 or 1993.

These demand projections are based on the assumptions that total enrollment will rise, teacher-pupil ratios will improve only slightly, and the turnover of teachers will remain constant at an estimated 6 percent. If these conditions change, the projections would also change. It is possible that a greater number of teachers will leave teaching should opportunities become available in other occupations and should teacher salaries not improve. The number of teachers per 1,000 pupils may also decrease if schools are unable to locate a sufficient number of qualified teachers to maintain existing ratios.

In the past, schools have used several mechanisms to handle the problems associated with a lack of available teachers. These have included expanding the number of pupils in classes and shifting the scheduling of classes to allow for split-day sessions. If these techniques are used as interim approaches to the problems of diminished supply, the effects of increased demand may be muted.

Projecting the supply of additional teachers is even less certain than estimating demand. The supply consists of new teacher graduates, former teachers, and others who prepared to teach but never taught. In 1983, the annual supply of newly qualified teacher graduates—those who met minimum certification requirements—was an estimated 146,000. However, as a percent of bachelor's degree recipients, new teacher graduates dropped from 34 percent to 14 percent between 1970 and 1983.[1] Should the smaller percentage remain fairly stable over the next 10 years, the supply of newly qualified teacher graduates will also remain fairly constant at only about 140,000 per year. At this level, the supply of new teacher graduates would begin to fall below the projected demand for additional teachers after 1984, measuring below 80 percent of demand by 1989. In this scenario, large numbers of teachers would, therefore, either have to be hired from the reserve pool or be recruited from other fields of college preparation.

Should increasing numbers of college students choose careers in occupations other than teaching because of better salaries and working conditions, then the shortage of new teacher graduates could become more severe. If the percentage of bachelor's degrees in teacher preparatory programs should fall gradually to about 11 percent in 1993, then the supply of new teacher graduates could equal less than 60 percent of the projected demand for additional teachers between 1989 and 1993.

[1]U.S. Department of Education, National Center for Education Statistics, *Earned Degrees Conferred 1979-80*, 1981; and National Education Association, *Teacher Supply and Demand in the Public Schools, 1981-82*, 1983, copyrighted.

These supply and demand projections only deal with the impact of estimated new graduates. No data are available on the reserve pool of potential teachers and the extent to which entrants into the teaching force from this group could minimize the effects of the shortage.

Moreover, these teacher supply and demand projections deal only with aggregate figures for the entire Nation and for all teaching fields. Even during periods of general nationwide surpluses, teacher shortages may occur in some locations and subject fields. A contrary situation may exist during periods of overall shortages, when teachers in some geographic or subject areas may be unable to find openings.

Shortages in the Supply of Teachers

In a recent survey by the National Center for Education Statistics, public and private elementary and secondary schools reported relatively few teaching positions vacant that could not be filled by available candidates in 1983 (entry 3.2). Across the Nation as a whole, schools indicated there was a total of almost 4,000 teaching positions for which a teacher was sought and could not be found, less than 2 shortages for every 1,000 teachers. This suggests that the schools were able to remain close to their full complement of teachers in 1983. Unfilled demand for additional teachers did not appear to be causing major disruptions. Over the next 10 years, when the supply of new teachers is projected to fall considerably short of demand, unfilled positions may become more apparent and confront school officials with difficult choices.

Although relatively few teacher vacancies existed nationwide in 1983, certain subject fields had higher vacancy rates than did others. Positions for bilingual education teachers showed the greatest proportional shortages in the public schools, with almost 1 vacancy for every current 100 bilingual education teachers. In contrast to this reported shortage are data[2] estimating the target population for bilingual instruction to be smaller than previously figured, which suggests a correspondingly reduced need for bilingual education teachers. In fact, a recent study found that only 52 percent of those completing bilingual preservice teacher training actually secured employment in the field.[3] Shortages in certain localities may still be a problem, however.

Special education teachers of speech impaired pupils were the next highest group reported in short supply in the public schools (0.6 percent). Similar shortages extended to other special education fields, including teachers of seriously emotionally disturbed students (0.4 percent).

A variety of experts have expressed concern over the diminished supply of science and math teachers, particularly in specific fields within those disciplines. However, school districts sampled in the 1983 survey reported just over 4 vacancies for every 1,000 physics teachers. Shortages of mathematics teachers were reported for 2 of every 1,000 current teachers. Moreover, vacant jobs for mathematics teachers in the public schools occurred at about the same rate as vacancies in many other fields. (Because few schools reported such vacancies, the sampling variation is relatively high, so even these figures may not reflect true need.)

Shortages of candidates to fill available positions were fairly evenly distributed across public and private, and elementary and secondary schools. Unfilled teaching jobs, however, occurred at higher-than-average levels in different regions of the Nation and types of school districts (entry 3.3). Regionally, the incidence of shortages was greatest in the West and least in the Northeast. Districts enrolling 10,000 or more students and schools in central cities felt the impact of teacher shortages more frequently than did those that were smaller or outside city boundaries. These patterns reflect trends in enrollment growth in the Sunbelt and population declines in the Northeast. They also may reflect the attitude that teaching in inner-city schools is a less attractive choice than working in schools with fewer perceived obstacles to teaching. A further look at the data reported by individual school districts suggests the problem currently may be confined to specific localities. One large urban district alone, Los Angeles United, accounted for more than half of the shortages reported in the West and one-fourth of all shortages nationwide.

Another perspective on the demand for additional teachers is provided by information about newly hired teachers. Almost 8 percent of all teachers in the schools in the fall of 1983 were newly hired (entry 3.4). However, the proportion of newly hired teachers to all teachers was twice as high in private schools as it was in public schools. Indeed, teachers newly hired in private schools constituted a disproportionate 30 percent of the total 212,500 new hires. The lower salary levels of private schools may create higher teacher turnover,

[2]U.S. Department of Education, Office of Planning, Budget and Evaluation, *The English Language Proficiency Survey*, unpublished data, 1981.

[3]RMC Research Corporation, *A Study of Teacher Training Programs in Bilingual Education*, 1981.

but the phenomenon could also reflect the recent increase in the number of private schools. Regionally, there were differences as well. As a consequence of expanding public school enrollments in the Sunbelt and the shortages of teachers in these areas, newly hired teachers represented a greater proportion of all public school teachers in the South and West than in the Northeast and North Central United States. By contrast, in central cities and large districts where greater numbers of teaching jobs were also reported unfilled, newly hired teachers did not constitute higher percentages of all teachers. In fact, districts with less than 1,000 enrollment reported the highest proportion of their teachers in the newly hired ranks—10 percent.

Characteristics of Teachers

Trends in Full-Time Teaching Experience

One result of a decade-long surplus of teachers for available positions has been fewer newly trained teachers entering the teaching workforce. In 1961, teachers with at least 10 years of experience comprised slightly more than half of all public school teachers, dropping to 44 percent by 1971 (entry 3.5). By contrast, in 1983, teachers with this level of experience accounted for over two-thirds of the total teaching force. Overall, the teaching force in 1983 was more experienced than it has been in any of the past 20 years.

Other figures underscore the maturity of the current American teacher force. In 1983, public school teachers had an average of 15 years of experience, an increase of 50 percent over the 1976 average. Of those who taught for 10 years or more, almost two-thirds had at least 15 years of experience. At the other end of the spectrum, the percentage of teachers with 2 or fewer years' experience had dropped to its lowest point in more than 20 years; only approximately 3 percent of the public school teaching force, and just under half of those newly hired, were newcomers to teaching. The reduced proportion of teachers entering the profession reflects the limited positions available in recent years, as well as the dwindling numbers of those choosing to become teachers.

The number of years of experience by teachers has important implications for the public schools. The most dramatic is the impact seniority makes on salary levels within districts. Most school districts compensate teachers for additional years on the job. Thus, large numbers of teachers with several years of experience increase the relative amount of money districts must pay in salaries. Additionally, because most districts operate with salary schedules that reach the maximum between 15 and 20 years of service, teachers within these ranges are faced with diminishing financial rewards for additional years of teaching. Recent surveys of teacher attitudes reflect considerable disgruntlement among teachers with respect to salaries.[4] This dissatisfaction may in part stem from the large proportion of teachers at or near the top of the pay scale.

Other Characteristics of Teachers

The distribution of men, women, whites, and blacks in the public school teaching force has remained essentially constant since 1971. However, the formal educational training of teachers, as measured by advanced degrees, has steadily increased (entry 3.6). Modest increases in the percentage of teachers with master's degrees or 6 years of academic work occurred between 1961 and 1971. During the period 1971 to 1983 the proportion of teachers with such degrees rose dramatically from 27 to 52 percent. Thus, while almost one-quarter of all public school teachers in 1961 had master's degrees, over one-half possessed them in 1983. An equally noteworthy trend across these years has been the reduction in the proportion of public school teachers with less than a bachelor's degree. Such teachers accounted for 15 percent of all teachers in 1961 and less than 1 percent in 1983. The growth in the number of teachers obtaining master's degrees would be expected in periods when an oversupply of qualified candidates vied for available teaching positions. In such periods, districts are more likely to impose additional standards on teachers as a precondition to gaining tenure. A second influential force may be the additional salary increments teachers generally receive as a reward for completing additional years of academic training.

Half of the public school teachers in 1983 were at least 39 years of age. The comparable median age in 1961 was 41; however, in the intervening years this figure had dropped to the low thirties. Historically, the median age for male teachers has been lower than that for female teachers. Beginning in the late 1970's, however, the gap between the two groups closed and has remained so. From 1961 to 1983, the median age for all men teaching in the public schools in-

[4]Louis Harris and Associates, Inc., *The Metropolitan Life Survey of the American Teacher*, June 1984; George Gallup, Inc., "The Gallup Poll of Teachers' Attitudes Toward the Public Schools," *Phi Delta Kappan*, May and November, 1984; Educational Research Service, *Education Opinion Poll*, March-April, 1984.

creased from 34 to 39, while the median age for women in teaching decreased from 46 to 33 in 1978 but then rose to 39 by 1983.[5]

Over one-third of all teachers were between 35 to 44 years old in 1983-84, a significant increase over 1976-77 when only slightly more than one-fifth of all teachers fell in this age group (entry 3.7). As the number of teachers in this age range has increased, the number of younger teachers has decreased. Those between the ages of 20 and 34 have dropped from over 50 percent of the teaching population to 37 percent. In contrast, the proportion of teachers 55 and over has remained fairly constant since 1976-77. These age patterns suggest the proportion of teachers reaching retirement age will be noticeable in the next 20 years, especially if younger persons continue to show a disinclination toward pursuing teaching careers. Thus, while the next decade portends little change in the turnover of teachers, the years after 1995 may, unless adequate numbers of younger teachers become available in the interim.

The Certification of Teachers

Number of Uncertified Teachers

One response schools can make, faced with shortages of qualified teachers, is to rely on teachers who have not obtained State certification to teach specific subjects or levels. This practice has raised concerns that schools will be increasingly staffed by unqualified teachers. Because State certification requirements are efforts to establish preparation standards for teachers, they are often seen as an indicator of the quality of the teaching force. Some disagreement exists, however, about the extent to which the variable requirements States use to certify teachers in different fields are actually measures of a teacher's qualifications to teach.[6] The breadth and the specificity of certificates varies across States and teaching fields. Moreover, a teacher certified to teach a subject in one State may not qualify to teach in another. Care must be taken, therefore, in interpreting nationwide information about patterns of certified and noncertified teachers.

The proportion of teachers without certification appears relatively small nationwide. In the fall of 1983, public school districts reported that over 98 percent of all teachers were certified in their principal field of assignment (entry 3.8). The percentage was significantly lower among private school teachers, reflecting the fact that fewer States require certification for teachers in these schools. By far the highest percentage of uncertified public school teachers was reported in the field of bilingual education (12 percent), also reported as one of the major shortage areas of qualified candidates. Data from another survey do raise the question of what type of training and certification is needed to teach limited-English-proficient children, given the range of suitable approaches, including English as a second language (ESL).[7]

Public school officials also indicated several other subject fields that had a very modest proportion of uncertified teachers. These included computer science (4 percent uncertified) and vocational education (4 percent). Within the field of special education, teachers of the seriously emotionally disturbed and specific learning disabled were more often uncertified than were other types of special educators, but at 4 percent, the proportion was still relatively low.

The fields of science and math slightly exceeded the national average in the percent of public school teachers without certification. Between 97 and 98 percent of teachers in science and math were certified in the fall of 1983. Teachers who are uncertified, of course, may in fact be certified in other subject areas or may be working on completing necessary coursework to obtain a certificate. Uncertified teachers in the public schools also usually hold temporary, provisional or emergency certificates from the State. All but a few States issue such temporary authorizations, although the stringency of the requirements for obtaining them varies considerably.[8]

Newly Hired Teachers Without Certification

While less than 2 percent of all teachers lack certification in their field of assignment, almost 9 percent of newly hired public school teachers and 21 percent of newly hired private school teachers were uncertified in their principal field (entry 3.9). Thus, when new teachers are hired by schools, they have a greater tendency than continuing teachers to be placed in assignments for which they do not hold State certification. The supply of qualified, available teacher candidates,

[5]National Education Association, *Status of the American Public School Teacher 1980-81*, 1982.

[6]C. Emily Feistritzer, *The Making of a Teacher*, National Center for Education Information, Washington, D.C., 1984.

[7]U.S. Department of Education, Office of Planning, Budget and Evaluation, *Teacher Language Skills Survey*, unpublished data, 1980-81.

[8]Feistritzer, *Teacher*.

therefore, may not always coincide with specific areas of demand. Regionally, the highest proportion of newly hired, uncertified public school teachers are located in the Northeast. Districts in the West, though reporting the greatest proportion of teacher shortages, placed well behind the South and the Northeast in the percent of newly hired teachers who were uncertified. This suggests that, of those teachers Western districts are able to hire, a proportionally larger percentage satisfied State credentialing requirements than was the case in the South and Northeast. Central city and large districts with more than 10,000 students enrolled also evidenced a greater tendency than other types of districts to hire uncertified teachers. Thus, whereas these districts have smaller percentages of new hires among their teachers, the new teachers they do have are somewhat more likely to lack certification for the subjects they teach. Again, these differences may reflect not only variations in availability of certified new hires but also differing certification thresholds in the States.

The Use of Statewide Tests for Teacher Certification

In an effort to ensure that prospective teachers possess appropriate knowledge and understanding of the subject matter and teaching methods, several States have adopted or are considering adopting competency tests as a component of the initial certification of teachers. The hope is that such tests will minimize the number of teacher candidates who are seriously deficient in basic skills or relevant academic areas. Twenty-one predominately Southeastern and Southwestern States enacted test requirements before 1984 and 5 more States added these requirements in 1984 (entry 3.10). The legislature was the source of the test requirement in 15 States, with the State board of education or a combination of the two providing the impetus in the remainder. In two-thirds of these States requiring a test, the program was already in effect by 1984. In addition, 10 other States intended to require a test within the next 3 years, and 6 States were considering adopting a test requirement. All told, 42 States had introduced or were considering introducing a State test to determine a teacher's qualifications for certification.

The National Teacher Examination (NTE), though popular among States requiring tests for initial certification of teaching candidates, constitutes but one of several tests being employed. Three States reported using a combination of the NTE instrument and another test. In some instances, States had developed their own test for measuring teacher competence in basic skills and subject matter areas.

The Incentive to Teach

Trends in Teachers' Salaries

In the face of projected teacher shortages, there has been considerable debate about the incentives needed to draw new teachers into the profession, including the incentive of an adequate salary. College graduates who select careers other than teaching often cite low teacher salaries as a major factor in their choice.[9] Teachers themselves consistently report dissatisfaciton with their levels of compensation, as in the 1984 Gallup poll where they primarily cited low salaries as the reason teachers leave the profession.[10]

Data on teacher salaries reveal that, on the average, teachers experienced steady salary gains in the 1960's and early 1970's in both current and constant (uninflated) dollars.[11] During the mid-1970's, however, salaries declined in constant dollars and only since 1982 have been making a comeback (entry 3.11). In constant dollars teachers in 1983 had lost approximately $1,700 from their 1971 average salary. The average annual salary of teachers in 1983-84 was $22,019.

The annual salary of public school teachers is subject to considerable variation depending on State and locality. A recent survey of average annual salaries across the States shows a range of $15,895 to $28,877.[12] Nineteen States had average teacher salaries higher than the national average. Secondary school teachers earned slightly more than did elementary school teachers; the difference amounted to approximately $1,000 annually since 1970-71. This probably results from a combination of influences, including the tendency for secondary teachers to have fewer interruptions in their years of service and to hold a greater proportion of master's degrees or 6-year diplomas.

---

[9]R.V.Brederson; M. J. Fruth; and K. L. Kasten, "Organizational Incentives and Secondary School Teaching," *Journal of Research and Development in Education*, 16, (1983); and F. M. Page Jr. and J. A. Page, "Perceptions of Teaching That May Be Influencing Current Shortage of Teachers," *College Student Journal*, 16. (1982).

[10]Harris and Associates, *Metropolitan Life Survey;* George Gallup, "Teachers' Attitudes;" and Educational Research Service, *Poll.*

[11]National Education Association, *Estimates of School Statistics, 1983.*

[12]Augenblick, Van de Water and Associates, *Teacher Salaries and the States, 1984.*

To assess the impact of teachers' salaries on supply/demand questions requires looking at annual salaries not only within the profession but in comparison with salaries in other occupations calling for similar years of academic training. Past research shows that average annual teaching salaries rose at a somewhat slower pace than did average annual earnings for all workers with 4 and more years of college from 1975 to 1980. When beginning salaries for bachelor's degree graduates are compared, average salaries offered to teachers were at least 20 percent lower than salaries offered to engineering, mathematics, and liberal arts majors in 1981.[13] Many researchers have cautioned that teacher salaries represent income earned for 9 to 10 months of work, whereas other jobs pay on a 12-month work cycle. Alternatively, teachers indicate they put in more than 40 hours of work each week of the school year. Therefore, annual salary comparisons need to be interpreted with care.

Additional Income Sources of Teachers

At least half of all public school teachers in 1981 supplemented their base teacher salaries with other sources of income (entry 3.12). The sources of income included both summer and school year employment. During the summer those teachers receiving additional compensation did so primarily through jobs outside the school system. Ten percent of teachers found summer employment within a school system in 1981, a modest decrease from the years since 1966. Only 1 percent of all school teachers relied on Federal program employment for the summer months. Teachers' school year supplemental income was earned largely through functions beyond classroom teaching such as coaching, supervising publications, or driving buses. In 1981, one-quarter of all teachers were involved in these additional jobs. School year employment outside the school system fluctuated during the years between 1966 and 1981, dipping from 10 percent in the 1970's and rebounding to 11 percent in 1981. One-fifth of all teachers earned nonsalary income from rents and interest on investments in 1981. The perceived inadequacy of salaries may serve as a motivation for teachers to seek income through additional sources and "moonlighting." Whatever the reason, teachers have established a clear pattern of seeking financial supplements to their school year salaries.

In 1981, 55 percent of all public school teachers reported they had a spouse who was employed full-time.[14] An additional 7 percent claimed part-time employment for their spouse. The remaining 38 percent either were not married, did not respond to the question, or did not have a spouse who was employed. These employment patterns of spouses represent a clear increase in the number of teachers living in two-income families between 1961 and 1981. Given the general rise in two-earner families in the last 20 years, teachers' families are not unique in this regard. Available data do not indicate whether the increase in dual-income families among teachers results from choice or necessity. When household income and other supplemental income are included, average annual earnings in 1981 of teachers' families were increased by $12,622, a 73 percent increase. Ten years earlier these additional income sources added $5,760 to teachers' mean family income, a 62 percent increase.

Teachers' Attitudes About a Career in Teaching

An indication of the attraction that teaching holds emerges from teacher attitudes about their jobs. Even though remuneration for teaching has always lagged behind that of other occupations requiring a college degree, people chose to become teachers because of intrinsic rewards, collegiality, and a desire to master subject matter as well as to work with young people. Research reveals that pay and security have generally been downplayed by would-be teachers, but once they have entered teaching, income gains importance over time, probably as the financial obligations accompanying family life increase. In 1966, over half of the public school teachers sampled by polls had indicated a sense of certainty that they would reselect teaching as a career. Since then, teachers have gradually lost enthusiasm for their occupation to the point where in 1983 less than one-quarter stated they would certainly become teachers if they had the choice to make again (entry 3.13). However, responses from public school teachers in 1983 suggest the downward trend in attitudes about their work may have bottomed out. Modest increases in teachers' attitude ratings were evident across sexes, levels, and size of the employing school system.

Teachers' stated reluctance to enter a teaching career if the choice were once again available was shared across all subgroups of teachers. Although elementary school and female teachers were more favorably disposed toward repeating their original career choice than were secondary school and male teachers, an equally strong downward trend was evident in all groups of teachers. The attitudinal trends, however, did vary by age groups. Teachers between 30 and 49 years of age have become more dissatisfied with

[13]National Education Association, *Teacher Supply*.

[14]Ibid.

teaching since 1981. Before then, dissatisfaction was less concentrated in this group. Also since 1981, teachers in small districts of less than 3,000 students have shown greater satisfaction with their choice of career than teachers in other types of districts. The least satisfied teachers work in large school systems.

Specific Incentives Offered to Teachers

Concerns about the adequacy of the supply of teachers and the quality of teachers entering and remaining in the profession have prompted educators and other State policymakers to evaluate the incentives used to reward and recruit qualified teachers. As career choices have widened for academically talented women and minorities, schools can no longer rely on these groups to provide teaching recruits. Trends in teachers' dissatisfaction with the career they have chosen do not bode well for future recruitment and retention patterns. In the face of these pressures, several authorities have urged a rethinking of the financial rewards and working conditions that influence the lives of teachers.

In a recent survey by the National Center for Education Statistics (NCES), almost one-fifth of public school districts reported offering some form of special incentive to teachers in the 1983-84 academic year (entry 3.14). Most incentives (13 percent) were aimed at retaining experienced teachers in the district. The second most frequent goal (8 percent) was recruiting teachers to fields with shortages. A small proportion of employers used incentives to attract teachers to less desirable locations (4 percent).

The incentives used varied considerably, ranging from allowing teachers to enter or advance to a different step on the salary schedule to offering loan forgiveness programs. Incentives employed included cash bonuses, retraining, released time, leaves of absence with continued advancement on the salary schedule, and awards for teaching in shortage areas. Allowing teachers to enter or advance to different steps on the salary schedule was the most popular incentive reported across districts. Least used were shared programs with industry that permitted such attractions as a special summer jobs program. Advancement within the salary schedule proved even more popular among private schools as an incentive to recruit or retain teachers, but otherwise, differences between public and private schools in the incentives reported were slight.

Schools generally have not sought to tailor incentives to specific subject fields within teaching (entry 3.15). This is evident in spite of reported shortages of bilingual and special education teachers and concerns that mathematics and science teachers will pursue more financially rewarding careers in private industry. Teacher opinion surveys reveal that teachers themselves are generally opposed to differential rewards for teachers in specific subject areas. Of a sample of teachers polled by Gallup in 1984, 75 percent opposed these schemes, a finding corroborated by teachers surveyed by the Education Research Service in the same year.[15]

The concept of merit pay, which calls for compensating teachers based on their performance, has received considerable attention recently as a mechanism to make teaching more attractive, financially rewarding, and accountable. The concept has generated significant controversy, as reflected in the strong negative rating it received in teacher polls. Career ladders, however, which typically allow teachers to earn more as a result of assuming additional or more demanding teaching positions, received relatively positive endorsements from teachers.[16] However, at the time of the NCES survey, school year 1983-84, only 1 percent of public school districts reported they were operating a merit pay plan (entry 3.16), affecting only 2 percent of public school teachers. More private schools (6 percent) indicated use of merit pay and involved 8 percent of teachers in those systems.

Conclusion

In 1983, teacher shortages appeared limited to certain fields and locales. If assumptions used to project future supply and demand prove accurate, the next decade will witness more pronounced teacher shortages nationally as well as within specific localities and specializations. Growing concern about the qualifications of teachers is linked to the problems of dwindling supply. Not only are insufficient numbers of teacher candidates a likely possibility but those available may not be the best qualified. Determining whether those incentives currently available to those who seek a career in teaching will be sufficient to moderate these outcomes can only be speculative at this time. Nevertheless, a major challenge for educators in the next decade will be addressing the balance between the forces of teacher supply and teacher demand through a reassessment of the incentives afforded by careers in teaching.

---

[15]Gallup, "Teachers' Attitudes;" Educational Research Service, *Poll.*

[16]Harris and Associates, *Metropolitan Life Survey;* Education Research Service, *Poll.*

Table 3.1

Past and Projected Trends in Estimated Demand for Classroom Teachers in Elementary/Secondary Schools and Estimated Supply of New Teacher Graduates: United States, Fall 1980 to Fall 1993

(Number in Thousands)

Fall of Year	Total Estimated Teacher Demand	Estimated Demand for Additional Teachers					Estimated Supply of New Teacher Graduates[1]	New Supply as Percent of Demand for Additional Teachers
		Total	Public	Private	Elementary	Secondary		
1980	2,463	134	110	24	76	58	144	107.5
1981	2,430	115	95	30	71	44	141	122.6
1982	2,445	161	130	31	107	54	143	88.8
1983	2,462	164	132	32	98	66	146	89.0
				Projected[2]				
1984	2,457	143	120	23	84	59	146	102.1
1985	2,467	158	134	24	96	62	146	92.4
1986	2,483	165	139	26	109	56	144	87.3
1987	2,505	171	144	27	125	46	142	83.0
1988	2,517	162	140	22	124	38	139	85.8
1989	2,543	177	146	31	130	47	139	78.5
1990	2,580	188	160	28	136	52	139	73.9
1991	2,630	204	176	28	138	66	138	67.6
1992	2,687	215	181	34	135	80	137	63.7
1993	2,737	211	175	36	126	85	133	63.0

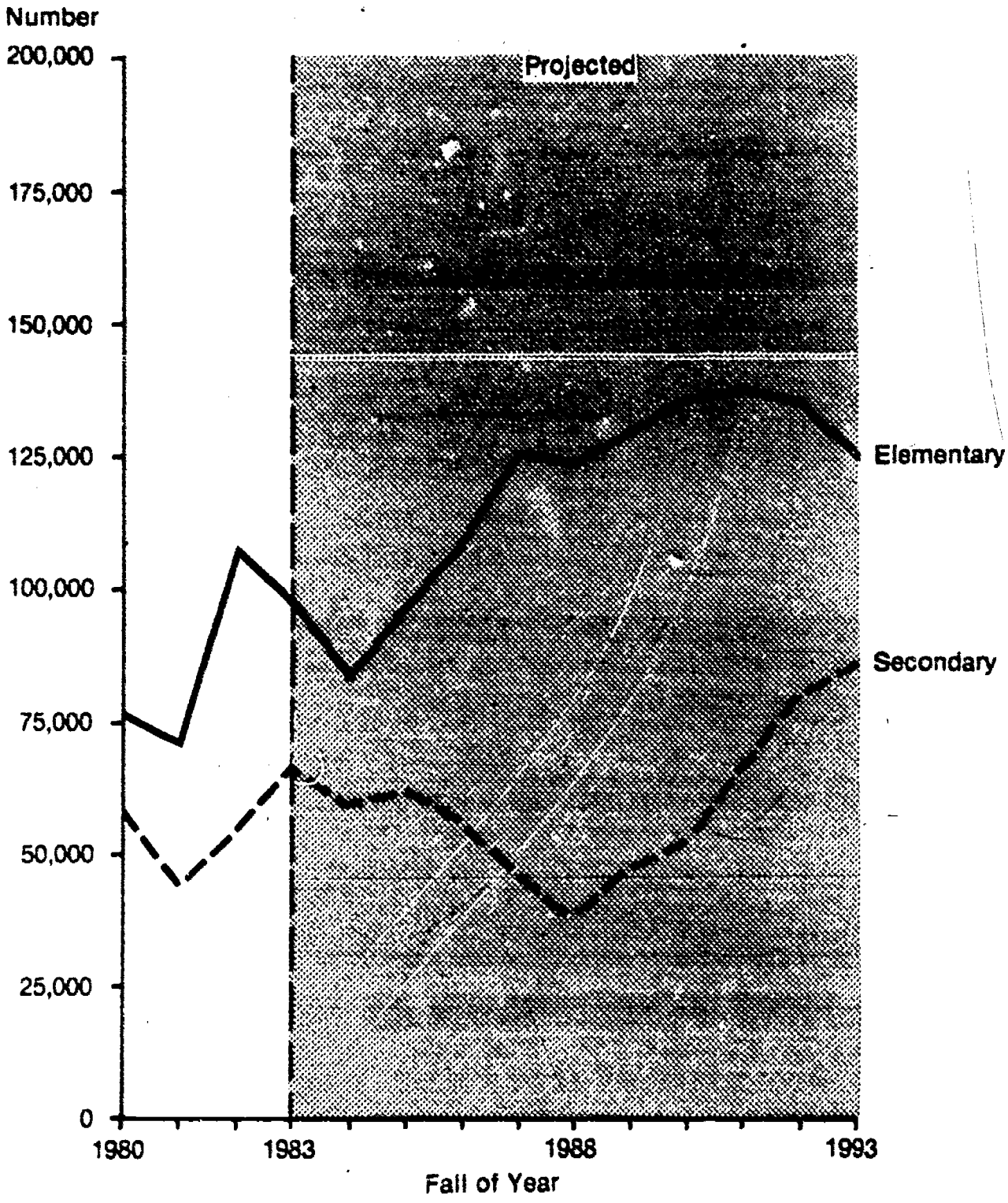
[1] Estimates for 1980 and 1981 are from National Education Association, *Teacher Supply and Demand in Public Schools, 1981-82*, 1983. Other estimates developed by the National Center for Education Statistics.

[2] For methodological details, see *Projections of Education Statistics to 1992-93*, 1985.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics to 1992-93*, 1985, and unpublished tabulations (January 1985); and National Education Association, *Teacher Supply and Demand in Public Schools, 1981-82*, 1983, copyrighted.

Chart 3.1

Estimated Demand for Additional Teachers, by Level of School



The demand for additional elementary school teachers is expected to increase from 1985 into the early 1990's, while the demand for additional secondary school teachers is not expected to increase until the early 1990's.

Table 3.2

Teacher Candidate Shortages[1] (in Full-Time Equivalents) in Public and Private Elementary/Secondary Schools, by Field of Assignment and as Ratio to Current Teachers in Field: United States, November 1983

Field of Assignment	Total		Public		Private	
	Number of Candidate Shortages	Ratio to 1,000 Current Teachers	Number of Candidate Shortages	Ratio to 1,000 Current Teachers	Number of Candidate Shortages	Ratio to 1,000 Current Teachers
Total	3,970	1.6	3,410	1.5	560	1.7
Preprimary education	80	.9	80	1.4	0	.0
General elementary education	740	.8	640	.9	*110	*.7
Art	180	3.6	120	2.8	*60	*9.0
Basic skills and remedial education	120	2.9	110	2.7	*20	*4.4
Bilingual education	260	8.8	260	9.1	J	.0
Biological and physical sciences	230	1.7	180	1.5	*50	*3.1
Biology	50	1.7	50	2.0	0	.0
Chemistry	30	1.9	20	1.5	*10	*3.4
Physics	40	4.5	*30	*4.3	*10	*5.3
General and all other sciences	110	1.4	80	1.1	*30	*4.0
Business (non-vocational)	20	.4	20	.4	*(2)	*.3
Computer science	30	3.7	*20	*3.6	*10	*4.3
English language arts	170	.9	130	.8	*40	*1.8
Foreign languages	80	1.5	70	1.8	*(2)	*.3
Health, physical education	100	.8	100	.8	0	.0
Home economics	30	.7	20	.4	*10	*7.7
Industrial arts	80	1.9	50	1.2	*30	*23.7
Mathematics	260	1.8	250	2.0	*10	*.5
Music	240	3.1	150	2.2	*90	*9.9
Reading	20	.4	20	.5	0	.0
Social studies/social sciences	70	.5	60	.5	*(2)	*.2
Special education	1,030	3.9	910	3.6	*120	*8.6
Mentally retarded	150	2.8	110	2.0	*50	*23.4
Seriously emotionally disturbed	100	3.7	100	4.3	0	.0
Specific learning disabled	190	2.6	190	2.7	*(2)	.7
Speech impaired	180	6.3	160	6.1	*10	*15.0
Other special education	410	5.0	350	4.5	*60	*12.8
Vocational education	70	1.1	70	1.1	0	.0
Other elementary education	30	1.1	30	1.2	0	.0
Other secondary education	120	2.2	120	2.7	*(2)	*.4

*Because of the small number of cases reported and large standard errors associated with the estimates, caution should be exercised in drawing conclusions from the data.

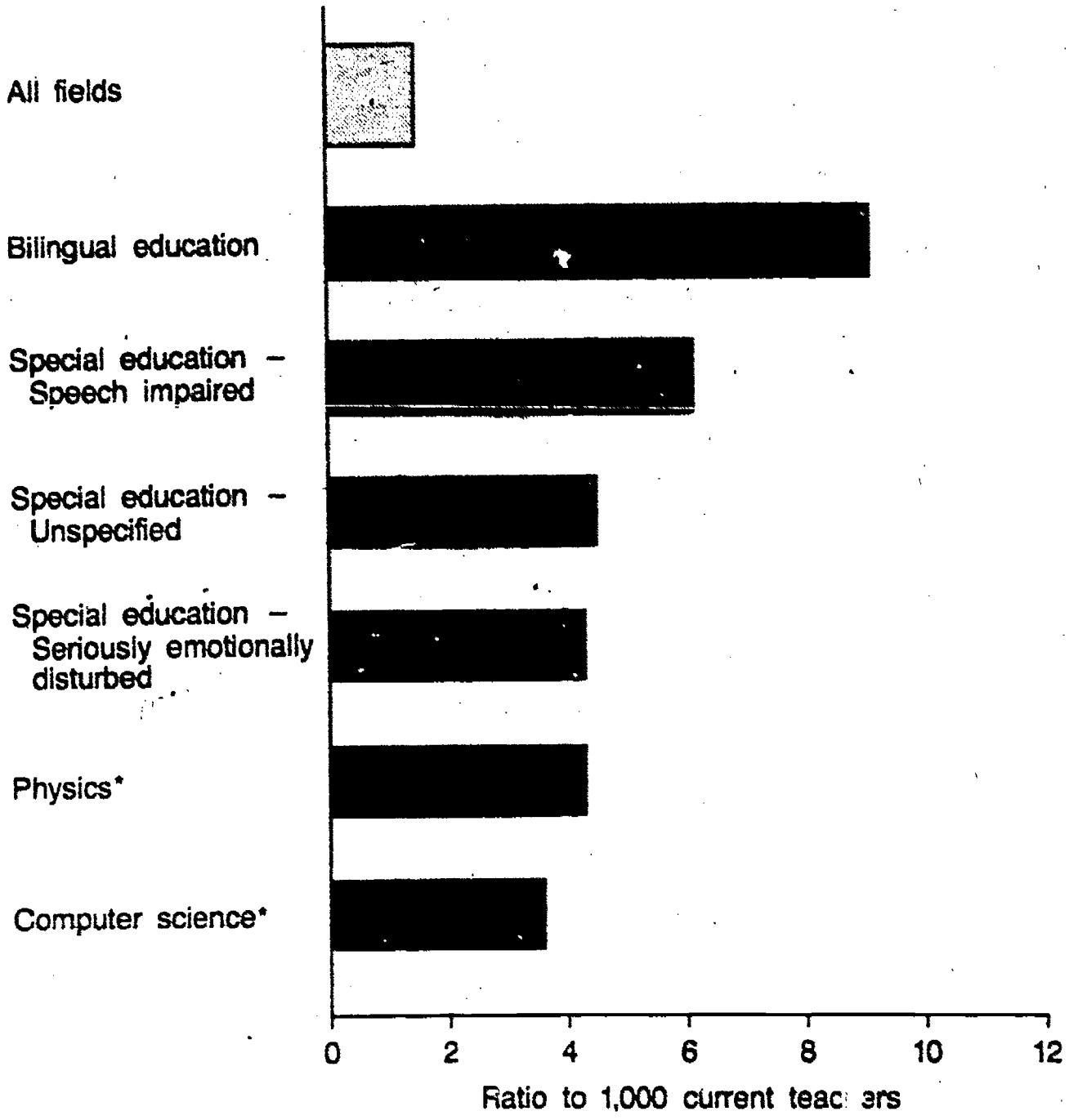
[1]Teaching positions for which a teacher was sought and could not be found during the recruiting period (spring-to-fall 1983) and for which the opening was vacant or was withdrawn, abolished, or transferred to another field. Includes positions for which a temporary substitute was hired.

[2]Less than 5.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Chart 3.2

Fields With Largest Proportional Teacher Shortages in Public Elementary/Secondary Schools



*See cautionary note in table.

While, on the average, public school districts in 1983-84 reported fewer than 2 shortages for every 1,000 current teachers, some fields showed somewhat larger ratios. These fields included bilingual education, some special education sub-areas, physics, and computer science.

Table 3.3

Teacher Candidate Shortages* (in Full-Time Equivalents) in Elementary/Secondary Schools as Ratio to Current Teachers, by Selected School Characteristics: United States, November 1983

Characteristic	Number of Candidate Shortages	Ratio to 1,000 Current Teachers
Total schools	3,970	1.6
Elementary	2,320	1.6
Secondary	1,650	1.5
Private schools	560	1.7
Elementary	370	1.6
Secondary	190	1.7
Public schools	3,410	1.5
Elementary	1,950	1.6
Secondary	1,460	1.4
Northeastern	210	.4
North Central	670	1.2
Southern	1,020	1.4
Western	1,510	4.1
SMSA central city	1,980	4.1
SMSA non-central city	640	.7
Nonmetropolitan	780	1.0
Small district	380	1.4
Medium-sized district	790	.7
Large district	2,240	2.6

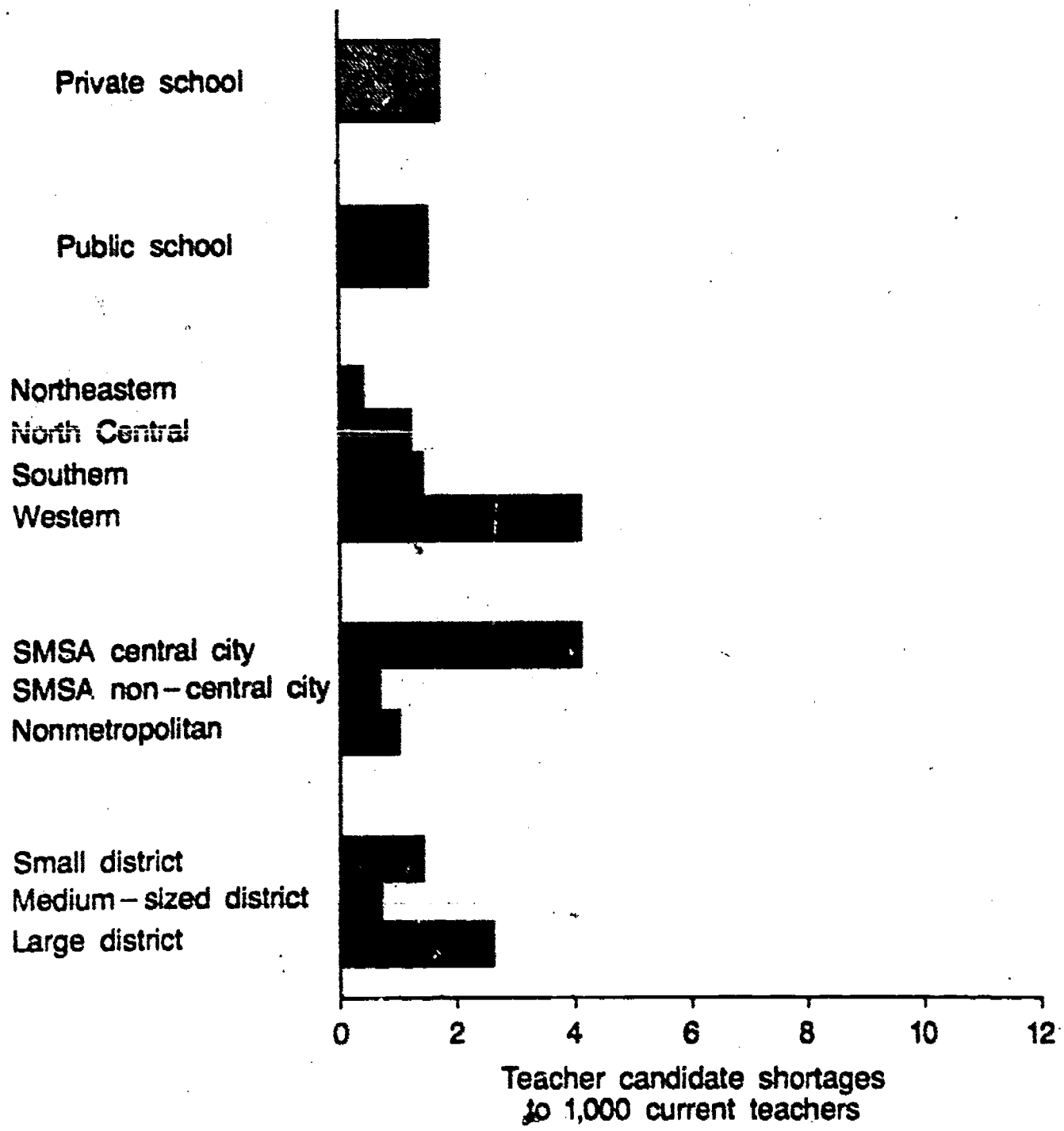
*Teaching positions for which a teacher was sought and could not be found during the recruiting period (spring-to-fall 1983) and for which the opening was vacant or was withdrawn, abolished, or transferred to another field. Includes positions for which a temporary substitute was hired.

NOTE: The regional and metropolitan status categories correspond to Bureau of the Census definitions provided in the Definitions of Selected Terms in the appendix. Districts were defined as follows: small—enrollment under 1,000 students; medium-sized—enrollment of 1,000 to 9,999 students; and large—enrollment of 10,000 students and over. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Chart 3.3

Teacher Candidate Shortages as Ratio to 1,000 Current Teachers



While nationwide, public school districts reported fewer than 2 shortages for every 1,000 current teachers in 1983-84, this ratio varied by location and type of school district. The higher-than-average shortages in the West and in central cities suggest a problem confined to specific localities and not national in scope.

Table 3.4

Newly Hired Teachers as Percent of All Elementary/Secondary School Teachers,* by Selected School Characteristics: United States, November 1983

Characteristic	Number of Newly Hired Teachers	Percent of All Teachers
Total schools	212,500	7.9
Private schools	64,300	16.1
Public schools	148,200	6.5
Northeastern	24,100	4.5
North Central	29,800	5.0
Southern	62,100	8.1
Western	32,200	8.3
SMSA central city	27,700	5.5
SMSA non-central city	60,900	6.0
Nonmetropolitan	59,500	7.7
Small district	27,500	10.1
Medium-sized district	65,900	5.9
Large district	54,800	6.1

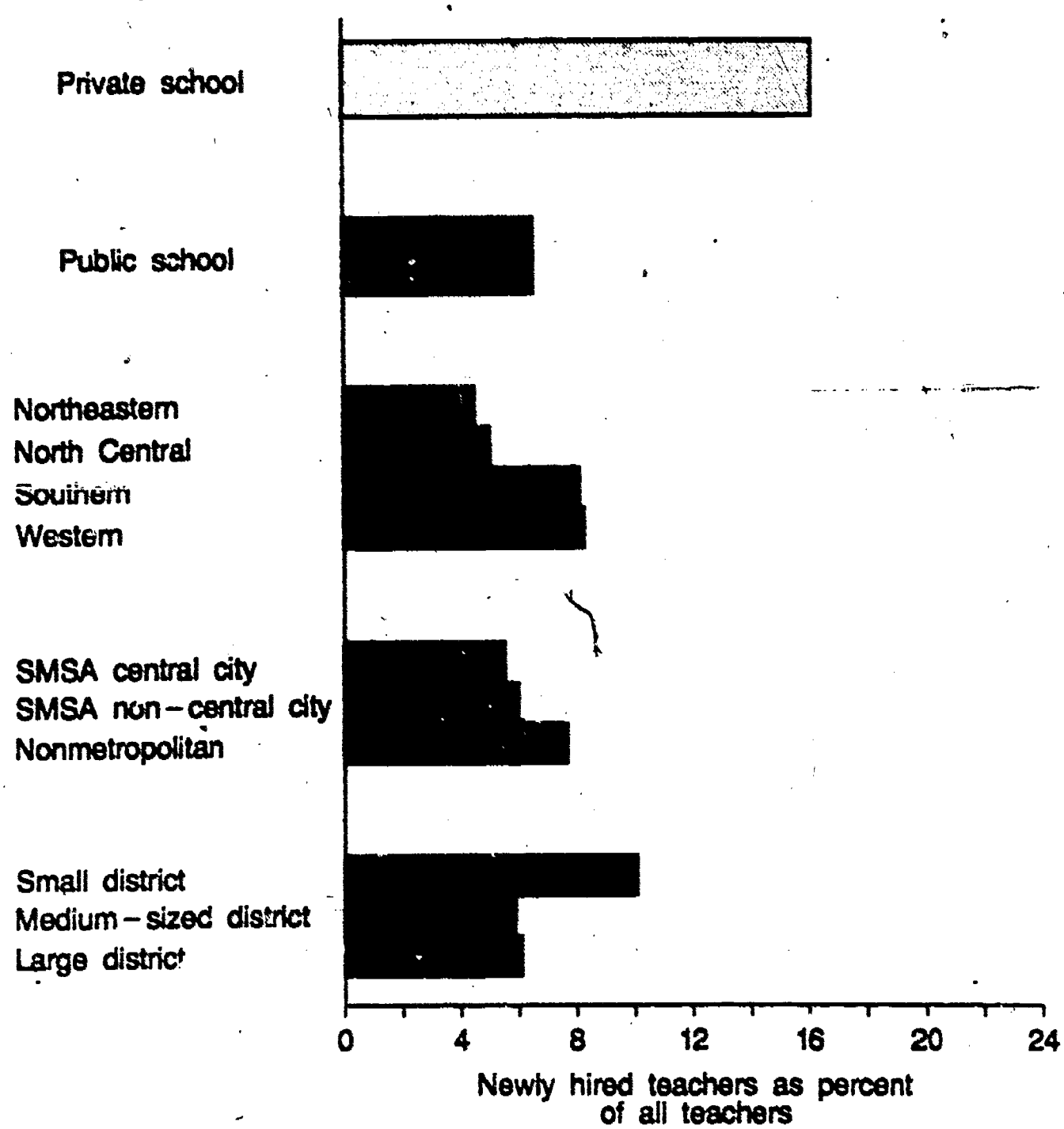
*Estimated head count.

NOTE. The regional and metropolitan status categories correspond to Bureau of the Census definitions provided in the Definitions of Selected Terms in the appendix. Districts were defined as follows: small—enrollment under 1,000 students; medium-sized—enrollment of 1,000 to 9,999 students; and large—enrollment of 10,000 students and over. Details may not add to totals because of rounding.

SOURCE. U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Chart 3.4

Newly Hired Teachers as Percent of All Elementary/Secondary School Teachers



Consistent with enrollment trends, new hires for the 1983-84 school year represented a higher-than-average proportion of all teachers in private schools and in public school districts in the Sunbelt region.

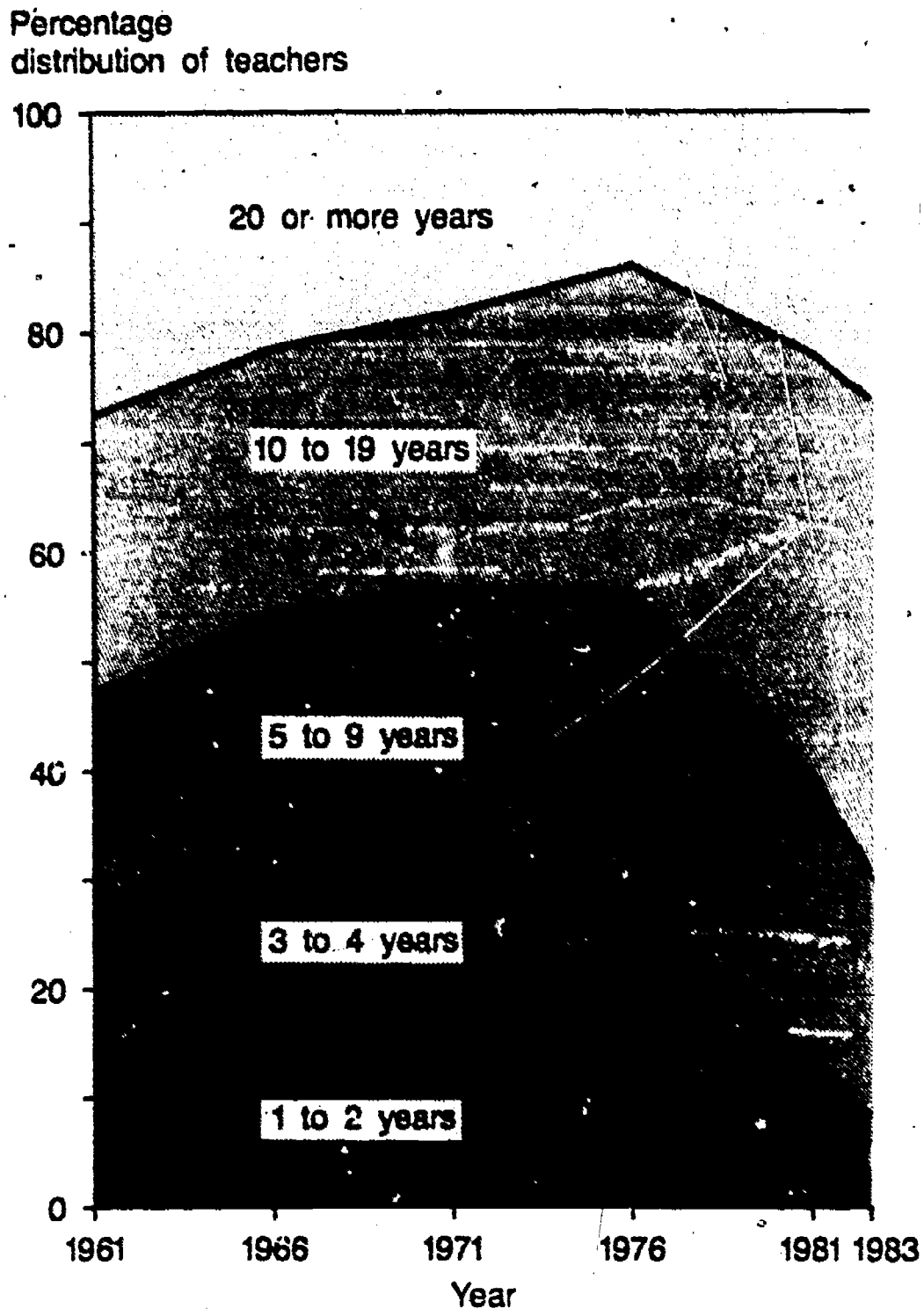
Table 3.5

Trends in Years of Full-Time Teaching Experience Completed by Public Elementary/Secondary School Teachers: United States, Selected Years, 1961 to 1983

Years of Experience	1961	1966	1971	1976	1981	1983
	Percentage Distribution of Teachers					
Total	100.0	100.0	100.0	100.0	100.0	100.0
1 to 2 years	14.3	18.4	16.8	11.3	5.3	3.2
3 to 4 years	13.2	14.4	15.6	16.0	8.2	5.1
5 to 9 years	19.4	21.7	24.0	28.9	26.2	22.4
10 to 14 years	15.1	14.2	15.6	17.3	23.0	25.7
15 to 19 years	10.4	9.8	9.7	12.5	15.4	17.4
20 or more years	27.6	21.4	18.3	14.1	21.9	26.1
Mean	13	12	11	10	13	15
Median	11	8	8	8	12	13

SOURCE: National Education Association, *Status of the American Public School Teacher, 1980-81*, 1982, copyrighted, and *National Teacher Opinion Poll*, 1983, copyrighted.

Years of Full-Time Teaching Experience Completed by Public Elementary/Secondary School Teachers



In 1983, teachers with at least 10 years experience comprised two-thirds of the total public school teaching force, a much larger proportion than in the mid-1960's and 1970's.

Table 3.6

Trends in Age, Sex, Racial Composition, and Highest Degree Held of Public Elementary/Secondary School Teachers: United States, Selected Years, 1961 to 1983

Item	1961	1966	1971	1976	1981	1983
			Median Years of Age			
Total	41	36	35	33	37	39
Male	34	33	33	33	38	39
Female	43	40	37	33	36	39
			Percentage Distribution			
Sex:						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Male	31.3	31.1	34.3	32.9	33.1	32.8
Female	68.7	69.0	65.7	67.0	66.9	67.2
Race:						
Total	—	—	100.0	100.0	100.0	100.0
White	(*)	(*)	88.3	90.8	91.6	88.4
Black	(*)	(*)	8.1	8.0	7.8	8.2
Other	(*)	(*)	3.6	1.2	.7	3.3
Highest degree held:						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Less than bachelor's	14.6	7.0	2.9	.9	.4	.4
Bachelor's	61.9	69.6	69.6	61.6	50.1	47.6
Master's or 6 years	23.1	23.2	27.1	37.1	49.3	51.9
Doctor's	.4	.1	.4	.4	.3	.4

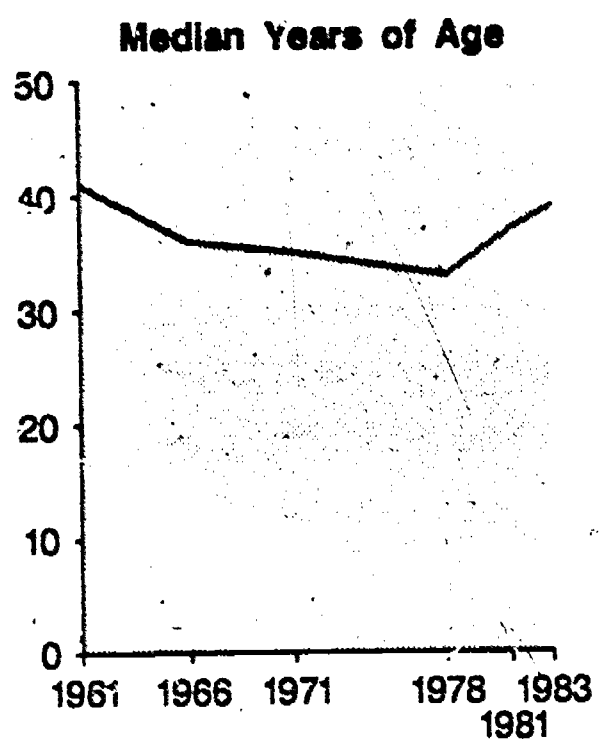
—Not applicable.

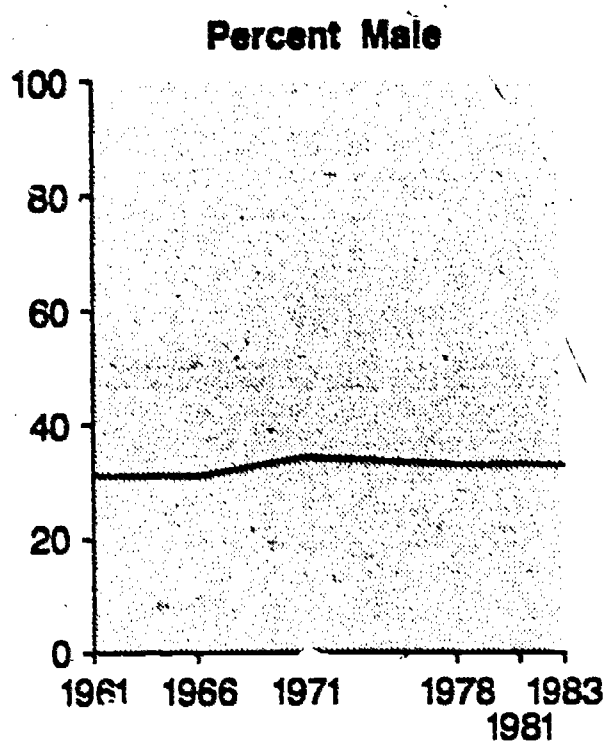
*Not available.

NOTE: Details may not add to totals because of rounding.

SOURCE: National Education Association, *Status of the American Public School Teacher, 1980-81*, 1982, copyrighted, and *National Teacher Opinion Poll*, 1983, copyrighted.

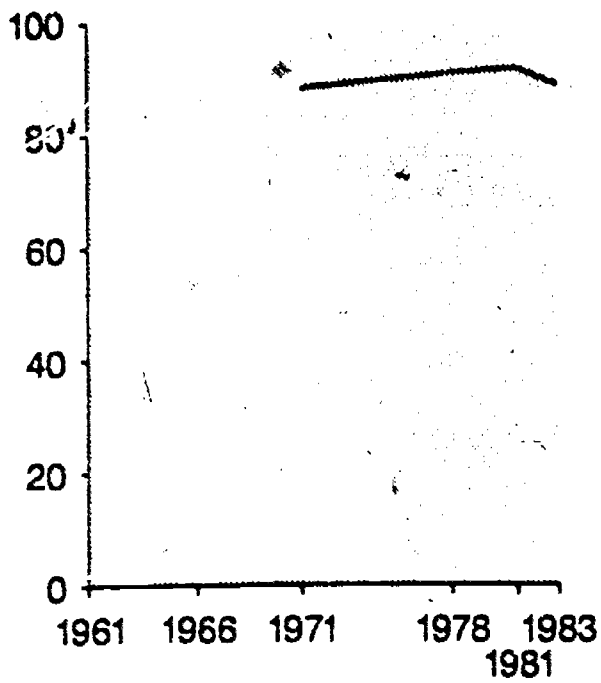
Composition of Public Elementary/Secondary School Teachers

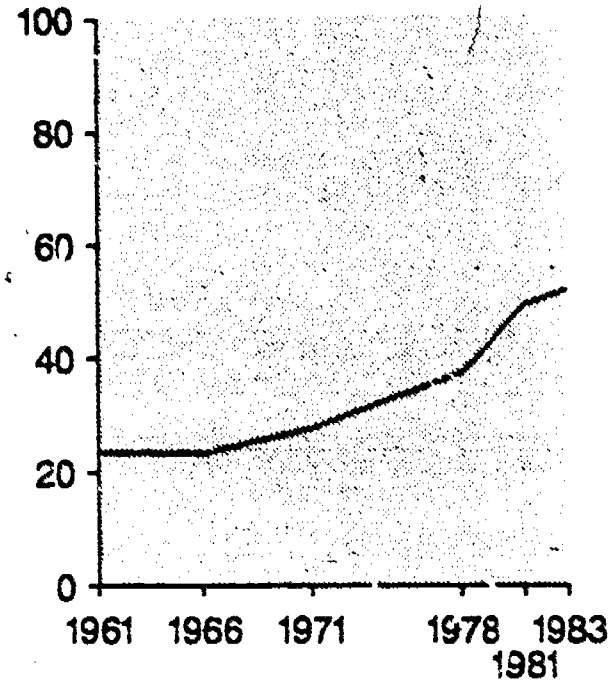




Percent White

Percent With Master's Degree or Higher





While the sex and racial composition of the public school teaching force remained much the same, the median age of teachers showed a rise in the early 1980's after a period of decline. The most substantial change over the two decades was the increasing proportion of public school teachers with at least a master's degree.

Table 3.7

Trends in Age Distribution of Elementary/Secondary School Teachers,[1] by Level of School: United States, School Years,[2] 1976-77, 1980-81, and 1983-84

Level of School and Age Group	1976-77	1980-81	1983-84
	Percentage Distribution		
Total elementary/secondary school teachers	100.0	100.0	100.0
20 to 24 years old	10.2	6.8	4.6
25 to 34 years old	43.0	37.4	32.7
35 to 44 years old	21.4	26.3	35.4
45 to 54 years old	15.9	18.1	17.4
55 to 59 years old	5.7	5.2	5.8
60 to 64 years old	2.8	3.1	3.0
65 years old and over	1.0	1.2	1.3
55 years old and over	9.5	9.5	10.0
Elementary school teachers	100.0	100.0	100.0
20 to 24 years old	11.2	7.2	5.0
25 to 34 years old	42.3	36.8	32.5
35 to 44 years old	20.3	27.2	34.7
45 to 54 years old	16.0	18.8	17.6
55 to 59 years old	5.9	5.6	5.5
60 to 64 years old	3.1	3.1	3.4
65 years old and over	1.2	1.2	1.2
55 years old and over	10.2	10.0	10.1
Secondary school teachers	100.0	100.0	100.0
20 to 24 years old	9.0	6.4	3.9
25 to 34 years old	43.8	38.0	32.9
35 to 44 years old	22.6	29.4	36.2
45 to 54 years old	15.7	17.3	17.1
55 to 59 years old	5.4	4.7	6.0
60 to 64 years old	2.5	3.1	2.5
65 years old and over	.8	1.1	1.4
55 years old and over	8.8	8.9	9.9

[1]Persons for whom elementary or secondary teaching was reported as their primary employment. Excluded from these tabulations are persons reported to be under 20 years old or with less than 16 years of schooling, as well as non-government employed prekindergarten and preprimary teachers, non-government employed special education teachers, and all teachers not elsewhere classified. These exclusions reduce the number of "teachers, excluding college" routinely reported by the Bureau of Labor Statistics by approximately one-fourth and bring the definition and numbers more in line with those reported from education agency counts.

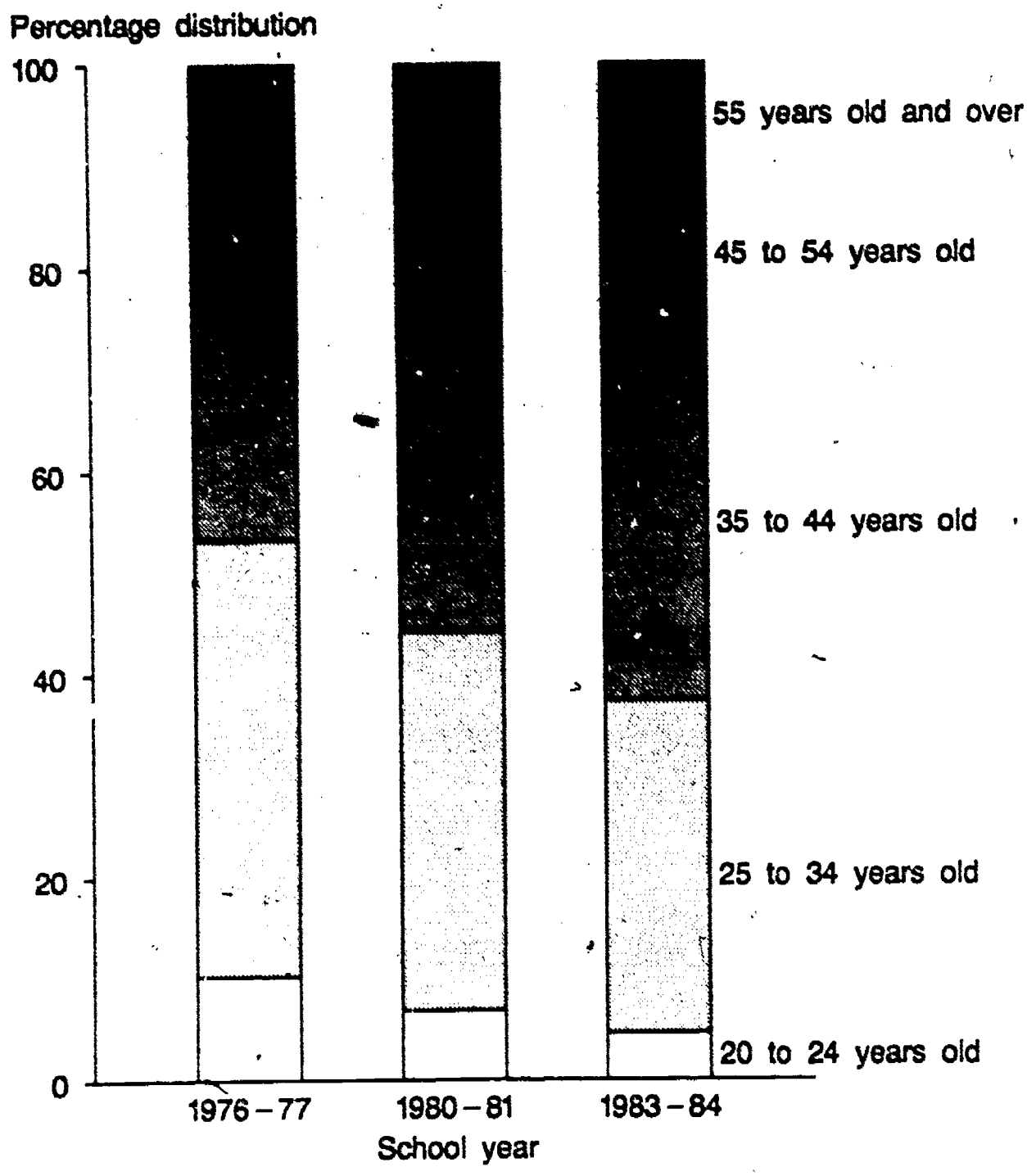
[2]Data are 9-month averages based on monthly Current Population surveys, September to May.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Current Population Surveys, annual averages, unpublished tabulations (October 1984).

Chart 3.7

Age Distribution of Elementary/Secondary School Teachers



As the proportion of younger teachers declined and the proportion at least 55 years old remained stable, teachers between the ages of 35 and 44 increased their share of the total teaching force. In 1976-77, 35- to 44-year-olds represented 21 percent of the total teaching force; by 1983-84 they comprised over one-third of all teachers.

Table 3.8

Uncertified[1] Teachers as Percent of All Elementary/Secondary School Teachers,[2] by Control of School and Field of Assignment: United States, November 1983

Field of Assignment	Public and Private		Public		Private	
	Number Uncertified	Percent of All Teachers	Number Uncertified	Percent of All Teachers	Number Uncertified	Percent of All Teachers
Total	88,260	3.4	35,690	1.6	52,560	15.6
Preprimary education	12,370	13.7	760	1.3	11,610	37.6
General elementary education	21,230	2.4	6,390	.9	14,840	10.1
Art	1,590	3.1	340	.8	1,250	18.8
Basic skills and remedial education	840	2.0	560	1.5	280	7.2
Bilingual education	3,590	12.0	3,470	12.0	*110	*13.0
Biological and physical sciences	5,360	4.1	2,820	2.5	2,540	15.5
Biology	1,090	3.7	500	2.0	590	14.7
Chemistry	590	4.0	200	1.6	400	15.8
Physics	490	5.6	200	2.8	290	18.3
General and all other sciences	3,190	4.0	1,930	2.7	1,260	15.2
Business (non-vocational)	990	1.8	260	.5	730	14.8
Computer science	790	8.6	270	3.9	530	21.8
English language arts	4,560	2.5	1,900	1.2	2,650	12.8
Foreign languages	2,830	5.5	790	2.0	2,040	18.6
Health, physical education	2,920	2.2	920	.8	2,000	14.0
Home economics	360	.9	200	.6	160	10.4
Industrial arts	620	1.4	380	.9	240	18.0
Mathematics	6,080	4.1	3,160	2.4	2,930	16.1
Music	2,390	3.0	640	.9	1,750	19.1
Reading	1,560	3.2	650	1.5	910	20.8
Social studies/social sciences	3,380	2.3	1,360	1.1	2,020	13.1
Special education	9,340	3.5	7,820	3.1	1,520	10.9
Mentally retarded	1,800	3.3	1,440	2.7	370	17.7
Seriously emotionally disturbed	1,250	4.7	870	3.8	*380	9.9
Specific learning disabled	3,050	4.2	2,560	3.6	490	17.7
Speech impaired	400	1.4	280	1.1	*120	*13.9
Unspecified special education	2,840	3.5	2,670	3.4	*170	*3.7
Vocational education	2,350	3.6	2,260	3.5	90	14.4
Other elementary education	900	3.0	280	1.0	*620	23.6
Other secondary education	4,220	7.8	450	1.1	3,770	34.1

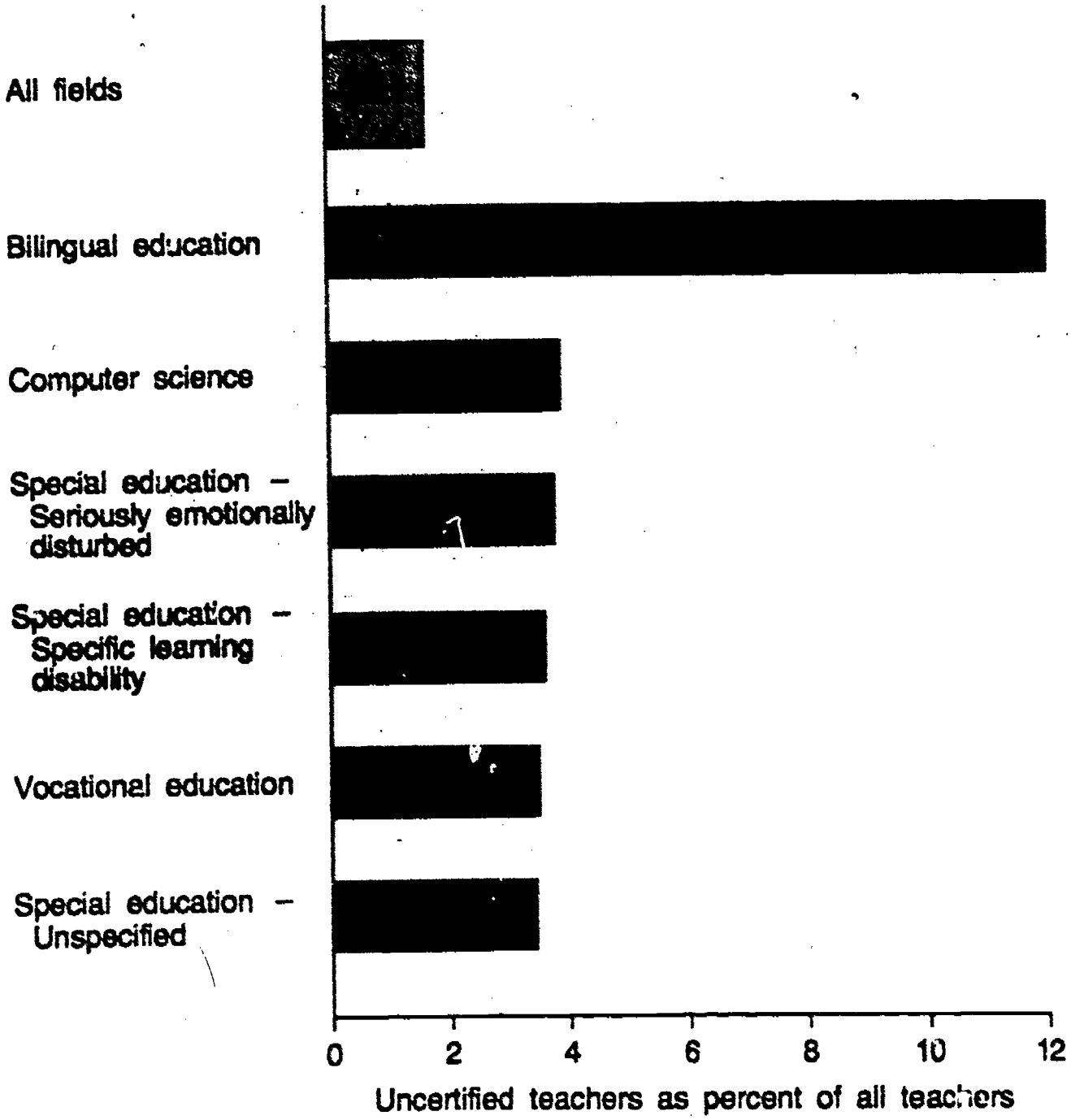
*Caution should be exercised in drawing conclusions from the data because of the small number of cases reported and large standard errors associated with the estimates.

[1]Teachers who do not hold a regular or standard State certification in the field of assignment. Includes teachers with regular or standard State certification but not in field of assignment and continuing teachers who have only an emergency, temporary, or provisional certification.

[2]Estimated full-time equivalent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September, 1984).

Fields With Largest Proportions of Teachers Uncertified in Public Elementary/Secondary Schools



Public school districts reported that 2 percent of teachers were uncertified to teach in their principal field of assignment in 1983-84. Bilingual education showed the highest proportion uncertified, 12 percent, followed by computer science, certain special education fields, and vocational education.

Table 3.9

Newly Hired Teachers Uncertified* in Principal Field of Assignment as Percent of All Newly Hired, by Selected School Characteristics: United States, November 1983

Characteristic	Uncertified Newly Hired Teachers	Percent of All Newly Hired Teachers
Total schools	26,300	12.4
Private schools	13,400	20.9
Public schools	12,900	8.7
Northeastern	2,900	12.1
North Central	600	2.2
Southern	6,500	10.5
Western	2,800	8.7
SMSA central city	3,900	14.0
SMSA non-central city	4,300	7.0
Nonmetropolitan	4,700	8.0
Small district	2,400	8.7
Medium-sized district	4,600	6.9
Large district	5,900	10.8

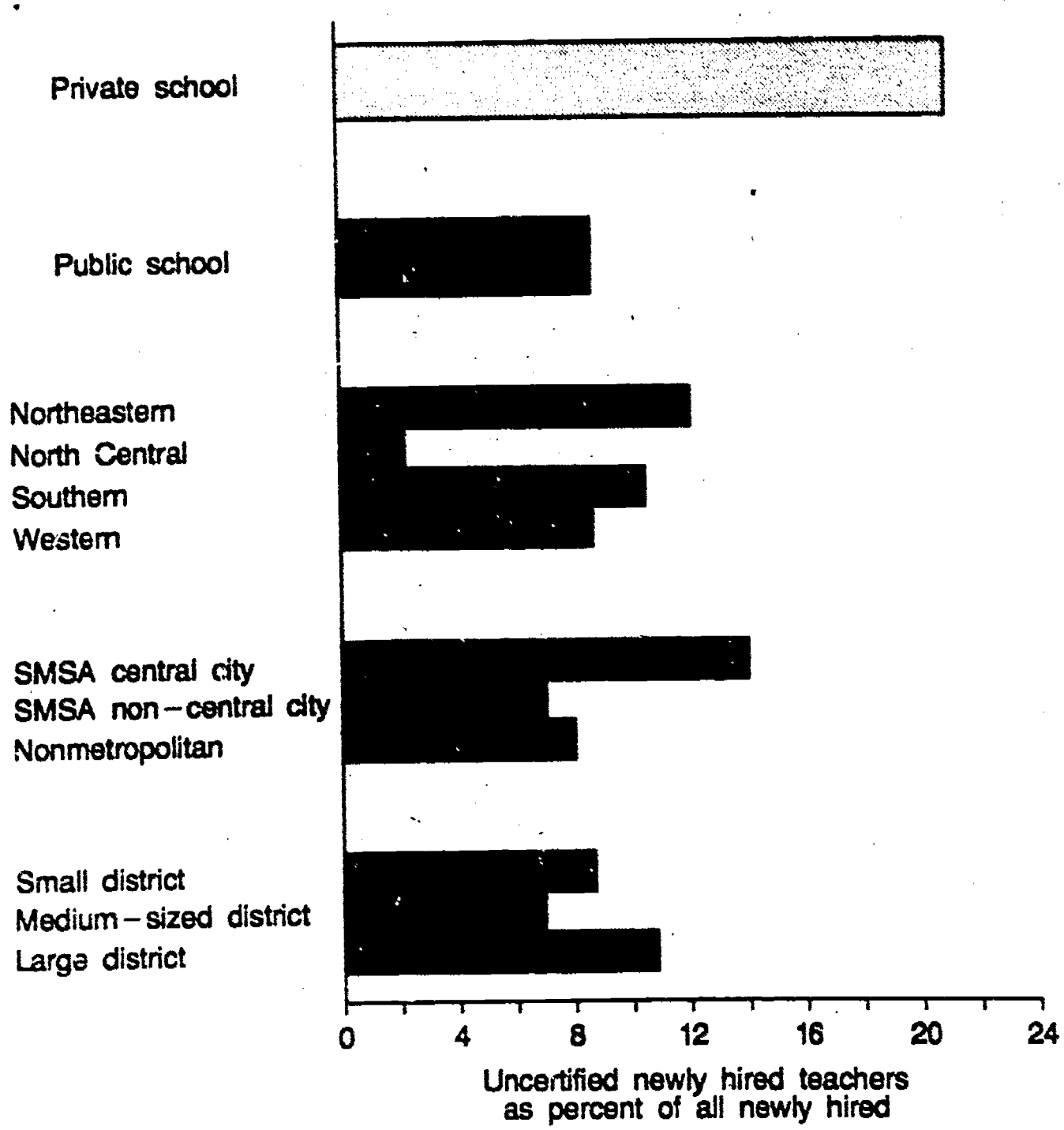
*Newly hired teachers who do not hold a regular or standard State certification in their principal field of assignment. Includes those with only an emergency, temporary, or provisional certification or with some other special arrangement such as a letter of waiver to teach in their field of assignment.

NOTE: The regional and metropolitan status categories correspond to Bureau of the Census definitions provided in the Definitions of Selected Terms in the appendix. Districts were derived as follows: small—enrollment under 1,000 students; medium-sized—enrollment of 1,000 to 9,999 students; and large—enrollment of 10,000 students and over. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Chart 3.9

Newly Hired Teachers Uncertified in Principal Field of Assignment as Percent of All Newly Hired



Approximately 9 percent of newly hired teachers in the public schools in 1983-84 were not certified to teach in their principal field of assignment. School districts in the central cities reported higher-than-average cases of uncertified new hires than school districts in other locations.

Table 3.10

State-Required Testing for Initial Certification of Teachers, by Year Enacted, Year Effective, Authorization, and Type of Test: 1984

State	Enacted Before 1984	Enacted in 1984	In Effect by 1984	Plan to Require in Next 3 Years	Authority[1]	Test Used[2]	Under Consideration
Alabama	X		X		St. Bd.	Other	
Alaska							X
Arizona	X		X		Leg.	Other	
Arkansas	X		X		Leg.	NTE	
California	X		X		Leg.	Other	
Colorado	X		X		Leg.	Other	
Connecticut	X			X	St. Bd.	Other	
Delaware	X		X		St. Bd.	Other	
District of Columbia				X		NTE/Other	
Florida	X		X		Leg.	Other	
Georgia	X		X		St. Bd.	Other	
Hawaii				X		NTE/Other	
Idaho							
Illinois							X
Indiana		X		X	Leg.	NTE	
Iowa							X
Kansas		X		X	Leg.	NTE	
Kentucky		X		X	Leg.	NTE	
Louisiana	X		X		Leg.	NTE	
Maine				X		NTE	
Maryland				X		NTE	
Massachusetts[3]	X		X		Leg./St. Bd.	Other	
Michigan							
Minnesota							
Mississippi	X		X		Leg.	NTE	
Missouri							
Montana							X
Nebraska		X		X	Leg.	To be determined	
Nevada		X		X	St. Bd.	To be determined	
New Hampshire							
New Jersey				X		NTE	
New Mexico	X		X		St. Bd.	NTE	
New York	X		X		St. Bd.	NTE	
North Carolina	X		X		St. Bd.	NTE	
North Dakota							
Ohio							X
Oklahoma	X		X		Leg.	Other	
Oregon				X		Other	
Pennsylvania				X		Other	
Rhode Island							X
South Carolina	X		X		Leg.	NTE/Other	
South Dakota							
Tennessee	X		X		St. Bd.	NTE	
Texas	X			X	Leg.	Other	
Utah				X		NTE	
Vermont							
Virginia	X		X		Leg.	NTE	
Washington				X		Other	
West Virginia	X			X	St. Bd.	Other	
Wisconsin				X			
Wyoming							

[1]St. Bd = State Board; Leg. = Legislature

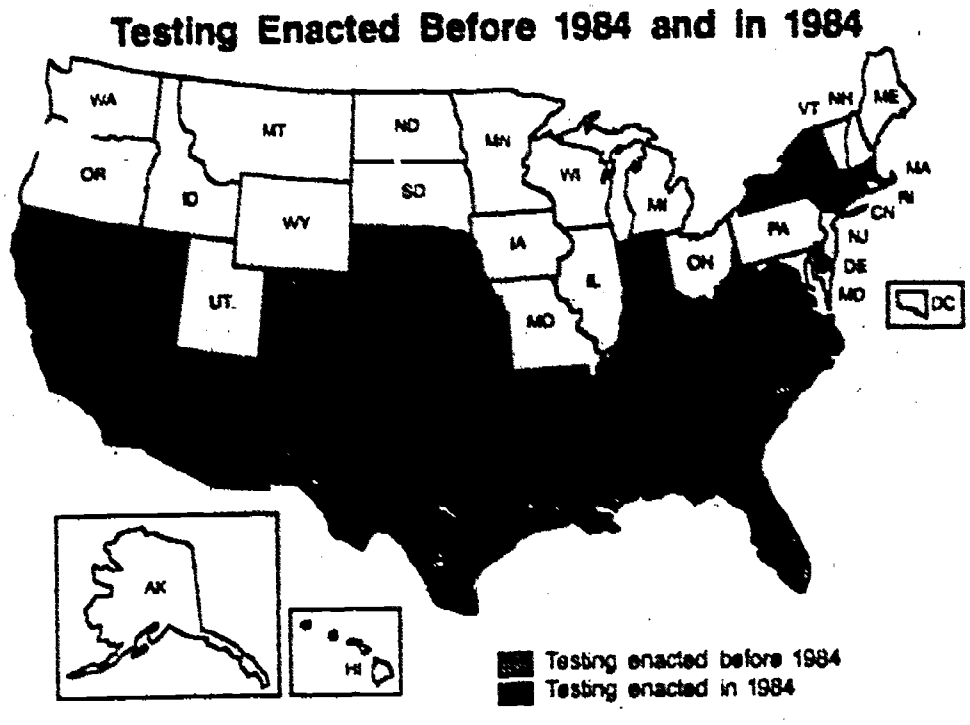
[2]NTE = National Teacher Examination; Other = State-developed or other standardized test.

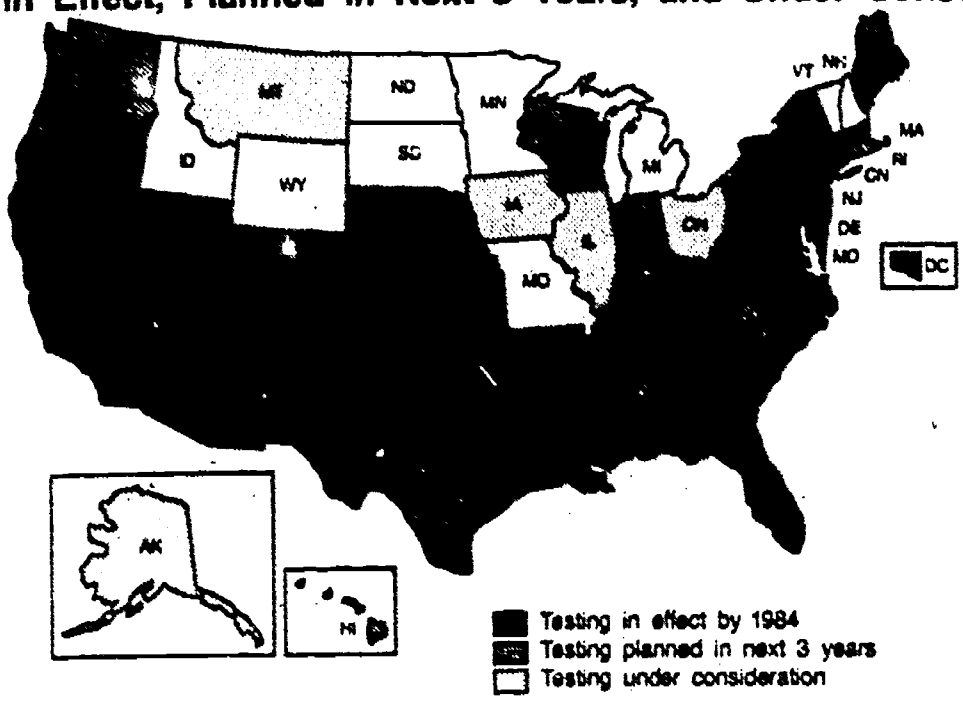
[3]Massachusetts requires competency testing for initial certification for teachers in certain fields only.

NOTE: Most information was derived from surveys conducted in mid-1984 and may not show requirements enacted after that date. Some telephone followups were conducted in fall of 1984 to resolve inconsistencies in the different surveys.

SOURCE: Education Commission of the States, Denver, Colorado, "Clearinghouse Notes", July 1984; and National Center for Education Information, Washington, D.C., Teacher Certification Survey, *The Making of a Teacher*, 1984, copyrighted.

State-Required Testing for Initial Certification of Teachers





A majority of States by 1984 had adopted competency testing for initial certification of teachers; five States enacted a testing requirement in 1984 alone. About two-thirds of these States reported the requirements were already in effect. In addition, 10 States indicated definite plans to require testing in the next 3 years and another 6 States reported testing requirements were under consideration.

Table 3.11

Trends in Estimated Average Annual Salaries of Classroom Teachers in Public Elementary/Secondary Schools, by Level: United States, School Years 1970-71 to 1983-84

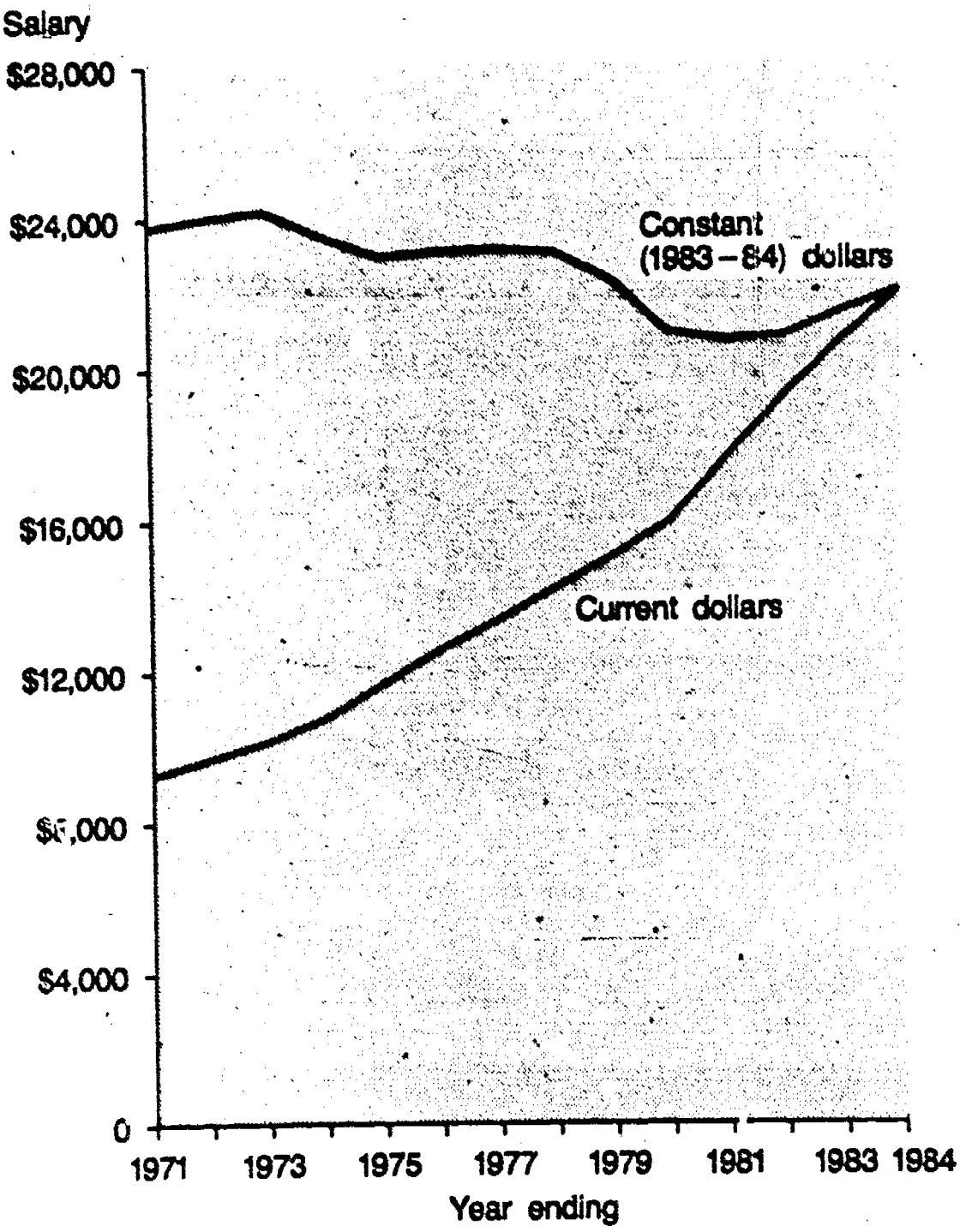
School Year	Current Dollars			Constant (1983-84) Dollars*		
	All Teachers	Elementary Teachers	Secondary Teachers	All Teachers	Elementary Teachers	Secondary Teachers
1970-71	$8,269	$9,021	$9,568	$23,755	$23,119	$24,521
1971-72	9,705	9,424	10,031	24,006	23,311	24,813
1972-73	10,176	9,893	10,507	24,194	23,522	24,981
1973-74	10,778	10,507	11,077	23,521	22,929	24,173
1974-75	11,690	11,334	12,000	22,972	22,272	23,581
1975-76	12,591	12,280	12,947	23,103	22,533	23,756
1976-77	13,352	12,990	13,776	23,158	22,530	23,893
1977-78	14,198	13,846	14,603	23,075	22,503	23,733
1978-79	15,032	14,680	15,450	22,333	21,810	22,954
1979-80	15,971	15,570	16,460	20,941	20,415	21,582
1980-81	17,642	17,241	18,125	20,733	20,262	21,300
1981-82	19,270	18,801	19,851	20,841	20,333	21,469
1982-83	20,715	20,205	21,380	21,479	20,951	22,169
1983-84	22,019	21,452	22,667	22,019	21,452	22,667

*Based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Data for some recent years have been revised slightly since originally published.

SOURCE: National Education Association, *Estimates of School Statistics 1983-84*, 1984, copyrighted, and unpublished tabulations.

Average Annual Salary of Classroom Teachers in Public Elementary/Secondary Schools



The average salary of public school teachers, when adjusted for inflation, declined in the 1970's but has risen slightly since then.

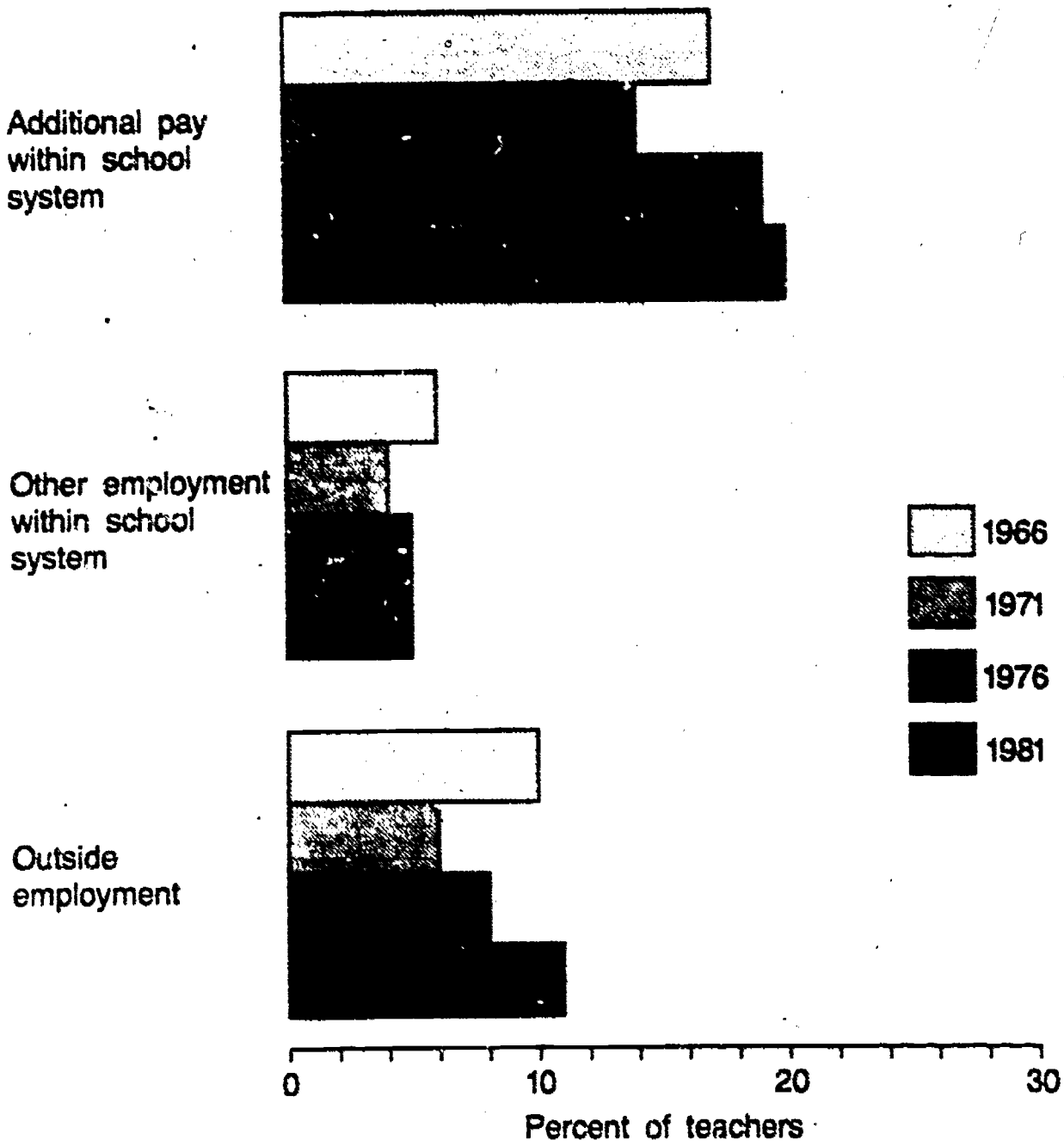
Table 3.12

Trends in Additional Employment and Other Income Sources of Public Elementary/Secondary School Teachers: United States, Selected Years, 1966 to 1981

Source	1966	1971	1976	1981
	Percent of Teachers			
Previous summer employment				
School system employment	12	15	12	10
Outside employment	18	18	16	18
Federal program employment	5	2	1	1
School year employment				
Additional pay within school system (e.g., coaching, publications)	17	14	19	20
Other employment within school system (e.g., bus driving)	6	4	5	5
Outside employment	10	6	8	11
Nonsalary income (e.g., rents, interest)	17	10	20	20
Any additional income—earnings/ nonsalary	53	57	51	51

SOURCE: National Education Association, *Status of the American Public School Teacher, 1980-81*, 1982, copyrighted.

Additional Employment During School Year of Public Elementary/Secondary School Teachers



About one-tenth of public school teachers reported in 1981 that they were employed outside of the school system during the school year. Some 20 percent indicated they earned additional pay within the school system for non-classroom functions, and another 5 percent indicated that they had taken separate employment within the school system.

Table 3.13

Attitudes of Public Elementary/Secondary School Teachers Toward Willingness to Teach Again: United States, Selected Years, 1961 to 1983

Item	1961	1966	1971	1976	1981	1983[1]
Percentage distribution by responses to question, "Suppose you could go back to your college days and start over again; in review of your present knowledge, would you become a teacher?"						
Total	100	100	100	100	100	100
Certainly would	50	53	45	38	22	24
Probably would	27	25	30	26	25	34
Chances are about even	12	13	13	18	18	([1])
Probably would not	8	7	9	13	24	30
Certainly would not	3	2	4	6	12	13
Percent indicating that they certainly would become teachers again						
Elementary	**57**	**60**	**50**	**44**	**26**	**28**
Secondary	**40**	**45**	**39**	**32**	**18**	**20**
Male	35	38	33	27	16	19
Female	57	59	51	42	25	27
Under 30 years old	([2])	49	41	36	28	([2])
30 to 39 years old	([2])	51	40	34	16	([2])
40 to 49 years old	([2])	49	47	42	21	([2])
50 years old and over	([2])	60	53	41	27	([2])
Small systems	([2])	54	46	37	26	29
Medium systems	([2])	53	44	40	21	23
Large systems	([2])	50	45	34[5]	19	21

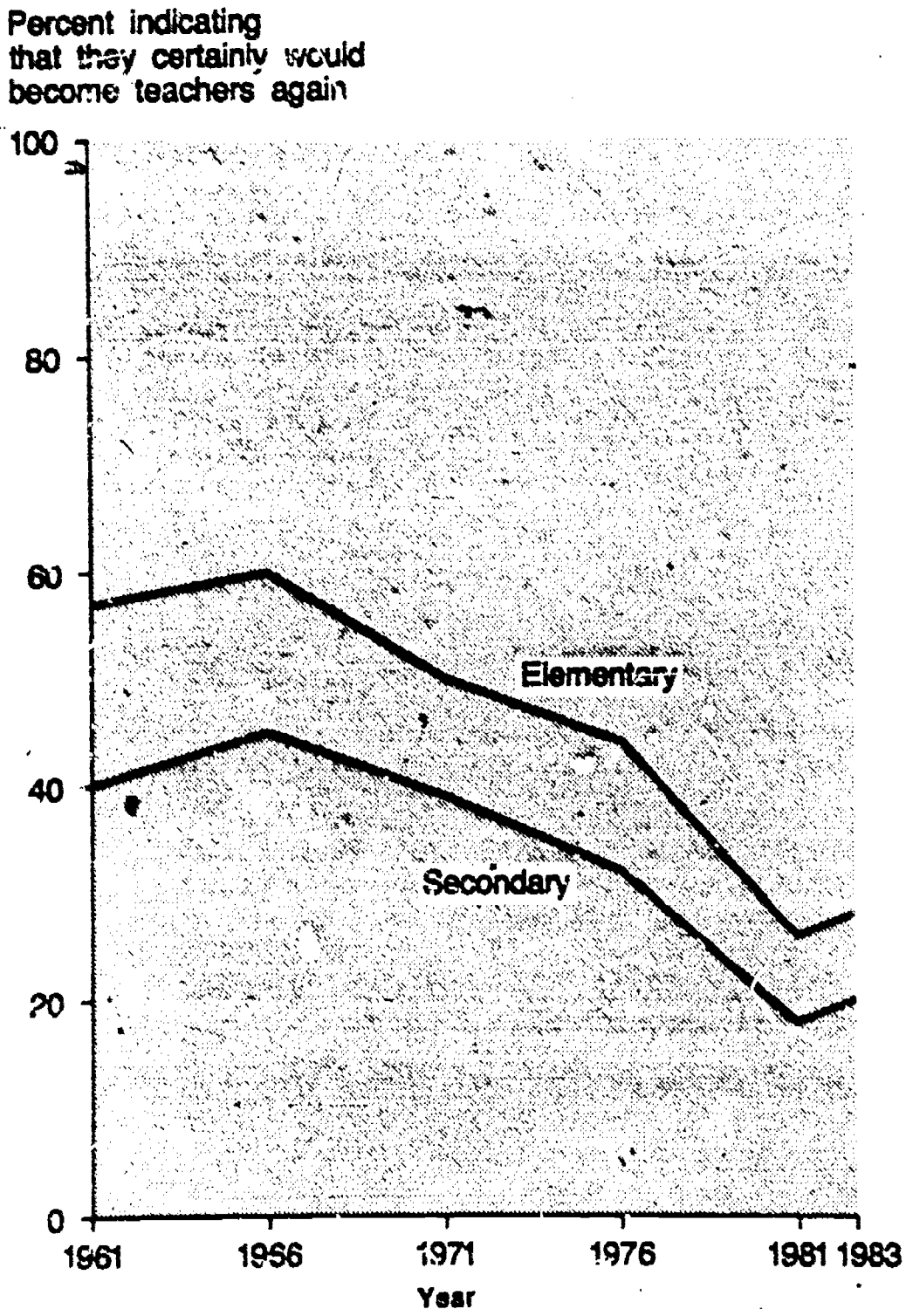
[1]The 1983 survey did not provide for the response "chances are about even."

[2]Not available.

NOTE: School systems were defined as follows: small—enrollment under 3,000 students; medium—enrollment of 3,000 to 24,999 students; and large—enrollment of 25,000 students and over. Details may not add to totals because of rounding.

SOURCE: National Education Association, *Status of the American Public School Teacher, 1980-81*, 1982, copyrighted, and *National Teacher Opinion Poll*, 1983, copyrighted, and unpublished tabulations (July 1983).

Public Elementary/Secondary School Teachers' Attitudes Toward Willingness to Teach Again



Whereas in the 1960's a majority of public school teachers indicated that they certainly would become teachers if they had the choice to make again, by the 1980's less than one quarter shared this attitude.

Table 3.14

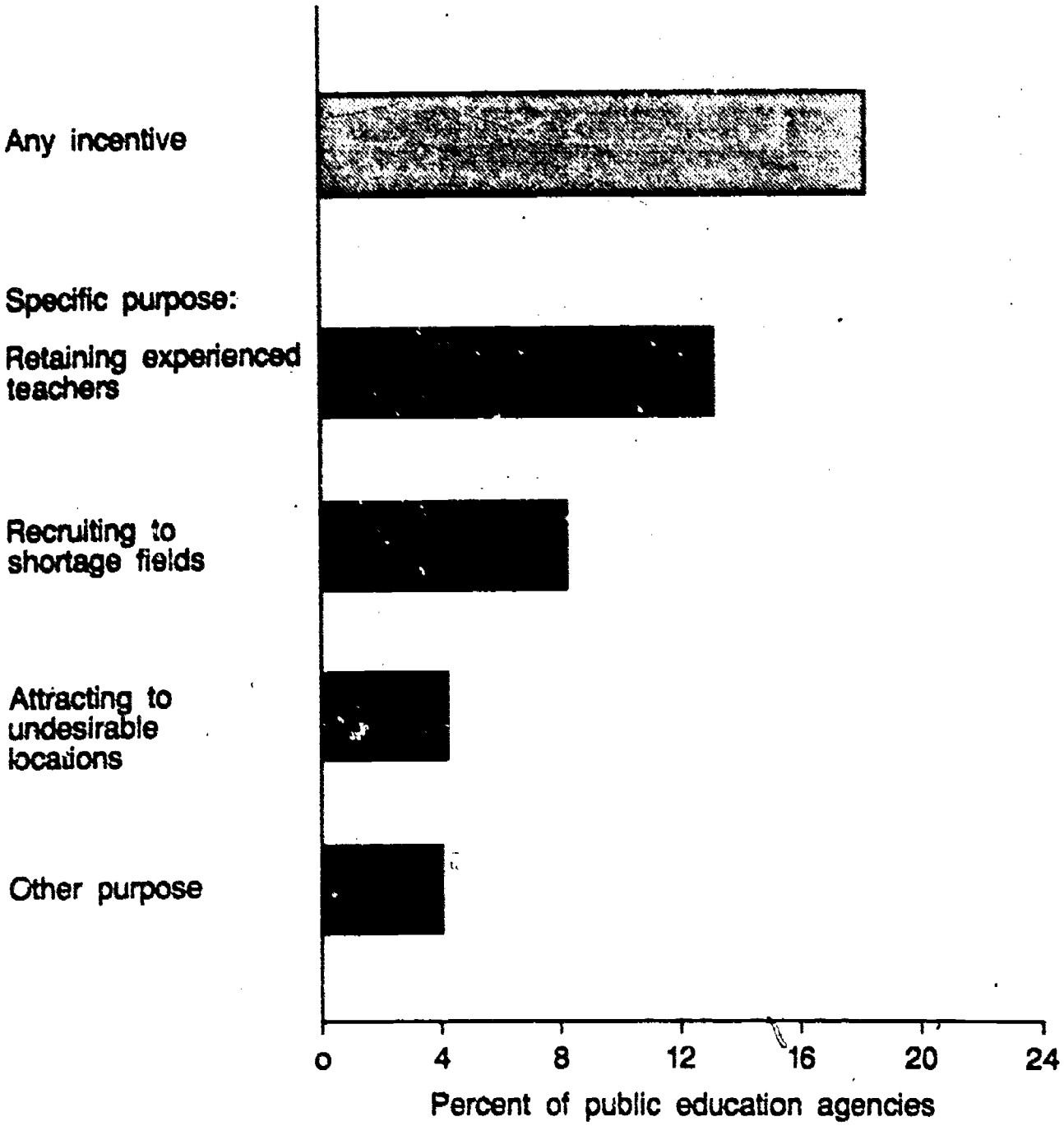
Public Education Agencies and Private Schools Offering Special Incentives to Recruit or Retain Teachers, by Purpose and by Type of Incentive: United States, School Year 1983-84

Item	Public Education Agencies	Private Schools
	Percent of Educational Units	
Any incentive offered	18.2	17.6
Specific purpose for incentive		
Retaining experienced teachers	13.1	13.6
Recruiting teachers for fields with shortages	8.2	7.0
Attracting teachers to less desirable locations	4.2	3.3
Other	4.0	1.7
Type of incentive		
Different step on salary schedule	8.2	11.6
Cash bonus	4.5	4.4
Free retraining	3.0	4.3
Award/recognition	1.5	3.6
Extended contract (11-12 months)	3.2	2.4
Released time	2.9	2.4
Leave of absence with normal step included	2.6	1.7
Loan forgiveness	1.0	1.4
Shared program with industry, e.g., summer job program	.2	.5
Other	3.7	3.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Chart 3.14

Public Education Agencies Offering Special Incentives to Recruit or Retain Teachers, by Purpose of Incentive



Approximately one-fifth of public school districts offered special incentives to recruit or retain teachers in 1983-84. Most often, incentives were offered to retain experienced teachers.

Table 3.15

Public Education Agencies and Private Schools Offering Special Incentives to Recruit or Retain Teachers, by Specific Field of Incentive: United States, School Year 1983-84

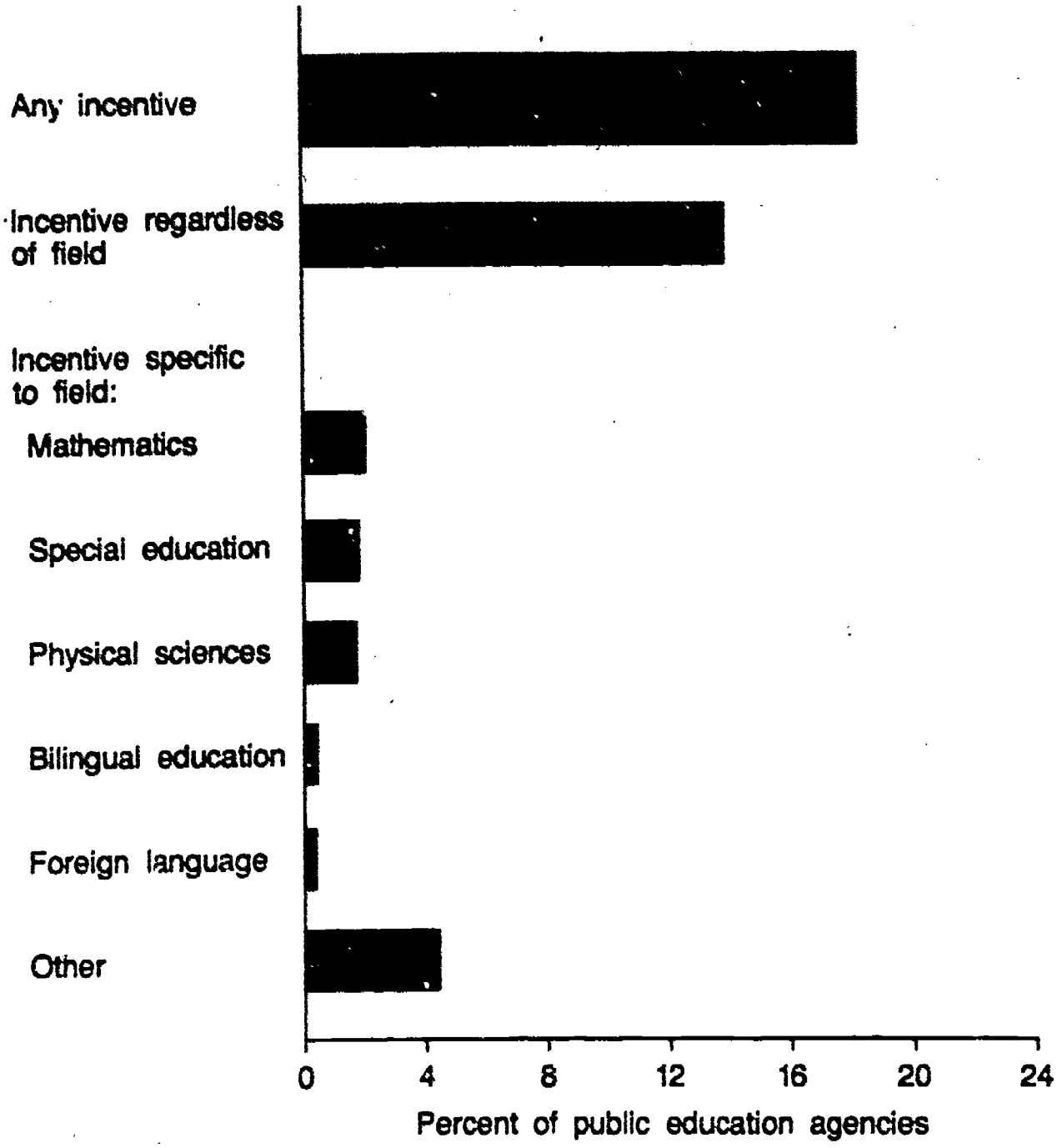
Field	Public Education Agencies	Private Schools
	Percent of Educational Units	
Any incentive offered	18.2	17.6
Incentive offered regardless of field	13.8	14.3
Incentive specific to field		
Mathematics	2.0	1.3
Special education	1.8	1.8
Physical sciences	1.7	1.4
Bilingual education	.4	*.1
Foreign language	.3	.8
Other	4.4	2.5

*Because of the small number of cases reported and large standard errors associated with the estimates, caution should be exercised in drawing conclusions from the data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Chart 3.15

Public Education Agencies Offering Special Incentives to Recruit or Retain Teachers, by Field of Incentive



Public school districts in 1983-84 were more likely to offer incentives to teachers regardless of field than to target incentives for specific fields.

Table 3.16

Public Education Agencies and Private Schools with Merit Pay Plans, by Selected School Characteristics: United States, School Year 1983-84

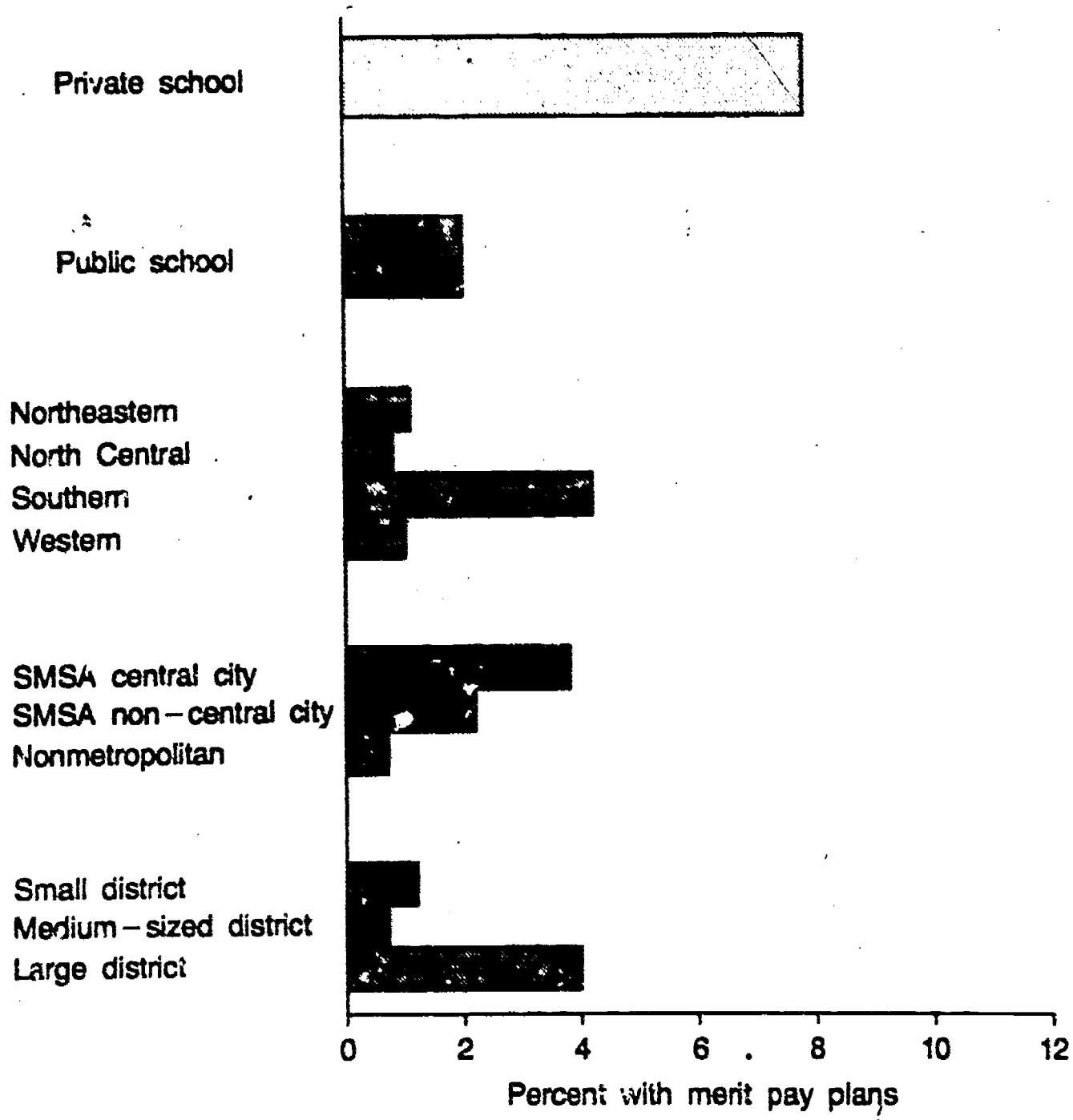
Characteristic	Total Educational Units	Total with Merit Pay Plan	Percent with Merit Pay Plan	Percent of Teachers in Units with Merit Pay Plan
Total units	43,013	1,691	3.9	2.9
Private schools	27,694	1,523	5.5	7.8
Public education agencies	15,319	168	1.1	2.0
Northeastern	3,025	7	.2	1.1
North Central	6,052	*92	*1.5	.8
Southern	3,447	*56	*1.6	4.2
Western	2,795	14	.5	1.0
SMSA central city	331	8	2.3	3.8
SMSA non-central city	5,139	*82	*1.6	2.2
Nonmetropolitan	9,849	*78	*.8	.7
Small district	8,201	*119	*1.5	1.2
Medium-sized district	6,499	31	.5	.7
Large district	619	18	2.9	4.0

*Because of the small number of cases reported and large standard errors associated with the estimates, caution should be exercised in drawing conclusions from these data.

NOTE: The regional and metropolitan status categories correspond to the Bureau of the Census definitions provided in the Definitions of Selected Terms in the appendix. Districts were defined as follows: small—enrollment under 1,000 students; medium-sized—1,000 to 9,999 students; and large—enrollment of 10,000 students and over. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Survey of Teacher Demand and Shortage, unpublished tabulations (September 1984).

Elementary/Secondary School Teachers With Merit Pay Plans



Approximately 2 percent of public school teachers were employed in districts with merit pay plans in 1983-84. Teachers in the South, in central cities, and in large districts were more likely to work under merit pay plans than teachers elsewhere in the Nation.

Chapter 4
Educating Handicapped Students

Ten years ago, Congress passed legislation intended to enhance the educational opportunities of handicapped children through the provision of a free appropriate public education. This meant providing an opportunity for, and improving the quality of, special education, as well as integrating handicapped children into regular schools whenever possible in accordance with the provision to place children in the "least restrictive environment." This chapter reviews the basic issues involved in educating handicapped children, including the problems of identification and access. With available national statistics, the chapter presents trends since the mid-1970's in special education participation, staffing, and Federal funding. Through information from other recent surveys, the chapter also profiles the academic performance of handicapped students.

The National Perspective

Trends in Participation

Two Federal grant authorizations provide for a count of handicapped children being served by special education programs: Chapter 1 of the Education Consolidation and Improvement Act (formerly known as Public Law 89-313) and the Education of the Handicapped Act, Public Law 98-199 (formerly Public Law 94-142). These programs require State agencies to report the number of handicapped who receive special education and related services.[1] In the 1983-84 school year, nearly 4.3 million persons in the 50 States and the District of Columbia were reported to be receiving special education under these two programs, a rise of 43,000, or 1 percent, over 1982-83 (entry 4.1). (This analysis excludes data from the Bureau of Indian Affairs, Puerto Rico and the outlying areas.) Between the 1976-77 school year, when the State counts were initiated, and 1983-84, the national total of handicapped children served increased by about 606,000, or 16 percent. Over the same time span, the total number of all students enrolled in public schools, from preprimary to 12th grade, declined by about 10 percent. Thus, the special education participants, considered as a percentage of total public school enrollment, increased from about 8 percent in 1976-77 to about 11 percent in 1983-84. Although the increase in the number receiving special education continued through the early 1980's, the rate of increase from year to year has declined.

[1]These reports are made to the Office of Special Education and Rehabilitative Services (OSERS) in the U.S. Department of Education. Chapter 1 counts children from birth through 20 years old, while P. L. 94-142 counts children 3-21 years old.

While the total number served increased between 1976-77 and 1983-84, participant counts in six specific categories declined. This occurred for the speech impaired[2] (down 174,000 participants, or 13 percent), the hard of hearing or deaf (15,000, or 17 percent), the mentally retarded (232,000, or 24 percent), the orthopedically handicapped (31,000, or 36 percent), the visually handicapped (9,000, or 24 percent), and "other health impaired" (88,000, or 62 percent). These declines were more than offset by a dramatic rise in the number receiving special education in the category of specific learning disabilities (1 million, or 127 percent). The increase placed this category as the largest, with 42 percent of the students served in 1983-84. The number of children receiving instruction for the seriously emotionally disturbed added to the overall rise, increasing by 78,000 participants or 28 percent.

State and Federal officials have suggested several reasons why the handicapped population in certain categories has increased, particularly for the learning disabled. The National Association of State Directors of Special Education (NASDSE), after a query in 1983 of some of its members, cited the following reasons for growth in the learning disabled population being served:

- Greater public awareness of learning disabilities;
- Wider availability of assessment techniques;
- Liberal eligibility criteria for the learning disabled;
- Budget reductions in other remedial programs;
- Perception that the learning disabled classification is less stigmatizing than the mentally retarded classification;
- Court orders to reevaluate minority placement in the mentally retarded category.

Some of the reasons cited by NASDSE for the increase in the learning disabled counts also held for the increases in the number of the multihandicapped and seriously emotionally disturbed. In addition, heightened public awareness, improved reporting procedures, and Federal law have probably contributed. Reasons for a steady increase in the

[2]The numbers reported by the States reflect counts by categories and not by distributions of services. The number receiving speech therapy is significantly larger than the number included in the speech impaired count, since large numbers of mentally retarded, deaf and other handicapped receive speech therapy as a related service.

seriously emotionally disturbed population include efforts by State and local agencies to serve this previously underserved population. In addition, improved diagnostic techniques and an enhanced capacity to provide services in the public schools have had their effect, according to NASDSE.

The numerical declines registered by the other groups of handicapped are more difficult to explain. For some, the declines are partly due to reclassification or reporting changes. For example, in some States, handicapped students who once were classified as mentally retarded may now be classified as learning disabled. Another reason is the overall drop in the school-age population during the period. However, these explanations combined do not seem to account for the reductions that have occurred. An additional explanation may be that the numbers of children with certain handicaps are actually falling. Until more evidence can be gathered, however, the issue will remain in debate.

Trends in Instruction

Like the number of children receiving special education services, the number of teachers providing those services has increased substantially in the last decade (entry 4.2). State education agencies reported employing nearly 239,000 special education teachers during the 1982-83 school year, up by almost 60,000, or 34 percent, over the number reported for 1976-77. However, the increase may be less than that, since data-gathering in the mid-1970's was probably less comprehensive and complete than under current practice. While State reporting on these personnel still shows data problems,[3] it is nonetheless clear that a significant expansion of this part of the teaching force has occurred.

In recent years, the rate of growth in the total number of special education teachers has slackened considerably. Between 1981-82 and 1982-83, the total increased by about 5,000 teachers, or about 2 percent. Indeed, for some types of handicaps, the number of instructors employed decreased between these 2 years. Within specific categories, the numbers have fluctuated, not necessarily in conjunction with the size of the respective student population. For example, the number teaching mentally retarded students peaked in the 1977-78 school year. By 1982-83, there were over 14,000 fewer. For the teachers of the hard of hearing or deaf, the orthopedically handicapped, and the visually impaired, the numbers peaked in the 1978-79 school year and have since dropped by between 1,000 to 1,300 teachers.

On the other hand, the number of teachers for the speech impaired continued to increase through 1980-81, even though the number of students in the category was declining. Between 1980-81 and 1982-83, however, the reported number of teachers dropped by nearly 5,000, resulting in an increase of only 1,000 teachers from 1976-77.

In categories where the number of students has been increasing—the learning disabled, seriously emotionally disturbed, and multihandicapped—so had the numbers of teachers until 1980-81. Between that year and 1981-82, the number of teachers of the multihandicapped remained essentially the same, while the numbers in the learning disabled and emotionally disturbed categories decreased by about 1,300 and 2,300 respectively. In 1982-83, the numbers of teachers of the learning disabled and the multihandicapped continued to decline from the previous year, while the count of teachers of the seriously emotionally disturbed increased.

These declines and fluctuations are at least partly explained by the fact that, in 1981-82, for the first time, nearly 16,000 special education teachers were not reported under a specific handicap category but were listed as "non-categorical." These teachers are employed to provide instruction to more than one type of handicapped student, often in the preschool age group. (In the past, such teachers were often either omitted from the individual category counts or counted in more than one category. However, they usually appeared in unduplicated form in total teacher counts.) The number of teachers who appeared under this classification in 1981-82 more than offset the declines from the previous year in the learning disabled, speech impaired, mentally retarded, and seriously emotionally distrubed categories combined. In 1982-83, the non-categorical group experienced the largest increase in numbers.

By comparing participant counts with teacher counts, pupil-teacher ratios provide a crude measure of classroom interaction. The average pupils-per-teacher ratio both for the U.S. as a whole and for all types of handicapping conditions combined has remained stable at approximately 18-to-1 over the last several years. This average figure may not represent the actual class sizes that handicapped children typically experience, however. From handicap to handicap, this ratio has varied widely, though remaining more stable within most categories over time.

[3] In its 1985 Report to Congress, The U.S. Department of Education's Office of Special Education and Rehabilitative Services cautioned that personnel data are subject to varying State and local definitions of certain personnel categories and of full-time equivalence.

The vast difference in the ratio from one group to the next generally reflects the needs of the particular group. For example, the highest ratio occurs in the speech-impaired category, where in 1982-83, 58 children were served per special education teacher. Since virtually all speech-impaired students spend the bulk of their instruction in regular classes and less than 10 hours a week with a special teacher, this means a given teacher can work with a number of different groups of speech-impaired pupils over the course of a week; hence the higher ratio. The learning disabled and the other health impaired group also had larger pupil-per-teacher ratios than the other categories. At the lowest extreme, however, the ratio in the deaf-blind category averaged three children to one teacher in 1982-83. Similarly, low ratios could be found for other groups needing more individualized attention, such as the hard of hearing and deaf (9:1 in 1982-83); the visually impaired (9:1); the mentally retarded (12:1); the orthopedically impaired (13:1); the multihandicapped (13:1); and the seriously emotionally disturbed (13:1).

It is important in this context to note the increasing number of teachers who are not reported by States in terms of addressing a handicapping condition but who are aggregated into the non-categorical group. Counts of these teachers are then proportionately distributed among the handicapped categories.

Public Law 94-142 mandates that handicapped children are to be educated with their non-handicapped peers to the maximum extent appropriate. In addition, the implementing regulations require school districts to offer a range of educational placement options for handicapped pupils.

The Department of Education annually collects data on the number of handicapped children served in various educational environments. The vast majority of pupils classified as handicapped—93 percent—attended regular public schools in 1982-83 (entry 4.3). More than two-thirds of all handicapped pupils also received the bulk of their instruction in regular classes along with their non-handicapped agemates. Another quarter attended regular schools but received most of their instruction in separate classes. Children in this group are presumed to have some contact with non-handicapped children, at least during portions of the school day. Only about 6 percent of all handicapped children attended separate schools and about 1 percent received instruction at homes or in hospitals. These overall national proportions changed little over the 7 school years from 1976-77 through 1982-83.

The extent of instruction that handicapped children receive in regular classrooms varies considerably, depending on their handicap. In 1982-83, for example, 78 percent of learning disabled and 93 percent of speech-impaired children—the two largest groups—received most of their instruction in regular classes. At the same time, only 29 percent of mentally retarded children—the third largest group—received most of their instruction in regular classrooms. More than half (58 percent) were taught in segregated classes and over 13 percent in special schools or other environments. Similar conditions held for almost every other handicapped group, except for visually handicapped children, a majority of whom were mostly taught in regular classrooms.

Although the nationwide child counts reveal no major movement toward increasing the proportion of handicapped pupils taught in regular classes, there is considerable State variability in the types of environments in which handicapped children are served. For example, in recent years, Arkansas, Georgia, Kentucky, Maine, Mississippi, Nebraska, North Carolina, South Carolina, Tennessee, Vermont, and West Virginia have reported that a majority of their mentally retarded pupils were receiving most of their instruction in regular classes. On the other hand, in populous States such as California, Florida, New Jersey, New York, and Pennsylvania, the proportion of mentally retarded students receiving instruction in regular classes has been about 10 percent or less.

One clear national goal has been to make school buildings and their interior facilities accessible to students with orthopedic and other handicaps that restrict mobility. While this has entailed a cost in altering existing buildings to accommodate wheelchairs, general accessibility seems closer at hand than it was in the mid-1970's. Surveys conducted by the Office for Civil Rights show that in the short span between 1978 and 1980, the proportion of U.S. public schools with accessible school entrances increased substantially from 60 percent to 73 percent (entry 4.4). The proportion of accessible classrooms also rose from 59 to 65 percent. No data are available for more recent years.

Trends in Federal Funding

The funding that the Federal government provides each year to State and local education agencies to help educate handicapped children has grown considerably since the passage of P.L. 94-142 in 1975. The annual total of Federal grants to States and territories under that act grew from $252 million

in 1977 to just over $1 billion in 1984 (entry 4.5). Other Federal programs provided smaller amounts. The $1 billion came to some $261 per handicapped child in 1984. The U.S. Department of Education has estimated that the average total expenditure per handicapped pupil came to approximately $6,200 in the 1983-84 school year. Of that amount, $3,347 represented "excess costs," that is, costs over and above those of a regular education for the pupil. Thus, the Federal contribution came to roughly 8 percent of the total excess cost of providing special education to the Nation's handicapped children.

The rate of growth in Federal expenditures for handicapped education was greater in the late 1970's than in the early 1980's. In terms of constant 1983 dollars, the annual total of Federal grants under P.L. 94-142 reached a peak in 1979, declined by $146 million over the next 2 years, then increased again, but only by about $57 million, between 1981 and 1983. The amount spent per handicapped child reflected this pattern, peaking in 1979 at the equivalent of $299 per child (in 1983 dollars), declining to $241 per child in 1982, then recovering slightly to $261 per child in 1984.

The Composition of Special Education Participant Counts

In addition to data on accessibility, the surveys conducted by the Office for Civil Rights provide some information about rates of placement in handicapped programs among racial/ethnic groups and between the sexes. As a contrast, the 1978 and 1980 surveys also offer data on placements in programs for the gifted and talented. Together these data tell a mixed story. The surveys found that black students were disproportionately represented in some types of handicapped programs in relation to their share of the total enrollment (entry 4.6). For example, in 1980 3.4 percent of black pupils were in programs for the mentally retarded compared to 1.1 percent of white pupils. The proportion of blacks in classes for seriously emotionally disturbed students was 0.7 percent compared to 0.4 percent of whites. By contrast, the proportion of blacks in programs for the gifted-and-talented was 1.5 percent in contrast to 2.9 percent of whites.

The proportions of Hispanics in programs for the learning disabled, the retarded, the speech impaired, or the seriously emotionally disturbed were not significantly higher than the equivalent proportions for non-Hispanic whites. However, the proportion of Hispanic pupils in gifted-and-talented programs was significantly lower. The latter difference was also apparent for pupils of American Indian background, only more so. American Indian students also were reportedly placed in classes for the learning disabled in greater proportion than white students. For pupils of Asian or Pacific Islander backgrounds, however, the proportions in classes for the learning disabled, the retarded, and the seriously emotionally disturbed were all notably lower than the equivalent proportions of white pupils. Conversely, the proportion of Asian or Pacific Islander pupils in programs for the gifted-and-talented was notably higher than the proportion for white pupils and for the other minority groups.

The Office for Civil Rights surveys also found significant differences in the placement of males and females in special programs. The proportions of males were consistently higher than those of females across all handicap categories. On the other hand, a somewhat smaller percent of males than females was found in public school programs for gifted and talented students. These relative proportions remained essentially the same between the two surveys, although the overall proportion of children in some programs did change in the interval.

Family Background and Provision of Special Education

Data indicating that there are differences in proportions receiving special education among racial/ethnic groups and between the sexes raises the question of why these differences occur. A number of explanations have been offered. One suggestion is bias. Since the provision of special education typically entails additional costs, this reason seems inadequate. Particular acts of discrimination with respect to the provision of special education could have occurred—in some cases resulting in erroneous placement in special education programs, in other cases by lack of placement—but national survey data do not speak to them. Another suggested explanation of differences in participation in special education programs involves socioeconomic background differences. The link between students' family backgrounds and their need for and use of special education resources is shown in the National Survey of Children which was initiated by the Foundation for Child Development. This survey sampled households with 7- to 11-year-olds in 1976-77 and again in a 1981 follow-up when they were 12- to 16-year-olds. In the initial survey, children and parents in about 1,750 households were interviewed, while in the follow-up, about 1,050 were. Complementing these interviews, the teachers involved were asked about their perceptions of the child's need for or use of special educational

resources due to specific handicapping conditions. The survey showed students from families with low parental education or income levels were more likely to be perceived by their teachers as emotionally disturbed than were students from families with high parental education or income levels (entry 4.7). A similar difference held for students perceived by teachers as being slow learners or having learning disabilities.

Just the opposite pattern emerged in the perceived need for advanced instruction or resources for the gifted. Among students from families where the parents had less than a high school education, not quite 1.5 percent were perceived by teachers as needing resources for the gifted. By contrast, among the children of college graduates, more than 12 percent were perceived as gifted. Family income was similarly, although less strongly, related to the need for and use of advanced resources. Other background factors, such as single-parent family status, may also be related to special education needs.

Self-Identified Handicapped Status and School Performance

Data from the National Center for Education Statistics study, High School and Beyond (HS&B), also show that (self-identified) handicapped status among high school sophomores is associated with certain background characteristics as well as with selected school performance factors. HS&B data from both the base-year survey of 1980 and the follow-up survey in 1982 were analyzed and results indicate that except for the orthopedically impaired, handicapped students differed significantly from the non-handicapped on both background and school performance variables. For example, respondents who identified themselves as handicapped in both the 1980 and 1982 surveys were disproportionately male and more likely to be minorities (or non-white/non-Hispanic) than their classmates (entry 4.8). One in three handicapped fell in the lowest socioeconomic quartile, compared with only 1 in 5 of the non-handicapped.

Similarly, almost half (45 percent) of the respondents who identified themselves as being handicapped in both 1980 and 1982 fell in the lowest test quartile (entry 4.9). This compared with only 1 in 5 students who were not identified as handicapped in either year. Moreover, roughly one-third of this self-identified handicapped group averaged C's and D's in their school work, while only one-fifth of the non-handicapped group did so. Dropout rates were also higher for the self-identified handicapped than the non-handicapped, 19 percent versus 13 percent, respectively. Significant differences were observed, in addition, for students who repeated a grade in elementary school. One-fourth of the students reportedly handicapped in both years had repeated a grade, as compared with only about one-tenth of students not handicapped either year.

Conclusion

All in all, the outcome data from the National Survey of Children and High School and Beyond indicate that handicapped adolescents are significantly worse off than non-limited adolescents in terms of their academic progress and their overall adjustment to the school and classroom situation. Thus, although progress has been made in providing special educational resources to such pupils, more remains to be learned to make the school experience more productive and positive for all handicapped students.

Table 4.1

Trends in Number of Persons 3 to 21 Years Old Served Annually in Educational Programs for the Handicapped, Percentage Distribution, and Percent of Total Public School Enrollment, by Type of Handicap: United States, School Years 1976-77 to 1983-84

Type of Handicap	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
				Number Served, in Thousands				
All conditions	3,692	3,751	3,889	4,005	4,142	4,198	4,255	4,298
Learning disabled	796	964	1,130	1,276	1,462	1,622	1,741	1,806
Speech impaired	1,302	1,223	1,214	1,186	1,168	1,135	1,131	1,128
Mentally retarded	959	933	901	869	829	786	757	727
Seriously emotionally disturbed	283	288	300	329	346	339	352	361
Hard of hearing and deaf	87	85	85	80	79	75	73	72
Orthopedically handicapped	87	87	70	66	58	58	57	56
Other health impaired	141	135	105	106	98	79	50	53
Visually handicapped	38	35	32	31	31	29	28	29
Multihandicapped	(*)	(*)	50	60	68	71	63	65
Deaf-blind	(*)	(*)	2	2	3	2	2	2
				Percentage Distribution of Persons Served				
All conditions	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Learning disabled	21.5	25.7	29.1	31.9	35.3	38.6	40.9	42.0
Speech impaired	35.3	32.6	31.2	29.6	28.2	27.0	26.6	26.2
Mentally retarded	26.0	24.9	23.2	21.7	20.0	18.7	17.8	16.9
Seriously emotionally disturbed	7.6	7.7	7.7	8.2	8.4	8.1	8.3	8.4
Hard of hearing and deaf	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.7
Orthopedically handicapped	2.3	2.3	1.8	1.6	1.4	1.4	1.3	1.3
Other health impaired	3.8	3.6	2.7	2.6	2.4	1.9	1.2	1.2
Visually handicapped	1.0	.9	.8	.8	.8	.7	.7	.7
Multihandicapped	—	—	1.3	1.5	1.6	1.7	1.5	1.5
Deaf-blind	—	—	.1	.1	.1	.1	.1	.1
				As Percent of Total Enrollment				
All conditions	8.33	8.61	9.14	9.62	10.11	10.47	10.73	10.98
Learning disabled	1.80	2.21	2.66	3.06	3.57	4.05	4.39	4.62
Speech impaired	2.94	2.81	2.85	2.85	2.85	2.83	2.85	2.88
Mentally retarded	2.16	2.14	2.12	2.09	2.02	1.96	1.91	1.86
Seriously emotionally disturbed	.64	.66	.71	.79	.85	.85	.89	.92
Hard of hearing and deaf	.20	.20	.20	.19	.19	.19	.18	.18
Orthopedically handicapped	.20	.20	.16	.16	.14	.14	.14	.14
Other health impaired	.32	.31	.25	.25	.24	.20	.13	.13
Visually handicapped	.09	.08	.08	.08	.08	.07	.07	.07
Multihandicapped	—	—	.12	.14	.17	.18	.16	.17
Deaf-blind	—	—	.01	.01	.01	.01	.01	.01

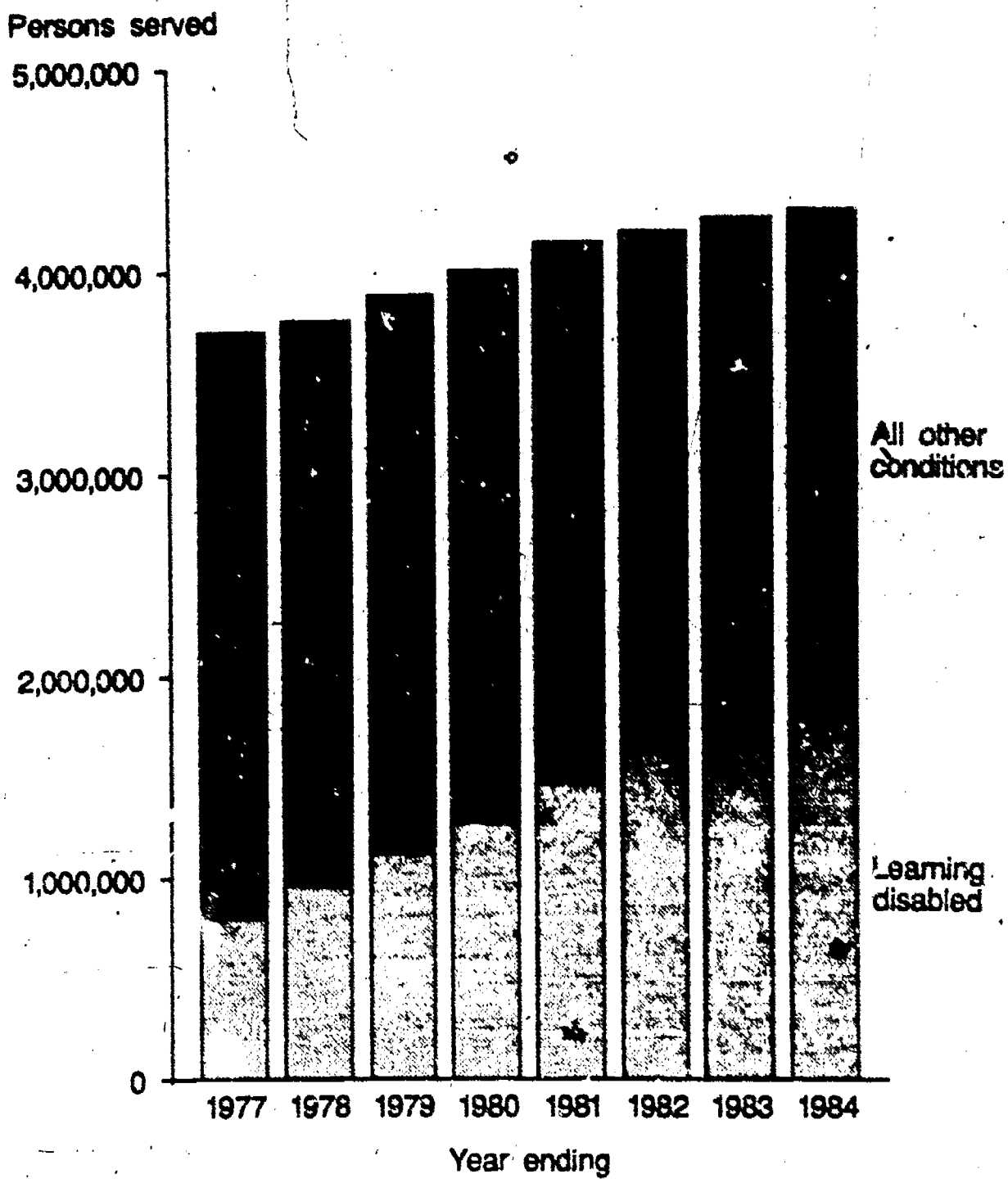
*Not available

—Not applicable.

NOTE Counts are based on reports from the 50 States and District of Columbia only (i.e., figures from U.S. territories are not included). Percentages of total enrollment are based on the total annual enrollment of U.S. public schools, preprimary through 12th grade. Details may not add to totals because of rounding

SOURCE Calculated from U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Sixth Annual Report to Congress on the Implementation of Public Law 94-142*, 1984, and unpublished tabulations (September 1984).

Persons 3 to 21 Years Old Served in Special Education Programs for the Handicapped



The number of students served in educational programs for the handicapped has increased steadily since 1976-77. The major increase has been for students with specific learning disabilities, while the number served in most other categories of handicap have actually declined over the same period.

Table 4.2

Trends in Number of Special Education Teachers Employed Annually in Public Elementary/Secondary Schools, and Pupil-Teacher Ratios, by Type of Handicapped Persons Taught: United States, School Years 1976-77 to 1982-83

Type of Handicapped Persons Taught	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	Percent Change 1976-77 to 1982-83
All conditions:								
Number of teachers employed	**178,768**	**193,571**	**202,000**	**219,835**	**231,403**	**233,516**	**238,567**	33.5
Ratio of pupils per teacher	21:1	19:1	19:1	18:1	18:1	18:1	18:1	
Learning disabled								
Number of teachers employed	**43,906**	**53,743**	**62,379**	**74,812**	**84,756**	**83,468**	**82,357**	87.6
Ratio of pupils per teacher	18:1	18:1	18:1	17:1	17:1	19:1	22:1	
Speech impaired								
Number of teachers employed	18,355	19,736	19,038	24,073	24,379	20,443	19,553	6.5
Ratio of pupils per teacher	71:1	62:1	64:1	49:1	48:1	56:1	58:1	
Mentally retarded								
Number of teachers employed	71,008	75,061	70,389	68,138	67,238	63,267	60,504	-14.8
Ratio of pupils per teacher	14:1	12:1	13:1	13:1	12:1	12:1	12:1	
Seriously emotionally disturbed								
Number of teachers employed	21,666	20,660	23,185	26,610	27,338	25,015	26,870	24.0
Ratio of pupils per teacher	13:1	14:1	13:1	12:1	13:1	14:1	13:1	
Hard of hearing and deaf								
Number of teachers employed	8,665	8,587	9,131	9,087	8,234	7,953	8,126	-6.2
Ratio of pupils per teacher	10:1	10:1	9:1	10:1	10:1	9:1	9:1	
Orthopedically handicapped								
Number of teachers employed	5,331	4,707	5,673	4,710	4,419	4,642	4,356	-18.3
Ratio of pupils per teacher	16:1	19:1	12:1	14:1	13:1	12:1	13:1	
Other health impaired								
Number of teachers employed	4,948	5,108	4,904	5,121	3,168	3,514	3,074	-37.9
Ratio of pupils per teacher	29:1	27:1	21:1	21:1	31:1	23:1	17:1	
Visually handicapped								
Number of teachers employed	3,451	3,506	4,210	3,353	3,470	3,027	3,255	-5.7
Ratio of pupils per teacher	11:1	10:1	8:1	9:1	9:1	10:1	9:1	
Multihandicapped								
Number of teachers employed	(*)	(*)	(*)	3,962	5,428	5,400	5,185	—
Ratio of pupils per teacher	—	—	—	15:1	13:1	13:1	13:1	—
Deaf-blind								
Number of teachers employed	(*)	(*)	(*)	671	369	392	883	—
Ratio of pupils per teacher	—	—	—	4:1	8:1	6:1	3:1	—
Non-categorical								
Number of teachers employed	(*)	(*)	(*)	(*)	(*)	15 838	24,403	—

*Not available.

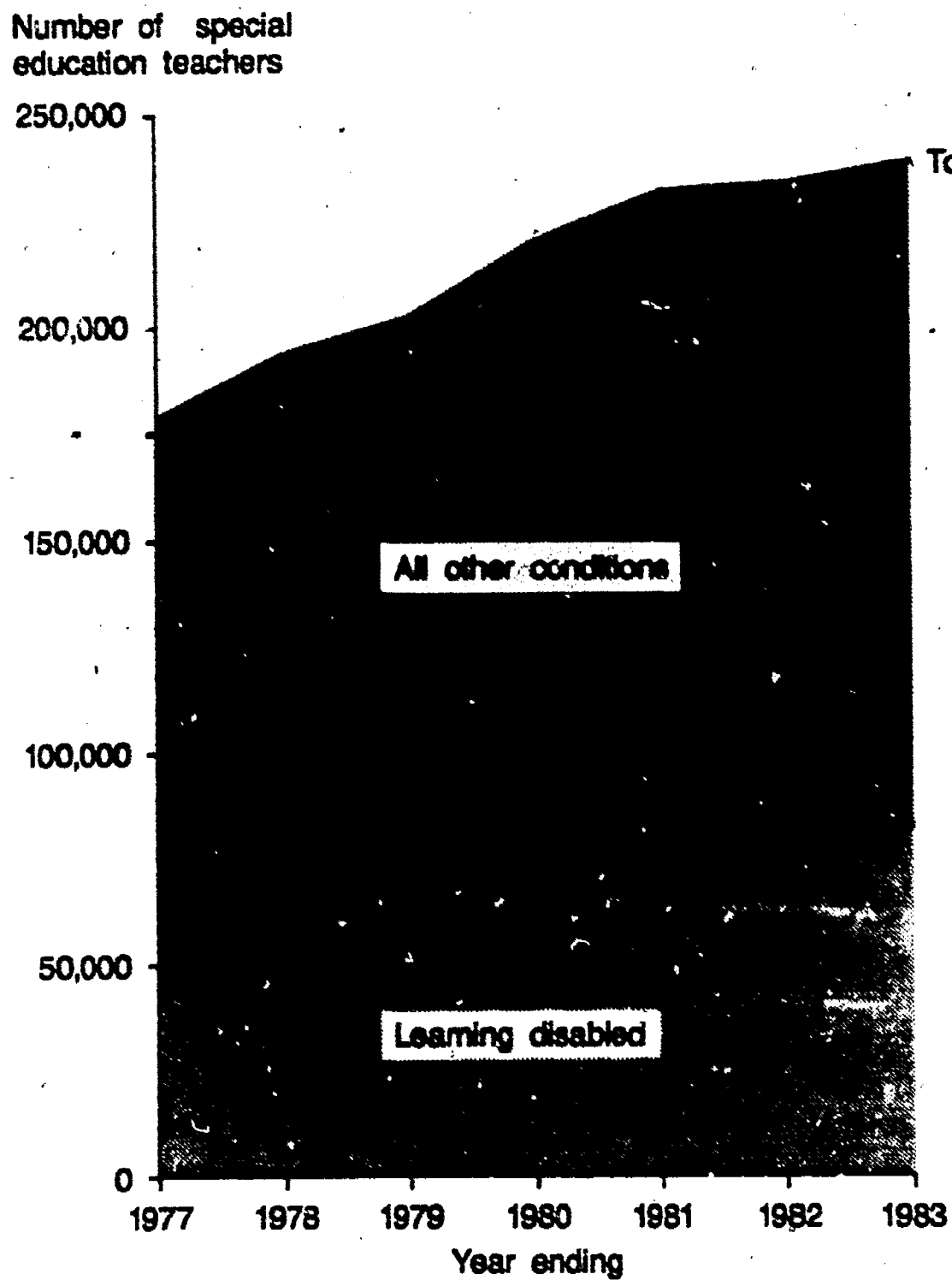
—Not applicable.

NOTE: Teacher counts are based on reports from 49 States and the District of Columbia only (New Mexico does not report on special education personnel and figures from U.S. territories and the Bureau of Indian Affairs are not included). Totals for all conditions exceed sums for individual conditions because some special education teachers have not been categorized in some State reports. Teacher counts include those serving the 0- to 21-year-old population, while participant counts refer only to the 3- to 21-year-old population. Pupil-teacher ratios are based on the counts shown in table 4.1.

SOURCE: Calculated from U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Sixth Annual Report to Congress on the Implementation of Public Law 94-142*, appendix 3, table 3B1, 1984, and unpublished tabulations (January 1985).

Chart 4.2

Number of Special Education Teachers in Public Elementary/Secondary Schools



The number of special education teachers employed by public schools has risen since the mid-1970's, reflecting the rise in the number of children served. The biggest increase has been in the number of teachers for the specific learning disabled.

Table 4.3

Trends in Percentage Distribution of Handicapped Persons 3 to 21 Years Old Receiving Special Educational Services in Regular Classes, in Special Classes, in Special Schools, and in Other Environments: United States, School Years 1976-77 to 1982-83

Item	All Environments	Regular Class	Special Class in Regular School	Separate School Facility	Other Educational Environment
	Percentage Distribution				
All conditions in:					
1976-77	100	67	25	5	3
1977-78	100	68	25	5	2
1978-79	100	68	26	4	2
1979-80	100	68	25	5	2
1980-81	100	68	25	6	1
1981-82	100	68	25	6	1
1982-83	100	68	25	6	1
Type of handicap in 1982-83:					
Learning disabled	100	78	20	1	(*)
Speech impaired	100	93	5	1	1
Mentally retarded	100	29	58	13	1
Seriously emotionally disturbed	100	43	38	16	3
Hard of hearing and deaf	100	38	38	24	1
Orthopedically handicapped	100	35	39	17	9
Other health impaired	100	49	21	7	23
Visually handicapped	100	82	19	18	1
Multihandicapped	100	16	47	33	4
Deaf-blind	100	9	34	56	2

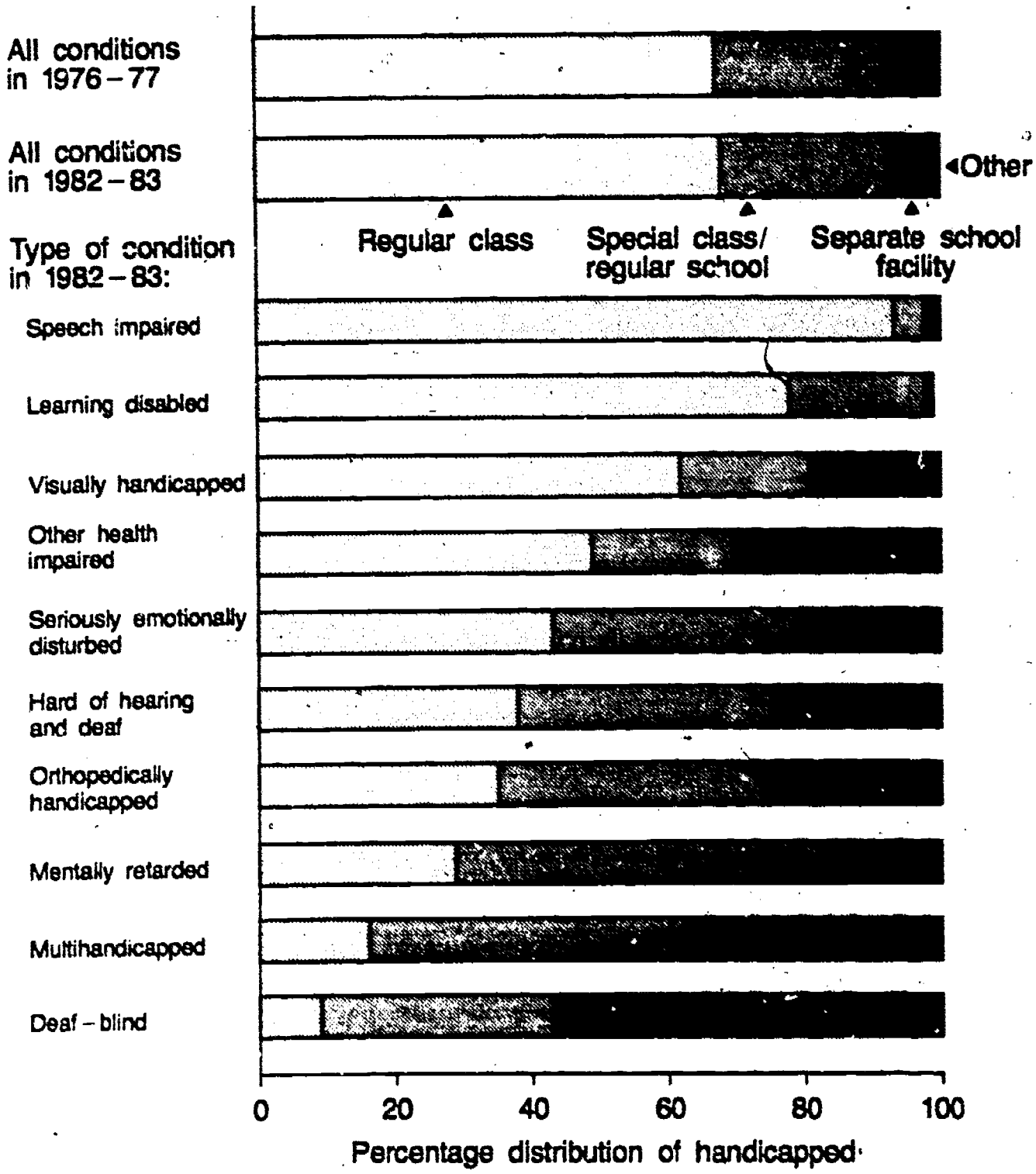
*Less than 0.5 percent.

NOTE: Data exclude U.S. Territories and the Bureau of Indian Affairs. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services, unpublished tabulations (January 1985).

Chart 4.3

Distribution of the Handicapped, by Type of Facility



More than two-thirds of handicapped children received their instruction in regular classes, and one-fourth did so in special classes within regular schools, proportions little changed from the mid-1970's.

Table 4.4

Number and Percent of Public Elementary/Secondary Schools and Classrooms Accessible to Physically Handicapped Students: United States, Fall 1978 to Fall 1980

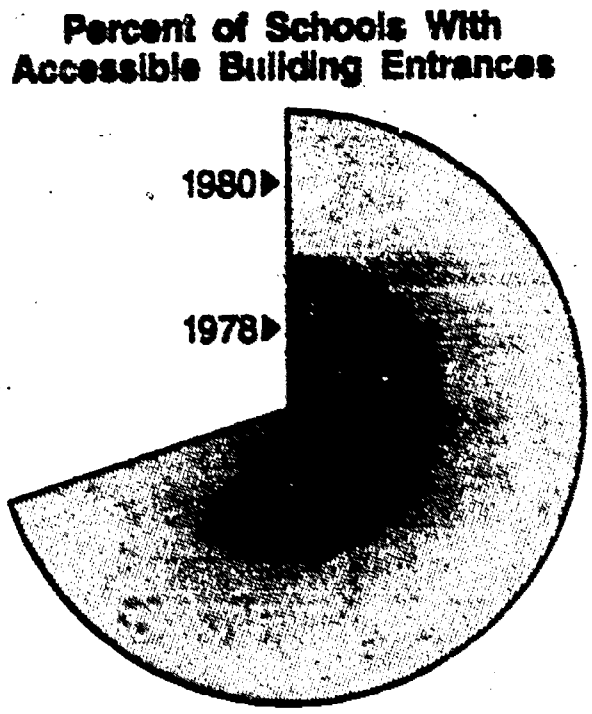
Item	1978	1980
Total number of schools in survey universe	80,134	77,544
Schools with:		
Accessible building entrances		
Number	48,101	56,511
Percent of total schools	**60.0**	**72.9**
Accessible toilet stalls		
Number	21,327	42,124
Percent of total schools	26.6	54.3
Accessible science labs		
Number	10,611	18,266
Percent of total schools	13.2	23.6
Percent of all schools with science labs	51.0	(*)
Total number of classrooms in survey universe	1,304,201	1,935,391
Accessible classrooms		
Number	767,334	1,255,839
Percent of total classrooms	**58.8**	**64.9**

*Not available for 1980.

SOURCE: U.S. Department of Education, Office for Civil Rights, *State, regional and national summaries of data from the 1978 Civil Rights Survey of Elementary and Secondary Schools*, 1980, and *1980 Elementary and Secondary School Civil Rights Survey: National summaries*, 1982.

Chart 4.4

Percent of Public Elementary/Secondary Schools and Classrooms Accessible to Handicapped Students



By 1980, nearly three-quarters of all school building entrances and nearly two-thirds of all classrooms were accessible to pupils in wheelchairs.

Table 4.5

Trends in Annual Total of Federal Grants to States and Territories Under Public Law 94-142 and Amount Granted per Handicapped Student, in Current and Constant Dollars: United States and Territories, 1977 to 1984

Item	1977	1978	1979	1980	1981	1982	1983	1984*
Current dollars, in millions	$251.8	$566.0	$804.0	$874.5	$874.5	$931.0	$1,017.9	$1,068.9
Constant (1983) dollars, in millions	415.2	867.0	1,106.9	1,060.5	960.9	964.8	1,017.9	—
Amount per handicapped child:								
Current dollars	72	159	217	230	222	233	251	261
Constant (1983) dollars	119	244	299	279	244	241	251	—

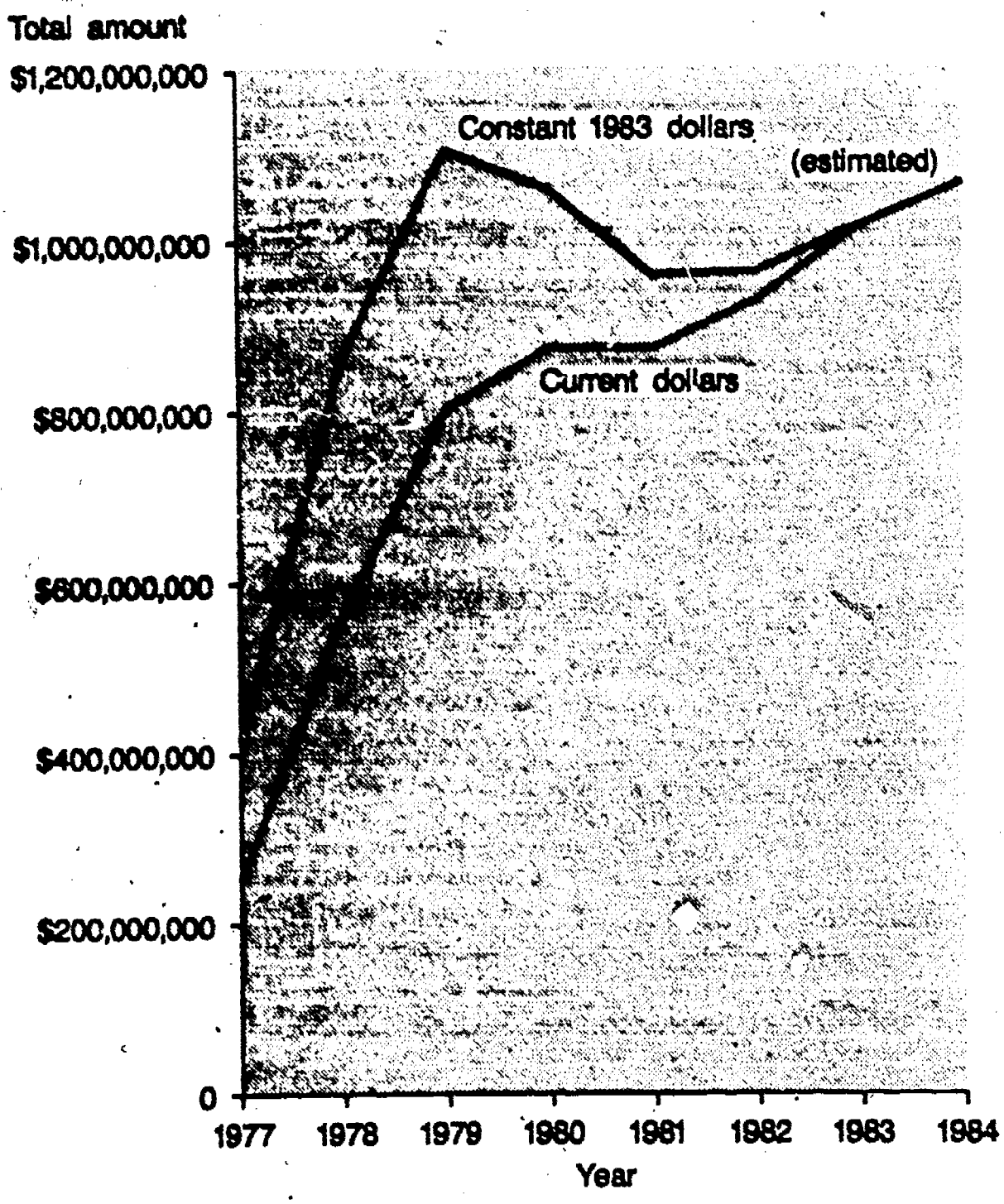
*Estimated.

—Not available.

NOTE: The bulk of the P.L. 94-142 funds are paid to the States and Outlying Areas in July of each year, for use in the following school year.

SOURCE: Calculated from U.S. Department of Education, Office of Special Education and Rehabilitative Services, unpublished tabulations.

Total Federal Grants to States and Territories Under P.L. 94-142



In constant dollars, Federal funding for the major special education programs rose rapidly to 1979, fell for the next 2 years, and has since partially recovered. A similar pattern held for the ratio of Federal expenditures per handicapped child, which stood at about $251 per child in 1983.

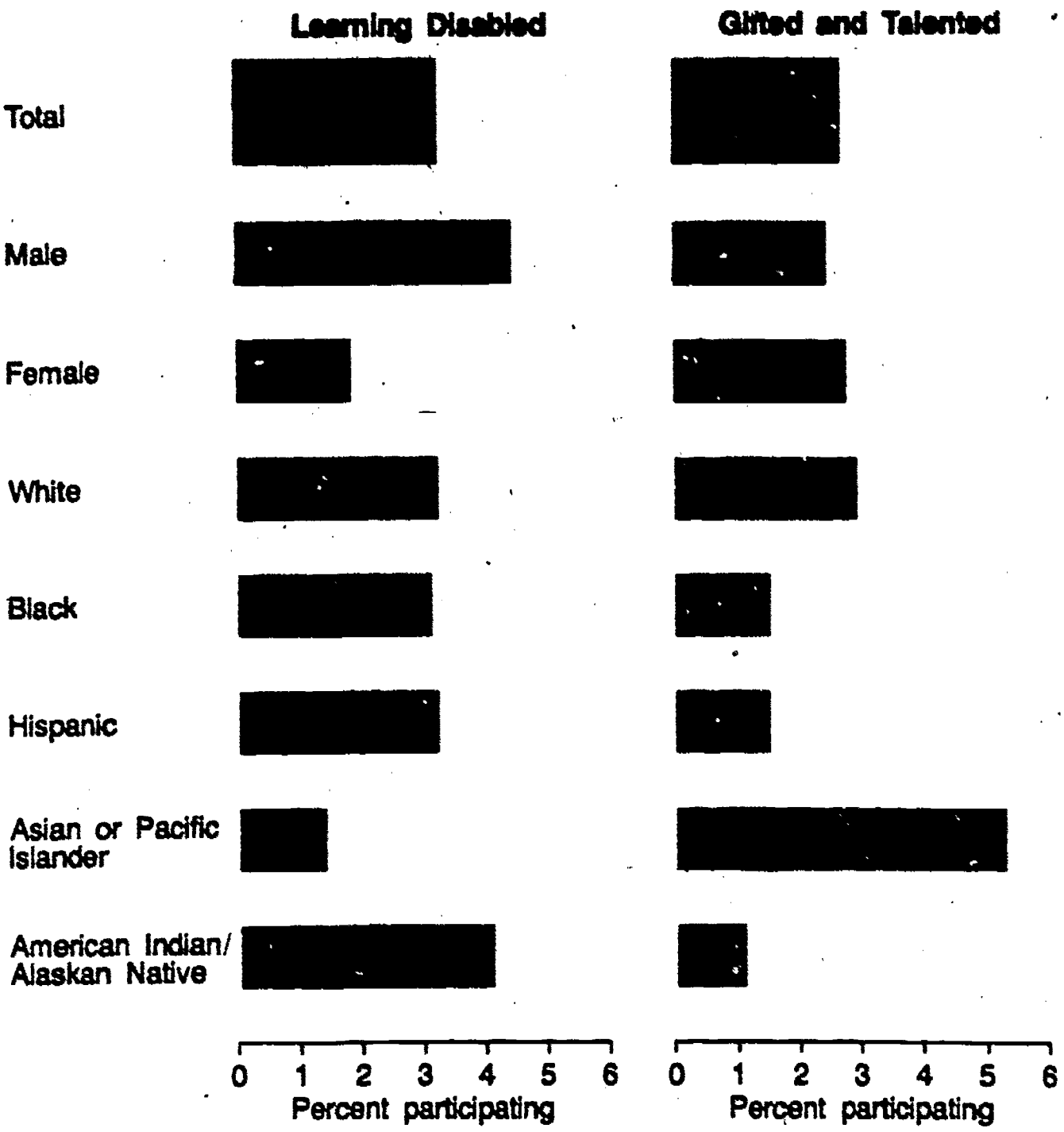
Table 4.6

Percent of Public Elementary/Secondary School Students Participating in Selected Special Education Programs, by Sex and Race/Ethnicity of Student: United States, Fall 1978 and Fall 1980

Year and Type of Program	All Students	Male	Female	White (Non-Hispanic)	Black (Non-Hispanic)	Hispanic	Asian or Pacific Islander	American Indian/ Alaskan Native
	Percent Participating							
1978								
Specific learning disabled	2.3	3.2	1.3	2.3	2.2	2.6	1.3	3.5
Speech impaired	2.0	2.4	1.5	2.0	1.9	1.8	1.8	1.8
Educable mentally retarded	1.4	1.7	1.2	1.1	3.4	1.0	.4	1.7
Trainable mentally retarded	.2	.3	.2	.2	.4	.2	.2	.2
Seriously emotionally disturbed	.3	.5	.2	.3	.5	.3	.1	.3
Gifted/talented	1.9	1.8	2.1	2.1	1.3	1.5	4.6	.8
1980								
Specific learning disabled	3.2	4.4	1.8	3.2	3.1	3.2	1.4	4.1
Speech impaired	2.3	2.9	1.7	2.4	2.1	1.8	1.8	1.9
Educable mentally retarded	1.4	1.6	1.1	1.1	3.4	.8	.3	1.7
Trainable mentally retarded	.2	.3	.2	.2	.4	.2	.2	.3
Seriously emotionally disturbed	.5	.7	.2	.4	.7	.4	.1	.5
Gifted/talented	2.6	2.4	2.7	2.9	1.5	1.5	5.3	1.1

SOURCE: U.S. Department of Education, Office for Civil Rights, *State, regional and national summaries of data from the 1978 Civil Rights Survey of Elementary and Secondary Schools*, 1980, and *1980 Elementary and Secondary School Civil Rights Survey: National summaries*, 1982.

Participation in 1980 Public Elementary/Secondary Learning Disabled Programs and Gifted and Talented Programs



Black students were disproportionally represented in handicapped programs, while Asians were the least likely to participate. Males were more likely than females to participate in special education programs of a remedial or compensatory nature, but were less likely to be in programs for the gifted and talented.

Table 4.7

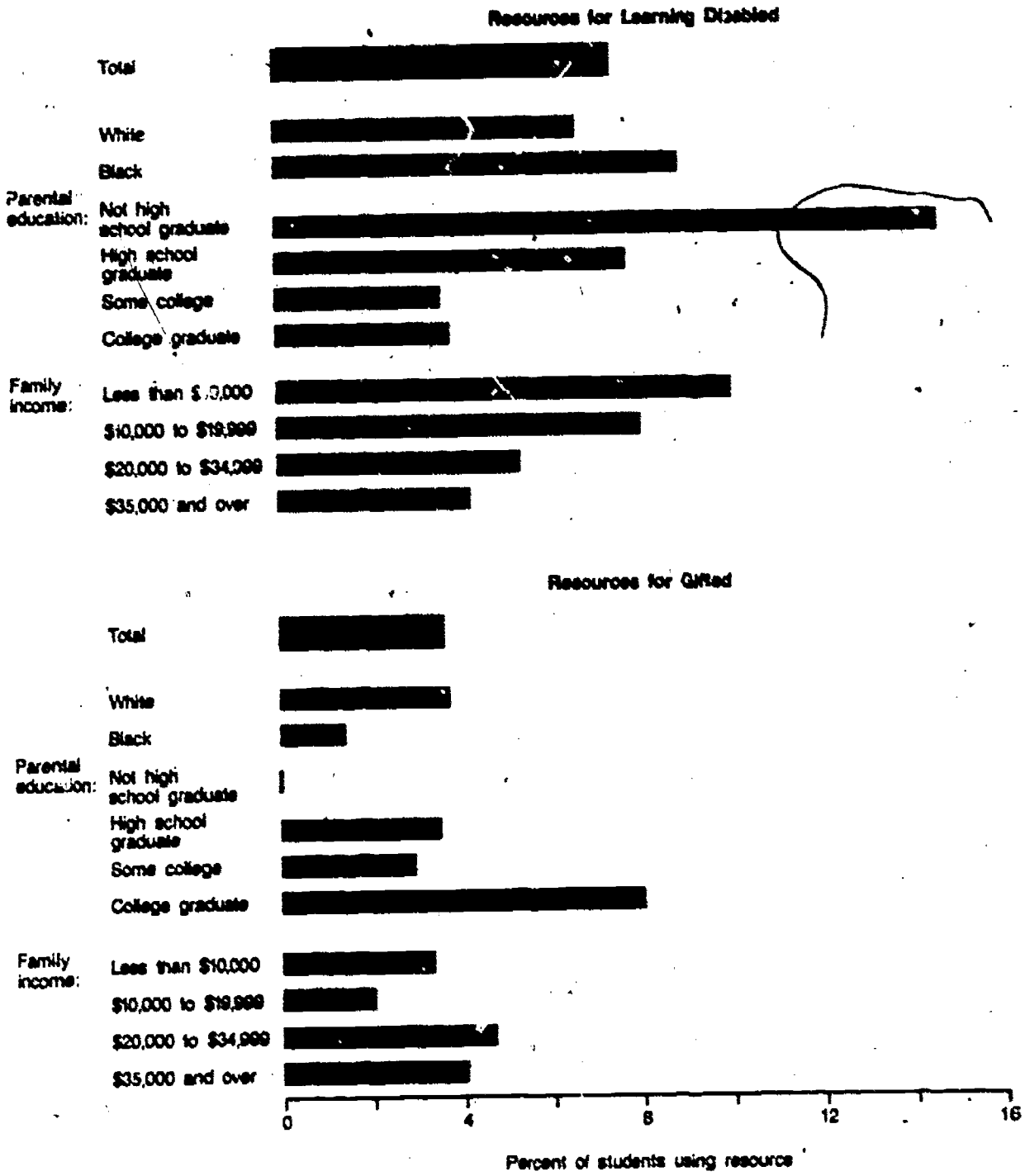
Teacher Identification of Students 12 to 16 Years Old Needing and Using Special Educational Resources, by Type of Resource, Race/Ethnicity of Student, Parental Education Level, and Family Income: United States, 1981

Characteristic	Slow Learners or Learning Disabilities	Speech Therapy	Emotionally Disturbed	Gifted	Advanced Instruction
	Percent of Students Identified by Teacher as Needing Resource				
All students	10.4	1.4	2.7	7.2	10.6
Race/ethnicity of student:					
White (non-Hispanic)	9.3	1.1	2.3	7.4	11.0
Black	13.8	4.1	3.3	3.5	7.2
Parental education:					
Not high school graduate	20.9	3.0	6.7	1.5	4.0
High school graduate	11.4	1.8	2.5	6.3	8.1
Some college	5.6	1.1	1.2	8.7	13.4
College graduate	4.0	.1	1.2	12.3	17.9
Family income:					
Less than $10,000	16.7	2.0	7.8	7.8	10.6
$10,000 to $19,000	9.4	1.8	2.5	5.1	7.0
$20,000 to $34,999	7.4	1.0	1.0	7.1	12.2
$35,000 or more	5.7	1.8	1.0	12.6	14.0
	Percent of Students Identified by Teacher as Using Resource				
All students	7.4	1.1	1.0	3.6	6.7
Race/ethnicity of student:					
White (non-Hispanic)	6.6	1.0	.5	3.7	7.2
Black	8.9	2.2	1.7	1.4	3.3
Parental education:					
Not high school graduate	14.6	1.7	2.8	(*)	1.9
High school graduate	7.7	1.8	.6	3.5	4.7
Some college	3.6	.7	.9	2.9	6.6
College graduate	3.8	.1	(*)	8.0	14.8
Family income:					
Less than $10,000	10.0	1.0	3.6	3.3	6.4
$10,000 to $19,999	8.0	1.4	.6	2.0	3.4
$20,000 to $34,999	5.3	.9	.3	4.7	9.2
$35,000 or more	4.2	1.8	*	4.0	7.5

*Less than 0.05 percent.

SOURCE: Child Trends, Inc., 1981 National Survey of Children, unpublished tabulations (June 1984).

Percent of Students Using Special Educational Resources



Students from families with low education or income levels were three-to-five times more likely to be identified as needing remedial resources than were students from families with high education or income levels. The reverse was true for advanced instruction or resources for the gifted.

Table 4.8

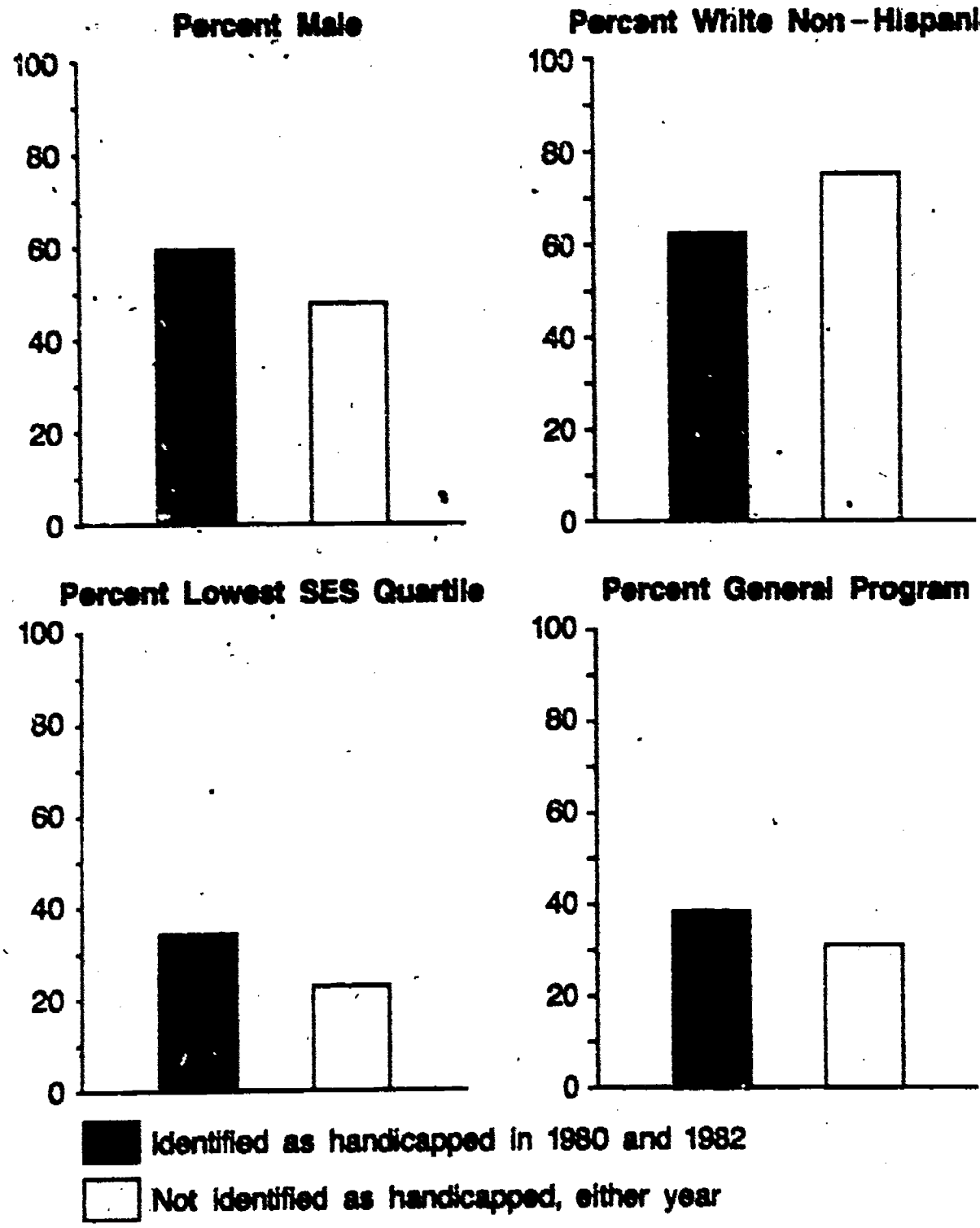
Characteristics of Self-Identified Handicapped Students from the Sophomore Class of 1980, Using Various Definitions: United States, 1980 and 1982

Definition	Percent Male	Percent White Non-Hispanic	Percent in Lowest SES Quartile (1980)	Percent in General Program (1982)	Unweighted Sample Size
All students	49.9	72.6	24.7	35.2	29,737
In 1980:					
A. Specific learning disability	61.6	52.4	43.0	42.7	716
B. Visual handicap	52.5	75.4	26.1	33.2	389
C. Hard of hearing	60.3	66.3	33.0	43.4	520
D. Deafness	64.3	53.1	38.0	39.2	123
E. Speech disability	56.4	47.5	44.4	37.7	454
F. Orthopedic handicap	55.8	74.8	17.8	28.7	354
G. Other health impairment	51.0	62.6	37.8	37.9	511
Handicapped—one or more A-G	57.8	62.1	34.5	38.2	2,690
Physical condition that limits	56.2	60.1	34.0	39.6	2,069
Program for educationally handicapped*	54.5	61.7	31.1	37.0	898
Program for physically handicapped	53.3	60.5	27.0	36.7	840
Total handicapped—combined definition	56.3	61.3	32.4	38.3	4,192
In 1982:					
A. Specific learning disability	66.1	63.8	27.9	43.2	483
B. Visual handicap (not corrected by glasses)	56.4	67.1	30.3	39.3	418
C. Hard of hearing	59.8	71.3	30.7	35.5	460
D. Deafness	67.3	41.7	39.8	33.6	123
E. Speech disability	66.4	55.1	40.0	43.5	310
F. Orthopedic handicap	57.7	72.2	25.7	35.4	228
G. Other physical disability or handicap	55.1	75.1	24.3	38.5	651
Handicapped—one or more A-G	59.4	68.5	29.5	38.6	2,211
Physical condition that limits	55.7	67.1	29.6	39.5	2,156
Program for educationally handicapped	48.2	69.4	25.0	37.9	550
Program for physically handicapped	48.0	67.8	26.0	35.9	513
Division of Vocational Rehabilitation Educational Benefits recipient	62.6	44.2	35.4	37.9	474
Total handicapped—combined definition	55.3	68.7	28.3	38.1	4,762
Handicapped both years	**59.6**	**62.3**	**34.1**	**38.4**	1,396
Handicapped 1980 only	54.4	60.8	31.2	38.0	2,729
Handicapped 1982 only	53.2	72.0	25.4	38.0	3,357
Not handicapped, either year	**48.0**	**75.2**	**22.9**	**34.1**	21,877

*Not included in combined definition.

SOURCE: National Opinion Research Center, *Characteristics of High School Students Who Identify Themselves as Handicapped*, 1985, prepared for the National Center for Education Statistics using High School and Beyond, base-year and first-followup studies.

Characteristics of Self-Identified Handicapped Students (Sophomore Class of 1980) Compared With Non-Handicapped Students



The handicapped differed from others in the 1980 sophomore class in that they were more likely to be male, minority, or from lower socioeconomic backgrounds.

Table 4.9

Performance of Self-Identified Handicapped Students from the Sophomore Class of 1980, Using Various Definitions: United States, 1980 and 1982

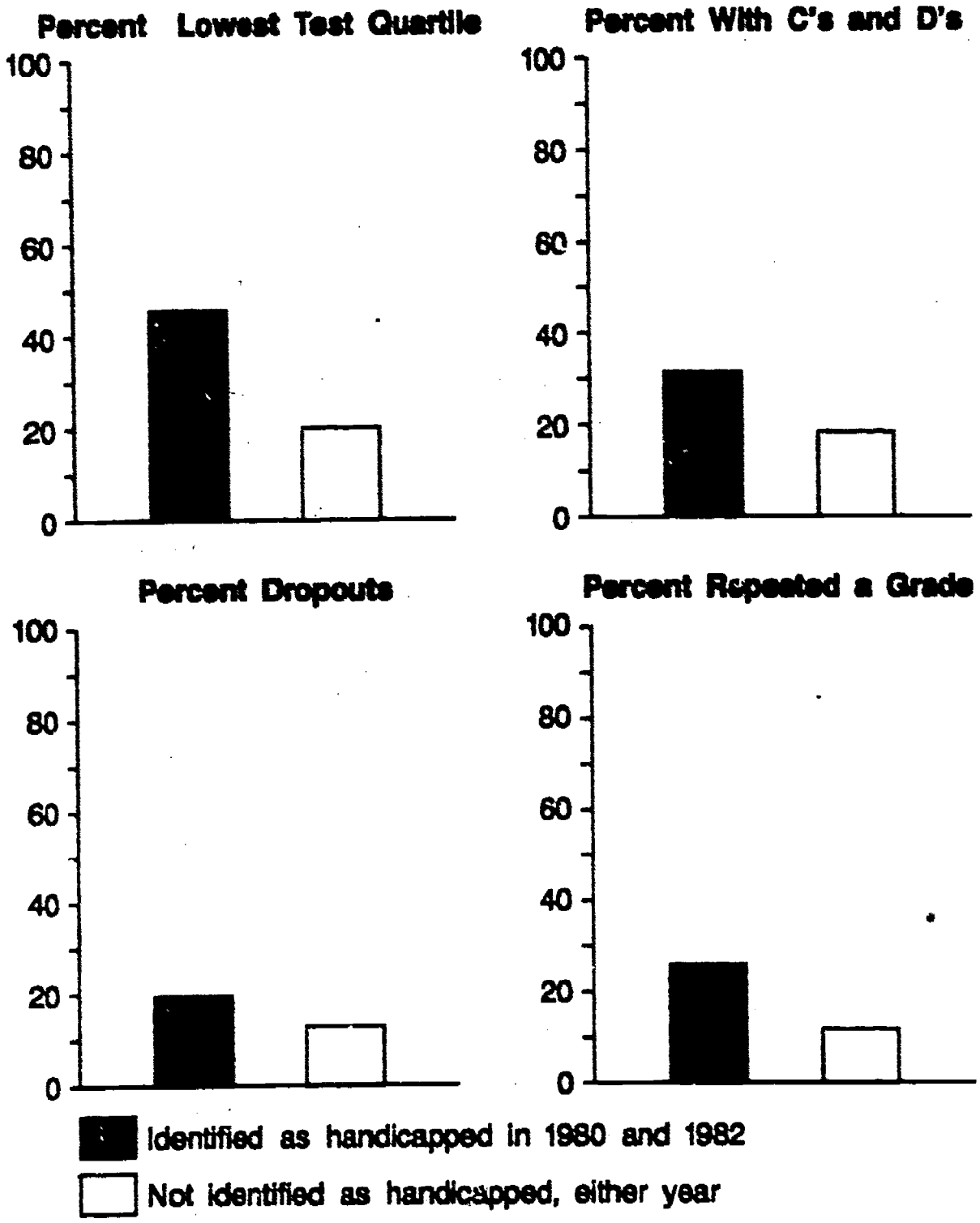
Definition	Percent in Lowest Test Quartile (1980)	Percent with C's and D's (1980)	Percent Dropouts (1982)	Percent Repeated a Grade (1982)	Unweighted Sample Size
All students	24.2	20.8	13.7	13.5	29,737
In 1980:					
A. Specific learning disability	66.4	42.5	21.8	32.8	716
B. Visual handicap	17.4	20.3	17.7	16.1	389
C. Hard of hearing	41.9	30.8	23.5	17.9	520
D. Deafness	62.0	43.0	29.9	25.1	123
E. Speech disability	59.4	32.1	18.5	25.0	454
F. Orthopedic handicap	18.5	18.2	12.4	10.3	354
G. Other health impairment	38.2	30.3	23.5	21.4	511
Handicapped—one or more A-G	42.4	30.3	19.7	21.4	2,690
Physical condition that limits	41.9	29.7	20.0	20.0	2,069
Program for educationally handicapped*	42.7	30.2	21.7	23.1	898
Program for physically handicapped	38.9	28.4	18.1	20.7	840
Total handicapped—combined definition	41.2	29.2	18.6	20.2	4,192
In 1982:					
A. Specific learning disability	63.2	37.7	26.5	39.6	483
B. Visual handicap (not corrected by glasses)	31.3	28.2	25.8	22.5	418
C. Hard of hearing	33.6	32.4	22.0	25.6	460
D. Deafness	60.8	29.1	16.5	32.8	123
E. Speech disability	57.4	30.3	21.9	26.9	310
F. Orthopedic handicap	25.2	21.2	22.8	17.5	228
G. Other physical disability or handicap	23.3	25.6	21.9	17.7	651
Handicapped—one or more A-G	37.1	30.1	22.2	22.8	2,211
Physical condition that limits	33.6	25.6	16.3	18.3	2,156
Program for educationally handicapped	35.4	24.5	—	17.7	550
Program for physically handicapped	32.8	23.4	—	16.6	513
Division of Vocational Rehabilitation Educational Benefits recipient	55.6	33.9	—	23.4	474
Total handicapped—combined definition	33.8	26.8	15.3	19.0	4,762
Handicapped both years	**45.4**	**31.2**	**19.1**	**25.7**	1,396
Handicapped 1980 only	38.9	27.9	18.3	16.9	2,729
Handicapped 1982 only	27.9	24.8	13.2	16.0	3,357
Not handicapped, either year	**19.9**	**18.4**	**12.6**	**11.7**	21,877

*Not included in combined definition.

—Not applicable.

SOURCE: National Opinion Research Center, *Characteristics of High School Students Who Identify Themselves as Handicapped*, 1985, prepared for the National Center for Education Statistics using High School and Beyond, base-year and first-followup studies.

Performance of Self-Identified Handicapped Students (Sophomore Class of 1980) Compared With Non-Handicapped Students



The handicapped from the 1980 sophomore class were more likely than others to score in the lowest performance quartile, average C's and D's, drop out of school, or have repeated a grade.

Chapter 5
The Transition from High School

High school graduation marks an important transition in the lives of young people. Some fail to reach this point, dropping out before completion, while those who graduate may take various paths. For a number, graduation means entry into the full-time work force. For others, it is another step in a longer academic career. This chapter profiles these three groups of young people from a recent longitudinal cohort: high school dropouts; graduates who do not go on to postsecondary school; and graduates participating in further education. Section one examines high school dropouts and describes the characteristics of those who later return to school. Section two presents social, academic, and employment characteristics of students who did not enter college or vocational school in the 2 years following graduation compared with those who entered postsecondary schools. Section three highlights student, family, school, and community characteristics of high school seniors planning to attend and those who ultimately do attend postsecondary school.

High School Dropouts and Reentrants

Dropping Out

The National Center for Education Statistics (NCES), with support from several other governmental agencies, initiated two studies of U.S. high school seniors: The National Longitudinal Study of the High School Class of 1972 (NSL-72) and High School and Beyond (HS&B).[1] The purpose of these surveys was to obtain information about the basic educational and vocational activities of young adults and their continuing or revised plans, aspirations, and attitudes. The NLS-72 base-year survey collected questionnaire and test data on a large national probability sample of 1972 seniors shortly before scheduled graduation. The HS&B base-year survey gathered similar information about the high school class of 1980, and together with first follow-up data (1982), provides a look at the progression of students from the sophomore year through the senior year and into adult status. According to this study, almost 14 percent of 1980 high school sophomores left high school without a diploma sometime after the spring of their sophomore year (entry 5.1). Since dropout rates from Catholic schools were far lower than dropout rates from public schools (3 percent vs. 14 percent), it would be misleading to combine the public and private school samples. Accordingly, the following analyses apply only to dropouts from public school.

[1]The HS&B design includes a sophomore as well as a senior cohort

Public school dropout rates differed substantially by both region and community type. The overall rates were roughly one-third higher in the South and West than in either the Northeast or North Central regions. This overall finding, however, was evident only for whites, who constituted the bulk of the study sample. For blacks, rates were highest in the Northeast and North Central regions, while for Hispanics, regional differences were small. Dropout rates were about one-third higher in urban (18 percent) than suburban and rural communities (13 percent and 14 percent, respectively). Rates in urban areas were higher than in suburban and rural areas for each racial/ethnic group.

Schools with larger percentages of blacks enrolled generally had higher dropout rates. Similar trends were noted for schools in which the Hispanic enrollment was less than half the total enrollment, although rates generally declined for schools with enrollments of 50 percent or more Hispanic. A reasonably consistent relationship between the dropout rate and county per capita income was evident only for whites; white students from counties in the lowest income quartile dropped out at a substantially higher rate than students from counties in the top income quartile.

Dropout rates varied considerably and sometimes dramatically among students from different socioeconomic backgrounds. Dropout rates for all sophomores in the lowest socioeconomic status (SES) quartile averaged three times the rates in the highest quartile (22 percent vs. 7 percent) (entry 5.2). Also, the largest differences in dropout rates occurred between the low and low-middle quartiles. Both male and female dropout rates were strongly related to family SES, but female rates appeared to be more sensitive to variations in SES, at least among the higher SES levels. Specifically, the female dropout rate declined more sharply than the male rate between the high-middle and high SES quartiles; females dropped out at over three-fourths of the male rate in the high-middle quartile but only half of the male rate in the high quartile.

The relationship of dropout rates to SES varied among the three major racial/ethnic groups. Among whites, the dropout rate fell off steadily as a function of increasing SES, although most sharply between the low and low-middle quartiles. The dropout rate for blacks was significantly lower than the rate for whites in the lowest SES quartile (18 percent vs. 24 percent), with no consistent trend in the rate as socioeconomic status increased, though the higher status rankings had lower dropout rates. For

Hispanics, the pattern more closely resembled that of whites than of blacks—a generally declining dropout rate as SES increased. However, Hispanic rates did not fall off as sharply between the low and low-middle SES quartiles.

The type of self-reported high school program a student entered seemed to have a bearing on dropout rates. For example, students reporting themselves in academic programs dropped out at lower rates than those in general or vocational programs. The overall dropout rate for academic enrollees was only 6 percent, as compared with rates of 17 and 20 percent in the general and vocational programs, respectively. These differences were essentially the same for males and females. They were also observable for all racial/ethnic groups.

While these data do not document that poor performance causes dropping out, they do show a clear pattern by test performance.[2] Students in the lowest test-score quartile when tested as sophomores were six times more likely to leave school than those in the highest quartile. The difference between the highest and lowest test-score quartiles was substantial, regardless of sex or racial/ethnic group. But the difference was most pronounced for whites, for whom the dropout rate was roughly eight times greater for students in the lowest test-score quartile.

For whites, dropout rates declined in stages from the lowest to the highest test-score quartile; black rates dropped sharply between the lowest and low-middle quartiles, from 22 to 9 percent, with only slight change thereafter. Also, black dropout rates in all quartiles except the highest were lower than the corresponding white rates. This finding indicates that high concentrations of blacks in the lower test-score quartiles largely accounted for the overall higher black dropout rates.

Generally, dropout rates were about three times greater for students whose fathers had not graduated from high school (23 percent) as for students whose parents were college graduates (7 percent). The dropout rate decreased with each successive level of education, but the difference was especially pronounced between students whose fathers were at the lowest educational level and those with fathers at the next higher level. Among students whose fathers did not complete high school, dropout rates were essentially the same across racial/ethnic groups, although it was less pronounced for blacks and Hispanics than for whites.

The father's occupation also seemed to bear on whether a student dropped out. Overall dropout rates for students with fathers in low-level occupations were double the rates for students with fathers in high-level occupations. The association between dropout rates and fathers' occupations was strongest for females and whites. Among blacks, dropout rates varied somewhat between the high and low occupational levels. For Hispanics, the pattern was unclear and the sensitivity to father's occupation was low.

The higher overall rate for Hispanics, 19 percent, calls for some further breakdowns of the data by Hispanic subgroup and language background. These data show that the dropout rate for Puerto Ricans (23 percent) was the highest of any Hispanic subgroup, but was followed closely by the rates for Mexican-Americans (21 percent) and Cubans (20 percent) (entry 5.3). Puerto Ricans who were English-dominant bilingual dropped out at a rate of almost twice that of Puerto Ricans who spoke only English, 35 percent vs. 18 percent. The rate for Puerto Ricans who were Spanish-dominant bilingual was almost as high (32 percent). Mexican-Americans in this group dropped out almost 25 percent more frequently than Mexican-Americans with an English mother tongue (26 percent vs. 20 percent, respectively).

The language currently spoken at home also appeared to be differentially associated with Hispanic dropout rates. Hispanics who were bilingual but spoke mostly English at home generally dropped out less than those who spoke Spanish. Mexican-Americans and Cubans who spoke only Spanish or mostly Spanish at home dropped out at higher rates than those who spoke only or mostly English. This was not true for Puerto Ricans or other Hispanics, however, as dropout rates for these subgroups were actually lower for Spanish monolinguals than English monolinguals.

High School Reentry

Although many dropouts leave school permanently, some later reenter school. Approximately 10 percent of the sophomores who dropped out between 1980 and 1982 returned to school by the fall of 1982. Generally, high school reentrants differ in several school and student characteristics from those who did not return. Background attributes and test-score performance associated with low

[2] A test-score composite was computed by averaging the standardized scores of 1980 HS&B seniors on reading, mathematics, and vocabulary tests. Students were classified into quartiles based on the weighted distribution of the composite score.

dropout rates tend to be related to higher-than-average reentry rates. For example, reentry rates among 1980 sophomore dropouts were about one-fifth higher in the Northeast and North Central regions than in the South or West (entry 5.4). Among whites, reentry rates in the West were one-third lower than in other regions. Among blacks, reentry rates in the Northeast (14 percent) were substanitally higher than those in the South (6 percent). Hispanic dropouts in the North Central region were three times more likely to return to school as those in the Northeast or West. Hispanics in the South were twice as likely to reenter as those in the Northeast or West.

Reentry rates among dropouts in suburban and rural communities were at least one-third higher than among those in urban settings. Females in rural communities were three times more likely to reenter than females from urban settings. Likewise, females from suburban communities were twice as likely to return to school as those from urban communities. Reentry rates among whites in rural communities (15 percent) were higher than among whites in urban communities (9 percent). For blacks, this trend was reversed; 10 percent of black dropouts in urban communities returned to school, compared to 5 percent of black dropouts in rural communities.

The overall rate at which dropouts returned to school increased with increasing SES, with the largest increase found between the high-middle and highest quartiles. This pattern was also found among whites. For Hispanics, the same pattern was evident, although the sample size at the highest SES quartile was too small to be reflected in a percent. No discernible pattern could be identified for blacks.

In all subgroups observed, dropouts identifying their high school program as academic were much more likely to reenter school than those in general or vocational programs. This occurrence was most dramatic for blacks, where dropouts from academic programs were more than three and one-half times as likely to return to school as those in general or vocational programs.

Trends in the reentry rates as a function of test-score quartile were similar to the rates described when SES differences were observed. In general, students with higher test scores tended to reenter school more often than those with lower scores. The contrast between males and females was particularly striking. Compared to the low test quartile (8 percent), five times as many males in the high test quartile (40 percent) reentered high school, whereas for women, the rate was merely doubled (9 percent compared to 18 percent). As with SES, the relationship between test scores and school reentry was not as strong for blacks and Hispanics as it was for whites.

Generally, dropouts whose fathers were college graduates were more than twice as likely to return to school as those whose fathers received a high school diploma or less. Except for blacks, dropouts with fathers in a professional/technical occupation reentered school at almost twice the rate of those whose fathers' occupations were the middle or low level. Students employed while in high school were more likely to return to school after dropping out.

Terminal-Degree Graduates

Terminal-Degree Graduates Compared With Postsecondary Education Participants

Little research has focused on the student who neither drops out of high school nor obtains postsecondary education: the terminal-degree graduate. Yet, the high school diploma represents the final degree for a substantial portion of high school graduates. This section examines the background, high school, and employment experiences of terminal-degree graduates from the high school class of 1980 and compares them with the experiences of postsecondary education participants who also graduated in 1980. Terminal-degree graduates accounted for about one-third of all seniors participating in the High School and Beyond first follow-up survey. The remaining two-thirds pursued some form of postsecondary education between spring 1980 and spring 1982, and included delayed entrants and early leavers. It should be kept in mind that these categories are not fixed; that is, graduates who do not enroll in postsecondary education in the 2 years following graduation may do so eventually. Many of the terminal-degree graduates expressed interest in future postsecondary education. Nonetheless, the data do suggest certain variables that help to classify those graduates who finish their education with high school.

While 88 percent of all 1980 high school seniors were enrolled in public schools, public school graduates comprised 95 percent of those students who did not go on to postsecondary school (entry 5.5). Less than half (47 percent) of these terminal-degree graduates were female, while slightly more than half (54 percent) of the postsecondary education par-

ticipants were female, reflecting the dramatic rise in college enrollments by women in recent years. This greater propensity for participation of females in postsecondary education overall also occurred in the low and middle socioeconomic status (SES) groups.

Although the percentage of black students in each of the two groups was about the same (11 percent), there were more Hispanics among terminal-degree graduates than among postsecondary education participants (12 percent vs. 8 percent). When the data were partitioned into socioeconomic status groups, the proportion of Hispanics who did or did not go on to postsecondary school was roughly comparable within each group. The proportions were comparable for blacks as well, but only in the middle and high SES groups.

As would be expected, substantial differences existed in the college-going trends for students in the self-identified academic and vocational high school curricula. While 44 percent of the postsecondary education group was in the academic curriculum during high school, only 12 percent of terminal-degree graduates were. Similarly, while 32 percent of the terminal-degree graduates were in the vocational program, only 15 percent of the postsecondary education group were. These results are substantiated in the analysis for the SES subgroups, although in both groups the percentage in the academic curriculum rose steadily as SES increased, while the percentage in the vocational curriculum declined. Also, students in the postsecondary education group took more mathematics, science, and foreign language courses while in high school. The average number of years for mathematics courses completed was 2.2 vs. 1.7; the average number of years for science courses completed was 1.9 vs. 1.4; and the average number of years for foreign language was 1.1 vs. 0.5. However, terminal-degree graduates were more likely to complete vocational course work (2.8 vs. 2.2 credits).

Some differences were evident in jobs held since graduation between terminal-degree graduates and postsecondary education participants. The percent of students reporting current employment (spring 1982) was 76 percent for the terminal-degree graduates and 64 percent for postsecondary education participants. Similar differences persisted across SES subgroups (entry 5.6). In jobs held since graduation, terminal-degree graduates worked an average of 43 hours per week versus 34 hours per week for postsecondary education participants. Again, such differences held across the three SES groups. Perhaps because they were more likely to work full-time, the average hourly wage of terminal-degree graduates was slightly higher than the postsecondary education group ($5.18 vs. $4.87); there was little difference between the two groups at the low SES level, but the difference was maintained across the other two SES groups. These data suggest that terminal-degree graduates were more likely to be involved in the work force and work a higher number of hours at a higher wage.

Results from an independent study reveal that terminal-degree graduates were somewhat more work-oriented than their postsecondary education peers.[3] Statistically significant differences occurred between the two groups when scores were compared on a composite work-orientation scale reflecting the importance of finding work, having money, and being successful in work. The difference was not significant, however, within each of the three SES groups.

Highly Able Terminal-Degree Graduates

Although many students chose to terminate their education with a high school diploma, some of these tested competitively among their graduating class. These graduates were defined as highly able, e.g., students who tested in the upper quartile of their own graduating class. Fully 11 percent of the terminal-degree graduates fell into this category. The highly able were more likely to be male (63 vs. 50 percent) and white (96 vs. 75 percent) (entry 5.7). Highly able terminal-degree graduates were more likely than other terminal-degree graduates to identify themselves to be in the academic curriculum (38 percent vs. 12 percent) and less likely to be in the vocational curriculum (21 percent vs. 39 percent). Similarly, they were more likely to complete several types of academic courses. The years for mathematics courses completed were 2.2 versus 1.6; the years for science courses completed were 2.0 versus 1.3; and the years for foreign language courses completed were 1.0 versus 0.4. Highly able students were somewhat less likely to complete vocational course work (2.1 years vs. 2.9 years).

In contrasting work experiences since graduation between highly able and other terminal-degree graduates, some differences were noteworthy. The proportion of students reporting they were currently employed was 82 percent for

[3]Theodore C. Wagenaar, "The High School Diploma as a Terminal Degree," U.S. Department of Education, National Center for Education Statistics, Contract No. 300-83-0257, 1984.

the highly able compared with 76 percent for other terminal-degree graduates (entry 5.8). The nature of work also varied for the two groups: the highly able reported that their job involved "working with paper a great deal" over 25 percent more often than other terminal-degree graduates. Interestingly, the highly able reported earning a slightly lower hourly wage compared to other terminal-degree graduates, $5.06 vs. $5.16. Nevertheless, while neither group rated job satisfaction high; the highly able group was more positive in all respects addressed. For example, 36 percent of the highly able responded they were "very satisfied" with their working conditions compared with 26 percent for other terminal-degree graduates.

Postsecondary Education Participants

Participation

Among the most consequential decisions high school students face is whether or not to attend postsecondary school, and if so, what type of school to enter. This section describes changes in participation rates from the last decade, and the extent of participation and types of institutions attended by a recent group of high school graduates. It also presents information on parents' aspirations for their children's schooling and on financial aid. It concludes with a profile of educational and occupational plans of recent graduates and compares these to plans of an earlier graduating class.

The rates at which high school graduates entered postsecondary schools following graduation remained generally stable between 1972 and 1980 across racial/ethnic, test-score performance, and socioeconomic subgroups, with some exceptions. Overall entry rates for whites and blacks showed no change between 1972 and 1980, remaining at 55 percent and 47 percent, respectively (entry 5.9). No significant differences were evident between 1972 and 1980 for the various performance groups, although high performers continued to display the highest rate of postsecondary school enrollment, 81 percent in 1980. Similarly, students with high socioeconomic backgrounds enrolled more frequently than students with middle or low socioeconomic status (SES), 77 percent compared with 53 percent and 35 percent, respectively. These rates were not significantly different from those in 1972.

Female graduates showed an overall increase in entry rates over this period. In 1972, 53 percent of females participated in some type of postsecondary education in the fall following high school graduation. By 1980, the percentage had risen to 56 percent. This increase was consistent for females enrolled in both 4- and 2-year institutions; the percent of females who enrolled increased from 29 percent to 32 percent in 4-year institutions and from 15 percent to 19 percent in 2-year institutions.

By contrast, male postsecondary participation declined overall from 54 to 49 percent. This decline was largely attributable to males in the high SES group; their participation directly following high school decreased by some 5 percentage points overall, and by the same magnitude for those at 4-year institutions.

Racial/ethnic groups differed not only in the extent of participation but also in the types of institutions attended (entry 5.10). Hispanics were the most likely group to attend 2-year institutions, blacks the least likely. In contrast, Hispanics were about half as likely as whites or blacks to attend 4-year institutions. These patterns are undoubtedly related to the extensive community college systems in States with large Hispanic populations, such as California and Florida.

Two aspects of enrollment by institutional type were clear. First, students in the highest quartile for both the test-score and SES scales were less likely than others to attend vocational schools. Second, rates of attendance at 2-year institutions by students scoring in the lowest and highest test quartiles were about equal.

When participation rates are examined 2 years following graduation, the proportion reporting some involvement in postsecondary education increases. Overall, almost two-thirds of all 1980 high school seniors attended some postsecondary school between spring 1980 and spring 1982 (entry 5.11). Some 34 percent enrolled at 4-year institutions. Twenty-three percent entered 2-year institutions, representing an increase of 5 percentage points over those who entered immediately following graduation. Apparently, admission to 2-year institutions accounted for a substantial percentage of late entrants into postsecondary schools.

By February of 1982, whites (36 percent) and blacks (33 percent) were substantially more likely to enter 4-year institutions than Hispanics (21 percent). The rate for Cubans (32 percent), however, was significantly higher than for other Hispanic subgroups or for Hispanics in general. Whites (23 percent) and Hispanics (26 percent) more often attended

2-year institutions by spring 1982 than blacks (20 percent). Attendance rates for Cubans (35 percent) far out-ranked those for any other racial/ethnic group in 2-year institutions. The rates of attendance at vocational schools showed no substantial difference.

Student and Parental Aspirations

Parental aspirations for their childrens' education strongly correlated with the students' decision to attend postsecondary education, regardless of sex or race. Nearly 9 out of 10 seniors who aspired to attain a college degree reported that their parents wanted them to attend college (entry 5.12). More than 40 percent of the seniors intending to achieve 2 or more years of vocational school also reported that their parents wanted a college education for them. In each racial/ethnic group, females were generally more likely than males to report their parents wanted them to attend college. Seniors expecting to end their schooling with high school graduation most often reported that their parents wanted them to work full-time. This was true regardless of sex or race.

Financial Aid to Students

As reported by students, almost half of 1980 seniors who entered postsecondary school upon graduation received some type of student aid grant by spring 1982, while about one in three received a loan (entry 5.13). As reported by institutions, one in five seniors received a Pell grant, the average amount of which was $956. A larger proportion of low income families received grants, while greater percentages of middle and low income families took loans at all tuition levels than high income families. Generally, grants and loans were awarded more often to students attending high-tuition schools than to students attending schools charging less.

At high-tuition schools, over 90 percent of students from low income families received some type of grant, compared to 70 percent in middle income families and 39 percent in high income families. While students from low income families in high-tuition schools received the largest Pell grants, averaging $1,284, there was little difference between Pell grant amounts received by middle income and high income families attending schools with $3,000 or more tuition, $867 vs. $862. However, students in middle income families attending middle-tuition schools typically received an average Pell grant amount that was higher than that for middle income students at other tuition levels or for students from high income families, regardless of tuition level.

Intended Fields of Study and Occupational Aspirations

Expectations of high school seniors about college study and career choices suggest the directions young people are likely to pursue. High school seniors planning to attend college immediately following graduation or at a later time were asked to indicate their college field of study. In 1972, seniors were asked for their "present choice;" the 1980 seniors were asked what they would "most like to study." Although the questionnaire items were not identical, comparisons are useful and consistent with other findings on fields of study. Over the decade, the percentage of seniors planning to enter engineering, computer and information sciences, and business fields increased appreciably. Decreases during this period were especially evident in the proportions planning to major in education. But drops also occurred in biological and physical sciences, mathematics, social sciences, humanities and arts, and health-related careers.[4]

In all major fields except humanities and arts, the percentage of female high school seniors expecting to major in various fields increased between 1972 and 1980 (entry 5.14). These increases were most substantial in the areas of social science and business. For example, the gender ratio for seniors expecting to study social science switched from 1.2 to 1 in favor of females to 2.6 to 1 in favor of females. The percent female expecting to study in computer/engineering/architecture fields also increased markedly (from 8 to 24 percent) during this period. In fact, females dominated five of nine major field classifications. In those five classifications, the percent female was 60 percent (humanities/arts), 76 percent (education), 57 percent (business), 72 percent (social science), and 88 percent (health).

Differences by race/ethnicity were evident, with the percentage of whites expecting to study various fields dropping in every major classification. The single most notable decrease for whites was in the area of computer/engineering/architecture, down by 10 percentage points over the decade. The most significant increases for blacks were in computer/engineering/architecture (7 percentage points) and in humanities/arts (5 percentage points). For Hispanics, the

[4]U.S. Department of Education, National Center for Education Statistics, *High School Seniors: A Comparative Study of the Classes of 1972 and 1980*, 1984.

major increases were in social science and agriculture/home economics/vocational (each 4 percentage points).

The percentage of seniors who intended to study various fields in college and who reported their high school program to be academic declined for every intended field between 1972 and 1980. The largest decrease was for those intending to enter education (down 19 percentage points), followed closely by agriculture/home economics/vocational (down 18 percentage points). Increases were noted in all intended fields by seniors who reported themselves in general and vocational programs. For students in general programs expecting to study education, the increase was 17 percentage points, by far the greatest increase for that group of students. For students in vocational programs, the largest increase was in agriculture/home economics/vocational at 11 percentage points, followed by health at 8 points.

In interpreting apparent shifts in occupational goals, caution should be exercised. The 1972 seniors were asked to indicate which of 14 job categories best described "the kind of work you would like to do." In 1980, however, seniors were asked to indicate which of 16 job categories came closest to describing "the job or occupation you expect or plan to have when you are 30 years old."

Substantial increases were noted during this period for females who expected to pursue manager/proprietor or professional II[5] occupations (18 percentage points for each) (entry 5.15). In addition, 4 out of 10 occupational classifications were dominated by females in 1980: professional I (58 percent), teacher (82 percent), clerical/sales (87 percent), and service (68 percent).

An examination of racial/ethnic data again revealed across-the-board decreases for the percentage of whites expecting to pursue various occupations, while blacks and Hispanics showed increases in every area. The most notable change from 1972 to 1980 for whites was in the percentage of those who planned an occupation in the military (down 22 percentage points). For blacks, plans to select a military occupation showed the greatest increase (up 17 percentage points).

While the proportion of seniors who reported themselves in academic programs declined overall by 8 percentage points, some occupational choices showed substantial losses. The most notable of these was teaching (down 24 percentage points), confirming the decreases noted for academic students intending to study education. By contrast, a larger proportion of students who classified themselves in general programs in 1980 indicated an intention to become a teacher (up 10 percentage points over the decade).

Conclusion

It appears from the data presented above that certain background and performance measures clearly differentiate students who drop out from those who graduate and go further in school. High dropout rates were generally associated with lower socioeconomic status and test performance, while better-than-average reentry rates were inversely associated with these characteristics. Terminal-degree graduates were more likely to have graduated from public schools and to be male than were students going on to postsecondary education. Generally, terminal-degree graduates took fewer years of mathematics, science, and foreign language than did postsecondary education participants. White and black high school seniors were more likely than Hispanic seniors to enroll in 4-year institutions within 2 years following graduation. Among Hispanics, Cubans displayed the highest postsecondary enrollment rates in both 4- and 2-year institutions. Finally, while occupational plans of high school seniors followed sex stereotypes less in 1980 than in 1972, large sex differences remained among students choosing teaching and technical and skilled occupations.

[5]The professional II category includes the occupations of chemist, dentist, judge, lawyer, mathematician, physician, statistician, and college or university teacher. The professional I category includes the occupations of accountant, architect, engineer, and librarian.

Table 5.1

High School Dropout Rates of 1980 Sophomores, by Selected School and Community Characteristics: United States, Fall 1982

Characteristic	Total	Sex		Race/Ethnicity		
		Male	Female	White, Non-Hispanic	Black, Non-Hispanic	Hispanic
	Dropouts as Percent of Sophomores					
All high school sophomores:						
Total	**13.6**	14.6	12.6	12.2	16.8	18.7
Control of school:						
Public	**14.4**	15.2	13.5	13.0	17.2	19.1
Catholic	**3.4**	4.7	2.2	2.6	4.6	9.5
Public high school sophomores:						
Region:[1]						
Northeast	**11.9**	12.8	10.9	9.5	21.7	18.2
North Central	**12.3**	12.0	12.7	10.8	23.1	16.1
South	**16.6**	18.3	15.0	16.3	14.5	20.3
West	**16.5**	17.7	15.1	16.6	14.2	19.5
Community type:						
Urban	**18.1**	19.0	17.2	15.5	20.3	23.3
Suburban	**12.8**	14.1	11.5	12.1	14.0	17.2
Rural	**14.3**	14.7	14.0	13.4	15.4	17.6
Schools with black enrollment:						
Less than 10 percent	**12.8**	13.5	12.2	12.0	16.9	17.2
10 to 29 percent	**15.3**	16.9	13.6	14.6	15.7	20.1
30 to 49 percent	**18.1**	17.0	19.0	18.4	15.3	24.0
50 percent or more	**19.7**	21.8	17.9	(2)	19.3	(2)
Schools with Hispanic enrollment:						
Less than 10 percent	13.5	14.2	12.7	12.5	16.2	16.7
10 to 29 percent	18.8	20.7	16.9	17.2	22.9	23.1
30 to 49 percent	25.6	23.8	27.5	28.7	29.6	22.8
50 percent or more	21.1	24.1	18.3	15.6	(2)	22.6
County per capita income quartile:						
Low	**16.2**	17.0	15.4	15.7	17.5	16.2
Low-middle	**13.4**	14.3	12.5	12.7	14.2	17.2
High-middle	**15.7**	16.3	15.0	14.0	18.4	22.8
High	**12.7**	13.8	11.6	10.7	17.1	19.1

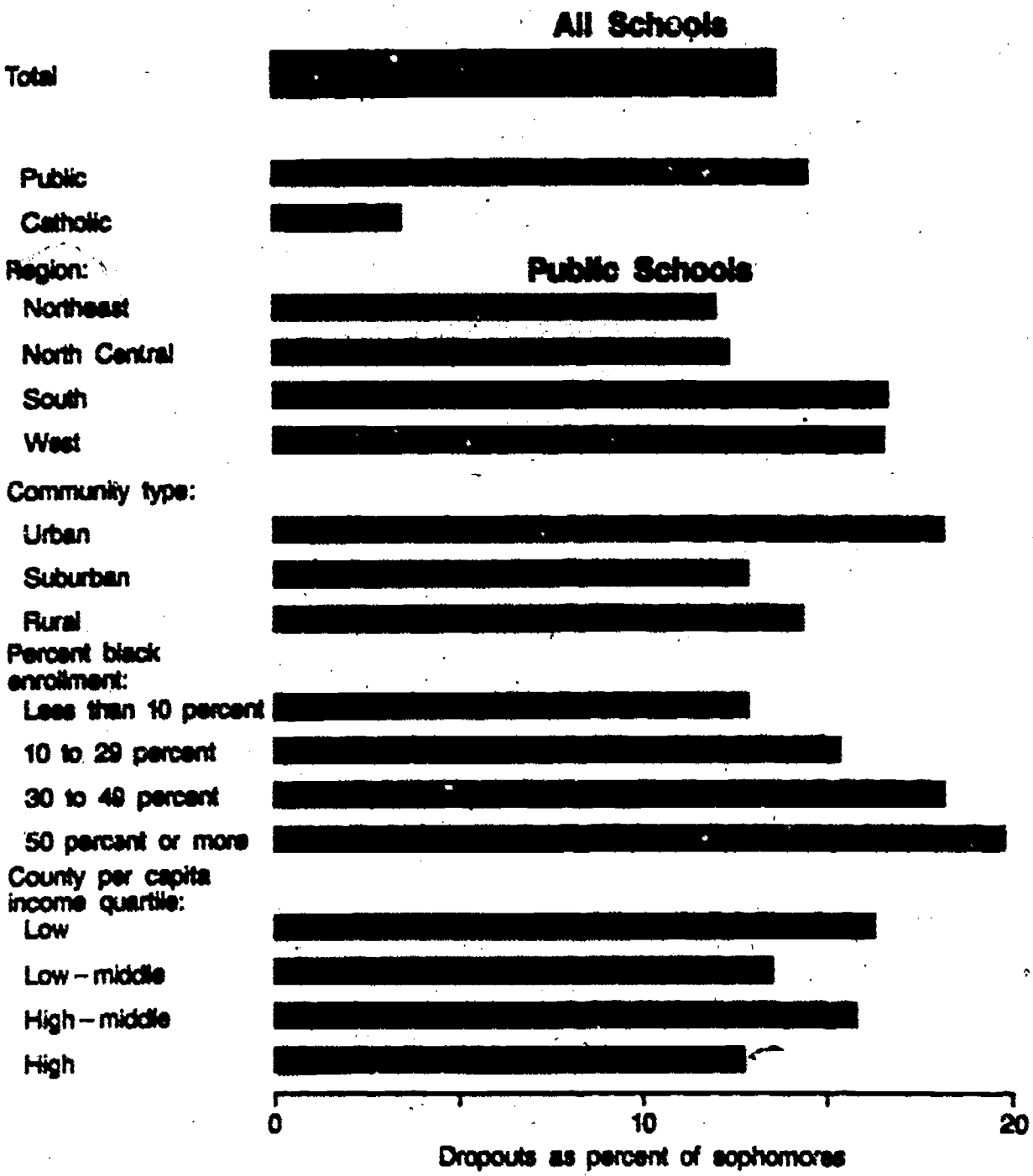
[1]The regions correspond to Bureau of the Census definitions. See the Definitions of Selected Terms in the appendix.

[2]Small sample size precludes showing percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (September 1984).

Chart 5.1

Dropout Rates of 1980 Public and Private High School Sophomores



High school dropout rates in Catholic schools were substantially lower than rates in public schools. Dropout rates in public schools were more pronounced in the South and West, in urban communities, and in schools with higher black enrollments.

Table 5.2

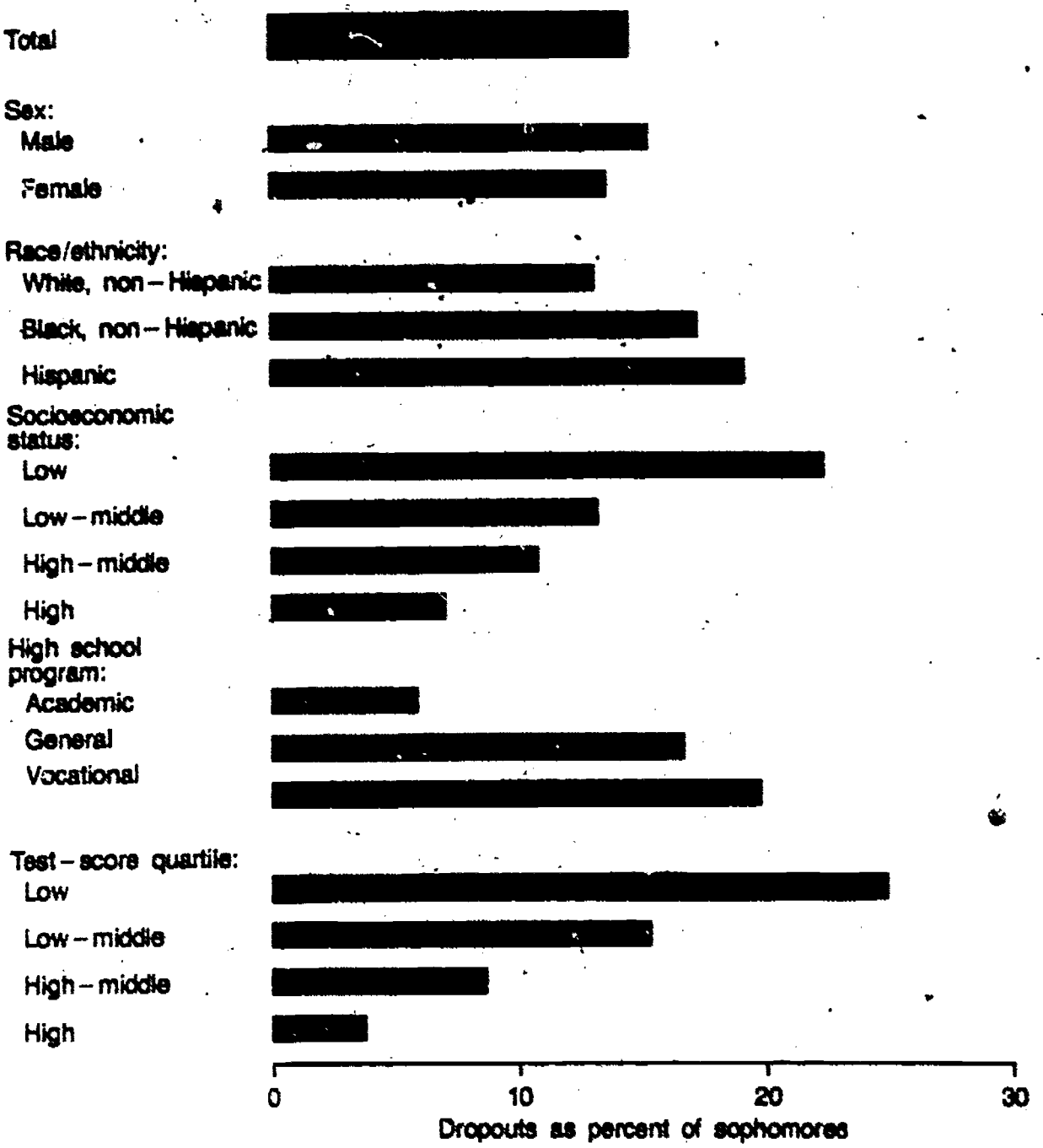
Public High School Dropout Rates of 1980 Sophomores, by Selected Student Characteristics: United States, Fall 1982

Characteristic	Total	Sex		Race/Ethnicity		
		Male	Female	White, Non-Hispanic	Black, Non-Hispanic	Hispanic
	Dropouts as Percent of Sophomores					
Total	14.4	15.2	13.5	13.0	17.2	19.1
Socioeconomic status:						
Low	22.3	22.9	21.8	23.7	18.0	23.1
Low-middle	13.2	13.8	12.6	12.6	10.3	19.5
High-middle	10.7	11.7	9.7	10.2	15.6	11.3
High	7.0	9.2	4.6	6.3	13.8	10.6
High school program:						
Academic	5.8	6.5	5.2	4.8	7.1	14.8
General	16.6	16.1	17.0	15.9	18.1	18.4
Vocational	19.7	22.0	17.1	18.0	23.5	21.1
1980 test-score quartile:						
Low	24.8	26.8	23.0	28.0	21.6	23.2
Low-middle	15.3	16.6	14.1	16.4	8.5	15.7
High-middle	6.6	8.7	8.5	8.5	7.0	9.0
High	3.7	4.7	2.6	3.6	5.0	5.3
Father's education:						
Less than 4 years of high school	22.9	23.0	22.9	22.8	23.2	22.8
High school graduate	13.7	14.5	12.9	12.9	14.1	17.6
Some college	10.5	11.6	9.4	9.7	13.5	14.7
College graduate	6.8	9.2	4.3	6.2	11.1	11.0
Father's occupational level:*						
Professional/technical	8.7	10.2	7.1	7.8	13.3	13.5
Mid-level	14.0	14.7	13.2	12.4	18.2	19.1
Low-level	18.7	19.3	18.2	18.7	17.8	19.8
Student employed while in high school:						
Yes	15.7	18.6	12.4	14.0	22.9	20.6
No	13.3	12.4	14.2	12.2	14.5	17.9

*High School and Beyond questions on father's occupation offer choices among 16 occupational classifications. For this analysis, the 16 classifications were grouped into three broad categories: a "professional/technical" category comprised of the manager/administrator, professional (2 different classifications), teacher, and technical classifications; a "mid-level" category consisting of the clerical, craftsman, farmer, military, proprietor, protective service, and sales classifications; a "mid-level" category made up of the laborer, operative, and service worker classifications.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (September 1984).

Dropout Rates of 1980 Public High School Sophomores



The dropout rate among public high school students from the lowest socioeconomic quartile averaged three times the rate of students from the highest quartile. Higher dropout rates were also associated with students in general or vocational programs and with students in lower test-score quartiles.

Table 5.3

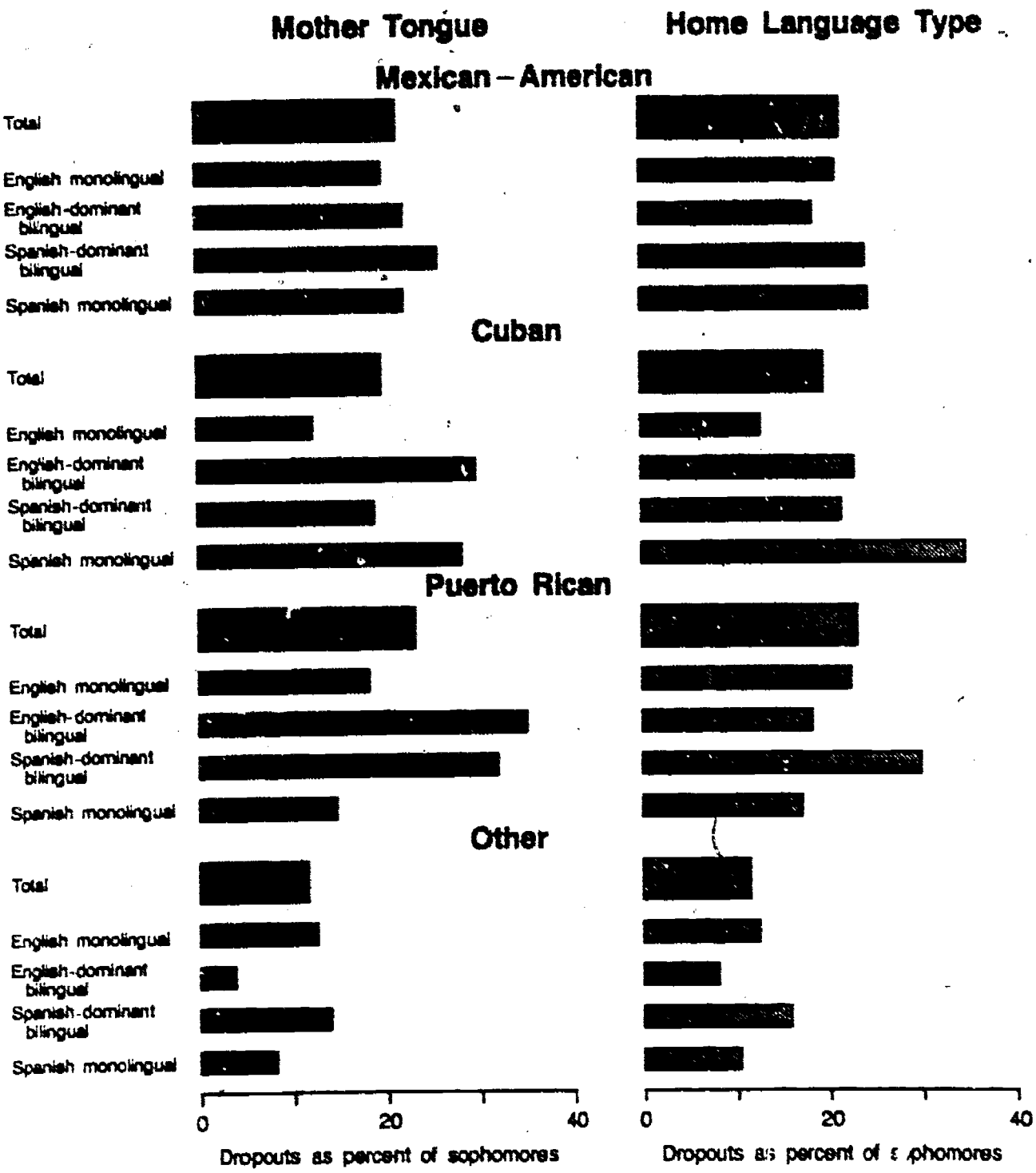
High School Dropout Rates of 1980 Hispanic Sophomores, by Population Subgroup, Mother Tongue, and Home Language Type: United States, Spring 1982

Mother Tongue and Home Language Type*	Hispanic Population Subgroup			
	Mexican-American	Cuban	Puerto Rican	Other
	Dropouts as Percent of Sophomores			
All Hispanics	21.2	19.5	22.9	11.4
Mother tongue:				
English monolingual	19.6	12.0	17.9	12.4
English-dominant bilingual	21.6	29.4	34.9	3.7
Spanish-dominant bilingual	25.6	18.6	31.6	13.8
Spanish monolingual	21.6	27.9	14.6	8.1
Other	15.7	10.0	14.8	6.4
Home language type:				
English monolingual	20.6	12.6	22.3	12.5
English-dominant bilingual	18.3	22.6	18.2	8.1
Spanish-dominant bilingual	24.2	21.2	29.9	15.6
Spanish monolingual	24.4	34.6	17.0	10.2
Other	29.1	.0	18.0	3.1

*High School and Beyond language questions were administered to all respondents who passed a filter of five questions which asked about the respondent's mother tongue and languages currently spoken at home. These five questions were: mother tongue of respondent (first language spoken); second mother tongue (other language spoken before schooling); usual language spoken at home; other language spoken at home, and usual language of respondent. These criteria distinguish students who have never been exposed to a language other than English in the home from those who have had at least some natural exposure to another language. Note that this definition does not hinge on students' level of English proficiency or nativity and that it excludes respondents with only indirect contact with languages other than English, such as those who studied it in school as an academic subject.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (April 1984).

Dropout Rates of 1980 Hispanic High School Sophomores



Puerto Ricans whose mother tongue was English-dominant bilingual dropped out at a rate almost twice that of English monolingual Puerto Ricans. Cubans who spoke only Spanish at home dropped out almost three times more often than those who spoke only English.

Table 5.4

Reentry Rates of 1980 Sophomore Public High School Dropouts, by Selected School and Student Characteristics: United States, Fall 1982

Characteristic	Total	Sex		Race/Ethnicity		
		Male	Female	White, Non-Hispanic	Black, Non-Hispanic	Hispanic
	Reentrants as Percent of Dropouts					
Total	**10.5**	**10.6**	**10.4**	**13.0**	**9.3**	**7.3**
Region[1]						
Northeast	**11.9**	14.0	8.5	15.6	13.9	4.1
North Central	**12.2**	9.8	14.9	14.2	(2)	12.8
South	**9.8**	10.8	8.7	13.1	5.9	8.9
West	**8.4**	7.8	9.2	9.0	(2)	4.5
Community type						
Urban	**7.8**	10.2	4.9	8.8	10.1	5.8
Suburban	**11.3**	11.5	11.0	13.3	10.9	7.8
Rural	**12.4**	9.9	15.3	15.2	4.9	9.5
Socioeconomic status						
Low	**7.9**	8.6	7.3	8.6	5.2	7.5
Low-middle	**11.8**	11.2	12.5	12.4	12.5	10.4
High-middle	**11.7**	12.6	10.5	12.5	7.4	12.0
High	**20.6**	22.4	15.9	23.8	(2)	(2)
High school program (at exit)						
Academic	**23.1**	28.8	16.6	23.5	31.8	16.6
General	**11.6**	9.6	14.2	13.4	8.0	7.9
Vocational	**10.4**	14.7	6.3	13.0	8.8	6.6
1980 test-score quartile						
Low	**8.0**	7.5	8.7	8.9	4.5	9.2
Low-middle	**11.0**	11.8	9.8	11.1	12.5	9.9
High-middle	**14.8**	15.3	14.2	13.4	(2)	9.1
High	**32.4**	40.3	18.3	34.0	(2)	(2)
Father's education						
Less than 4 years of high school	10.3	11.8	8.9	11.3	5.5	10.4
High school graduate	9.3	5.2	14.7	10.5	12.3	1.1
Some college	13.7	14.6	12.3	15.3	3.4	15.5
College graduate	22.9	22.2	24.4	27.6	(2)	(2)
Father's occupational level[3]						
Professional/technical	18.6	17.2	20.8	22.4	7.7	13.2
Mid-level	9.8	9.4	10.3	12.1	4.9	6.1
Low-level	10.4	10.4	10.4	11.9	8.9	8.0
Student employed while in high school						
Yes	12.8	14.4	10.2	14.3	11.0	10.5
No	9.5	9.4	9.6	10.9	5.6	7.2

[1]The regions correspond to Bureau of the Census definitions. See the Definitions of Selected Terms in the appendix.

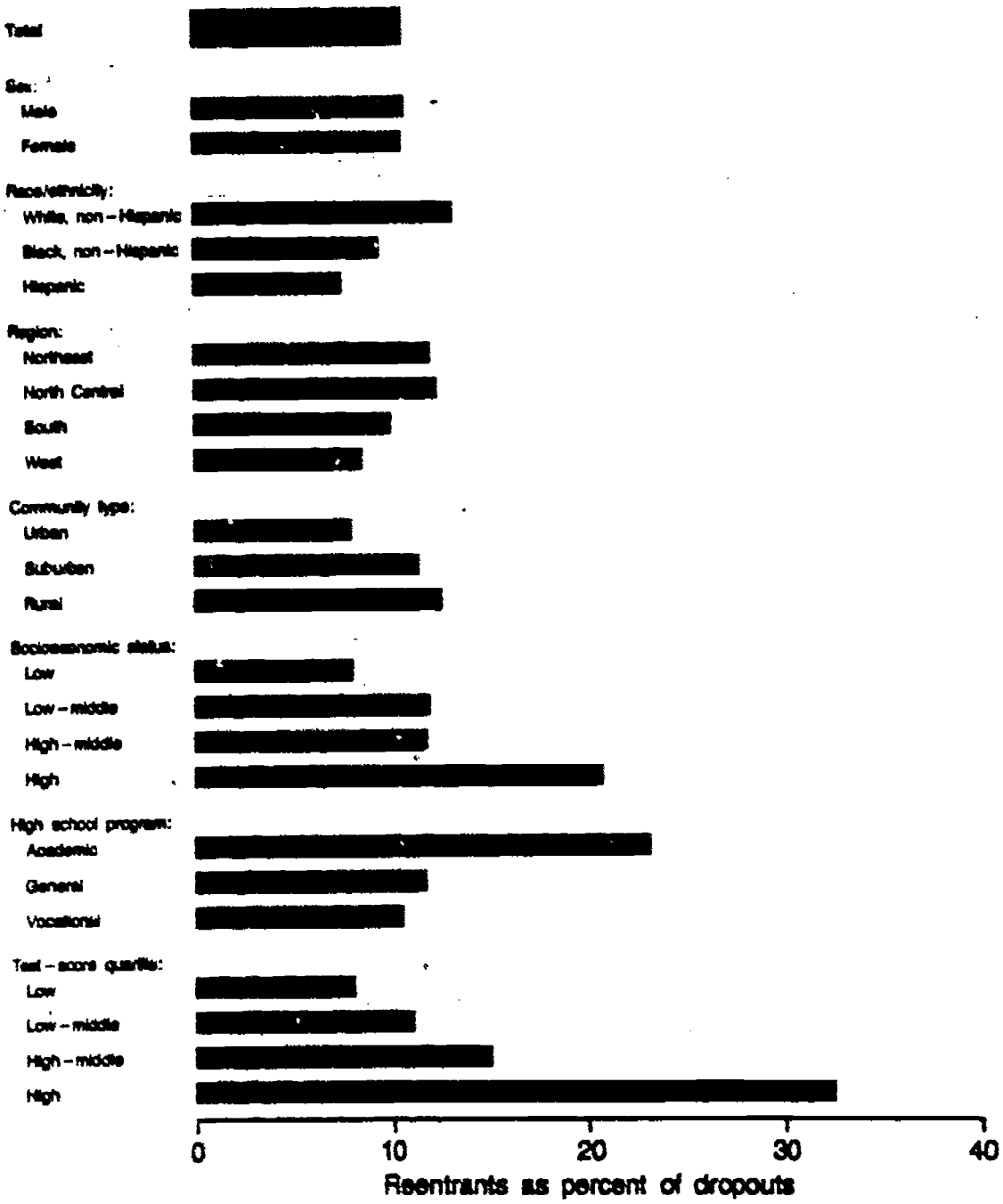
[2]Small sample size precludes showing percent.

[3]High School and Beyond questions on father's occupations offer choices among 16 occupational classifications. For this analysis, the 16 classifications were grouped into three broad categories: a "professional/technical" category comprised of the manager/administrator, professional (2 different classifications), teacher, and technical classifications; a "mid-level" category consisting of the clerical, craftsman, farmer, military, proprietor, protective service, and sales classifications; and a "low-level" category made up of the laborer, operative, and service worker classifications.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (September 1984).

Chart 5.4

Reentry Rates of 1980 Public High School Sophomores



Higher reentry rates of public high school dropouts were associated with higher socioeconomic status and test performance as well as enrollment in an academic curriculum.

Table 5.5

Selected Characteristics of 1980 Terminal-Degree Graduates[1] and Postsecondary Education Participants:[2] United States, Spring 1982

Item	Total		Socioeconomic Status					
			Low		Middle		High	
	Terminal-Degree Graduates	Postsecondary Education Participants	Terminal-Degree Graduates	Postsecondary Education Participants	Terminal-Degree Graduates	Postsecondary Education Participants	Terminal-Degree Graduates	Postsecondary Education Participants
	Percentage Distribution							
Control of school								
Total	**100.0**	**100.0**	100.0	100.0	100.0	100.0	100.0	100.0
Public	**95.2**	**87.0**	96.2	93.2	94.7	88.7	87.8	81.0
Private	**4.8**	**13.0**	3.8	6.8	5.3	11.3	12.2	19.0
Sex								
Total	**100.0**	**100.0**	100.0	100.0	100.0	100.0	100.0	100.0
Male	**52.7**	**46.2**	46.0	39.3	54.5	44.4	66.4	51.0
Female	**47.3**	**53.8**	54.0	60.7	45.5	55.6	33.6	49.0
Race/ethnicity								
Total	**100.0**	**100.0**	100.0	100.0	100.0	100.0	100.0	100.0
White and other,[3] non-Hispanic	**77.7**	**81.2**	63.3	57.0	84.9	83.9	88.8	92.1
Black, non-Hispanic	**10.7**	**11.2**	17.9	26.1	7.2	8.6	6.2	4.1
Hispanic	**11.6**	**7.6**	18.8	16.9	7.9	7.5	5.0	3.8
High school program								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Academic	12.0	44.2	9.9	33.5	12.9	48.4	36.9	65.1
General	56.0	40.9	48.4	40.3	48.4	33.4	43.3	25.6
Vocational	32.0	14.9	41.7	25.2	38.7	18.2	19.8	9.3
	Number							
Self-reported average number of years taken during high school in								
English	**2.9**	**3.0**	2.9	3.0	2.9	3.0	2.9	3.0
Mathematics	**1.7**	**2.2**	1.6	2.0	1.6	2.2	2.0	2.5
Science	**1.4**	**1.9**	1.3	1.7	1.4	1.9	1.7	2.2
Social studies	**2.2**	**2.4**	2.2	2.3	2.2	2.4	2.3	2.4
Foreign language	**.5**	**1.1**	.4	.8	.4	1.0	.7	1.4
Vocational education	**2.8**	**2.2**	2.6	2.5	3.1	2.3	2.4	1.8

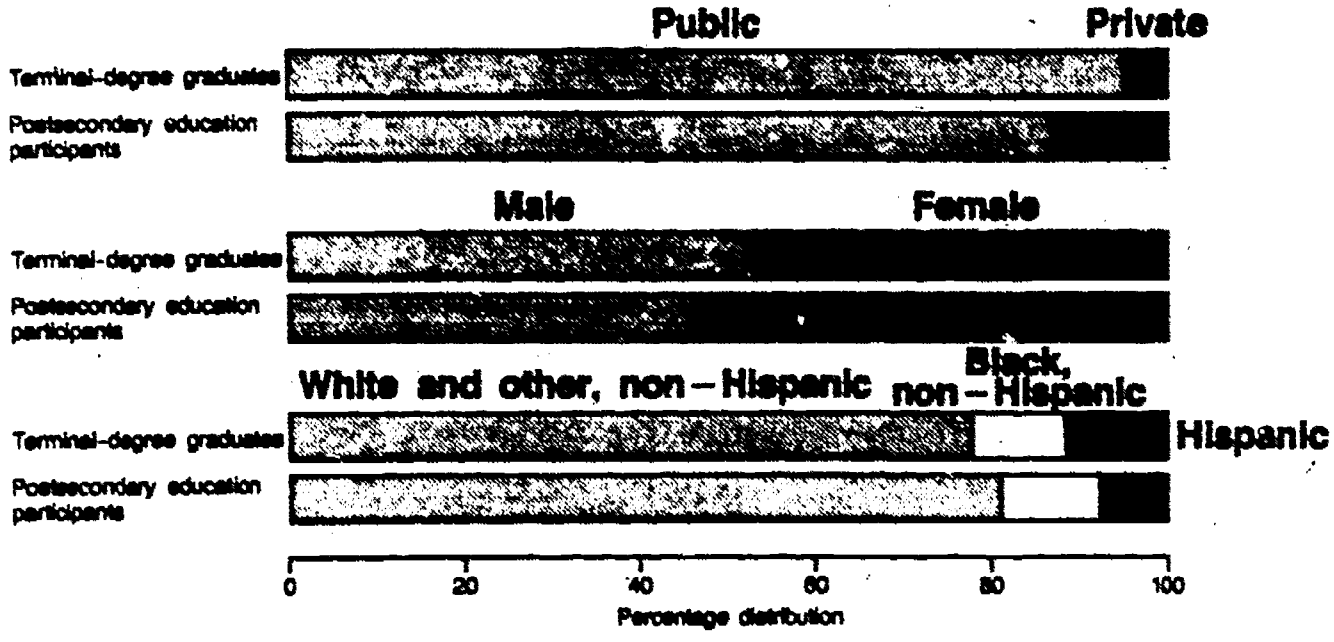
[1]Terminal-degree graduates participated in no postsecondary school between spring 1980 and spring 1982. Terminal-degree status was measured with the High School and Beyond item asking if respondents had enrolled in or taken classes at any school between the time of leaving high school and the end of February 1982. Those missing on this item were deleted, as were those who indicated that they had not graduated from high school.

[2]Postsecondary education participants enrolled in some type of postsecondary education between spring 1980 and spring 1982. They may or may not be currently enrolled.

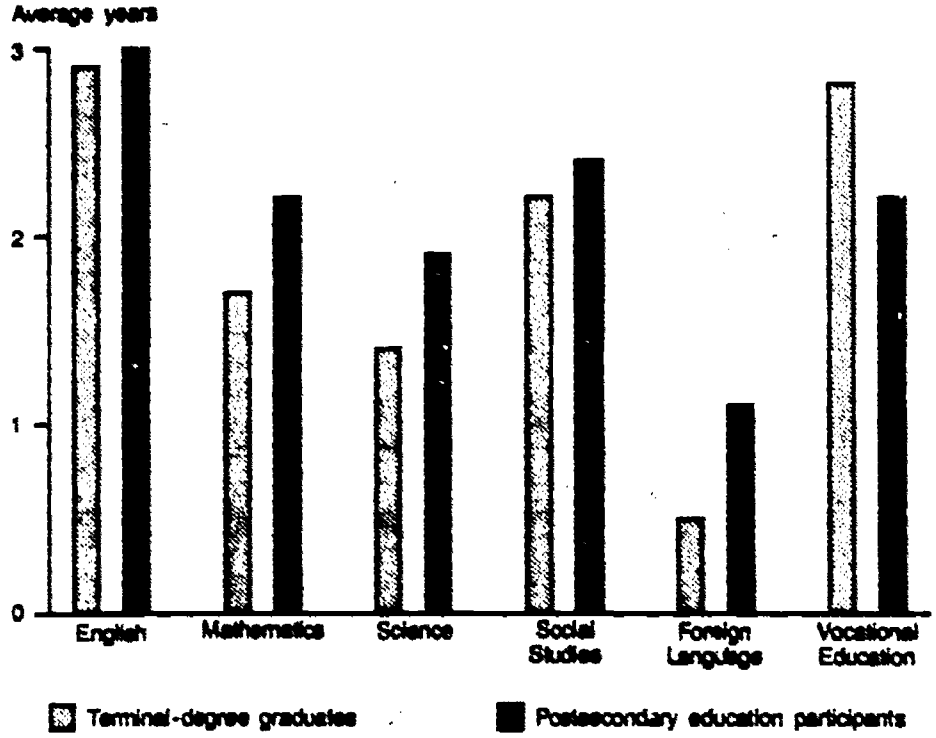
[3]The "other" racial/ethnic classification includes Asian or Pacific Islander and American Indian/Alaskan Native.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (August 1984).

Characteristics of 1980 Terminal-Degree Graduates and Postsecondary Education Participants



Years Earned in Selected Academic Subjects



Terminal-degree graduates were more likely to have graduated from public schools, and were somewhat more likely to be male than students participating in postsecondary education. Postsecondary education participants took more average years in mathematics, science, and foreign language than did terminal-degree graduates.

Table 5.6

Job History Since Graduation of 1980 Terminal-Degree Graduates[1] and Postsecondary Education Participants:[2] United States, Spring 1982

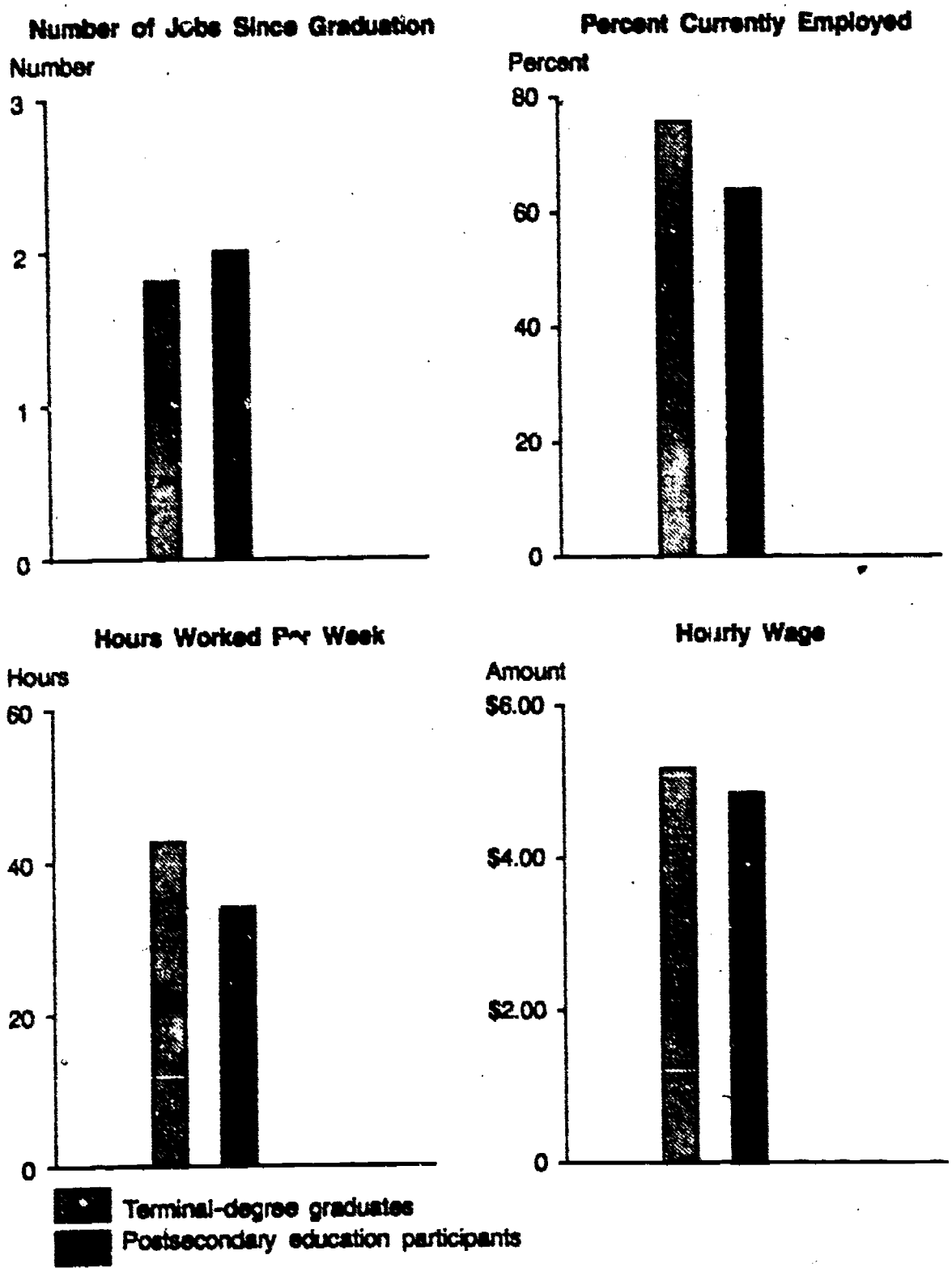
Item	Total		Socioeconomic Status					
			Low		Middle		High	
	Terminal-Degree Graduates	Postsecondary Education Participants	Terminal-Degree Graduates	Postsecondary Education Participants	Terminal-Degree Graduates	Postsecondary Education Participants	Terminal-Degree Graduates	Postsecondary Education Participants
	Average							
Hours and earnings:								
Number of jobs since graduation	1.8	2.0	1.6	1.8	1.9	2.0	1.7	2.1
Percent currently employed	75.8	64.1	69.4	64.1	82.1	68.4	71.2	57.1
Hours worked per week	42.6	33.8	41.0	34.0	42.9	34.2	40.2	33.2
Hourly wage	$5.18	$4.87	$4.95	$4.94	$5.20	$4.72	$5.94	$5.00
	Percent of Students Responding "Work With a Great Deal"							
Nature of work								
Work with people	63.9	71.4	63.3	69.7	64.8	72.1	66.2	70.4
Work with ideas	29.9	22.2	26.0	22.8	30.6	22.8	27.1	20.9
Do paperwork	24.6	25.8	25.4	29.2	25.4	25.8	27.8	23.6
	Percent of Students Responding "Very Satisfied"							
Job satisfaction:								
Satisfied with working conditions	25.5	32.6	20.9	28.2	29.8	30.0	26.4	37.9
Satisfied with opportunities to develop skills	32.8	29.9	27.9	30.5	34.5	29.2	30.6	29.0
Satisfied with opportunities for promotion	22.7	18.0	18.2	17.1	26.3	16.8	16.5	19.0

[1]Terminal-degree graduates participated in no postsecondary education between spring 1980 and spring 1982. Terminal-degree status was measured with the High School and Beyond item asking if respondents had enrolled in or taken classes at any school between the time of leaving high school and the end of February 1982. Those missing on this item were deleted, as were those who indicated that they had not graduated from high school.

[2]Postsecondary education participants enrolled in some type of postsecondary education between spring 1980 and spring 1982. They may or may not be currently enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (August 1984).

Employment Characteristics of 1980 Terminal-Degree Graduates and Postsecondary Education Participants



Terminal degree graduates worked almost 9 hours more per week than did postsecondary education participants and earned an average of 31 cents more per hour.

Table 5.7

Selected Characteristics of 1980 Terminal-Degree Graduates, by Ability: United States, Spring 1982

Item	Terminal Degree Graduates[1]	
	Highly Able[2]	Other
	Percentage Distribution	
Control of school		
Total	100.0	100.0
Public	90.7	94.8
Private	9.3	5.2
Sex:		
Total	100.0	100.0
Male	63.4	50.2
Female	36.6	49.8
Race/ethnicity		
Total	100.0	100.0
White and other,[3] non-Hispanic	96.4	75.0
Black, non-Hispanic	1.5	12.1
Hispanic	2.1	12.9
High school program		
Total	100.0	100.0
Academic	37.9	11.8
General	41.5	49.2
Vocational	20.6	39.0
	Number	
Self-reported average number of years taken during high school in:		
English	2.9	2.9
Mathematics	2.2	1.6
Science	2.0	1.3
Social studies	2.4	2.2
Foreign language	1.0	.4
Vocational education	2.1	2.9

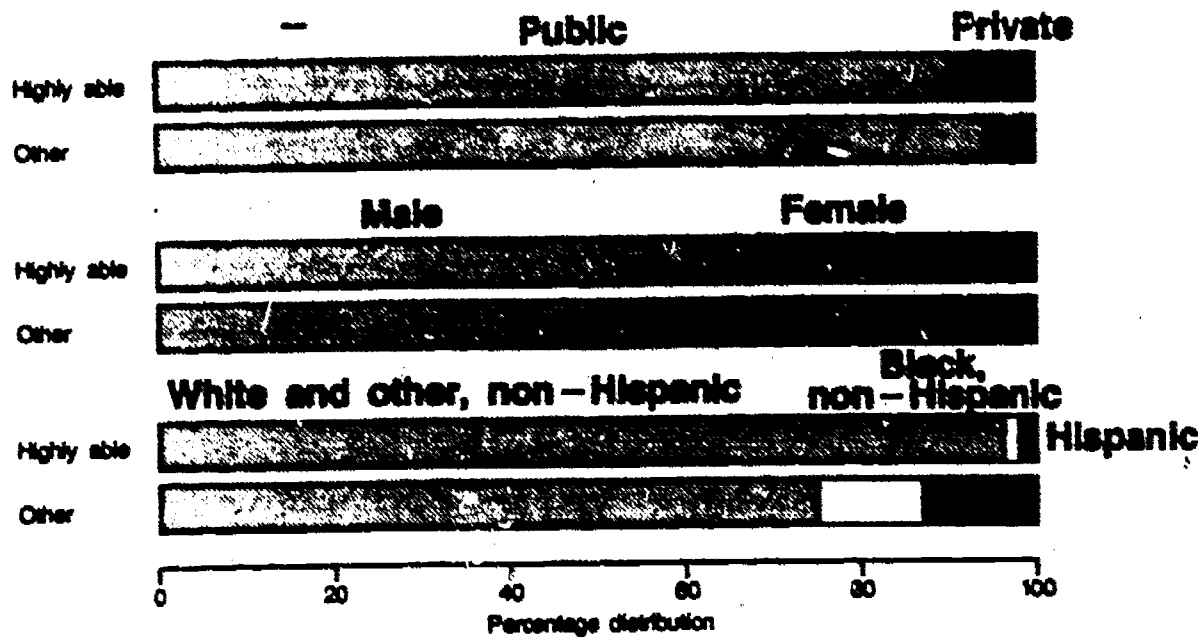
[1]Terminal-degree graduates participated in no postsecondary school between spring 1980 and spring 1982. Terminal-degree status was measured with the High School and Beyond item asking if respondents had enrolled in or taken classes at any school between the time of leaving high school and the end of February 1982. Those missing on this item were deleted, as were those who indicated that they had not graduated from high school.

[2]Highly able graduates are those who scored in the upper quartile of their graduating class.

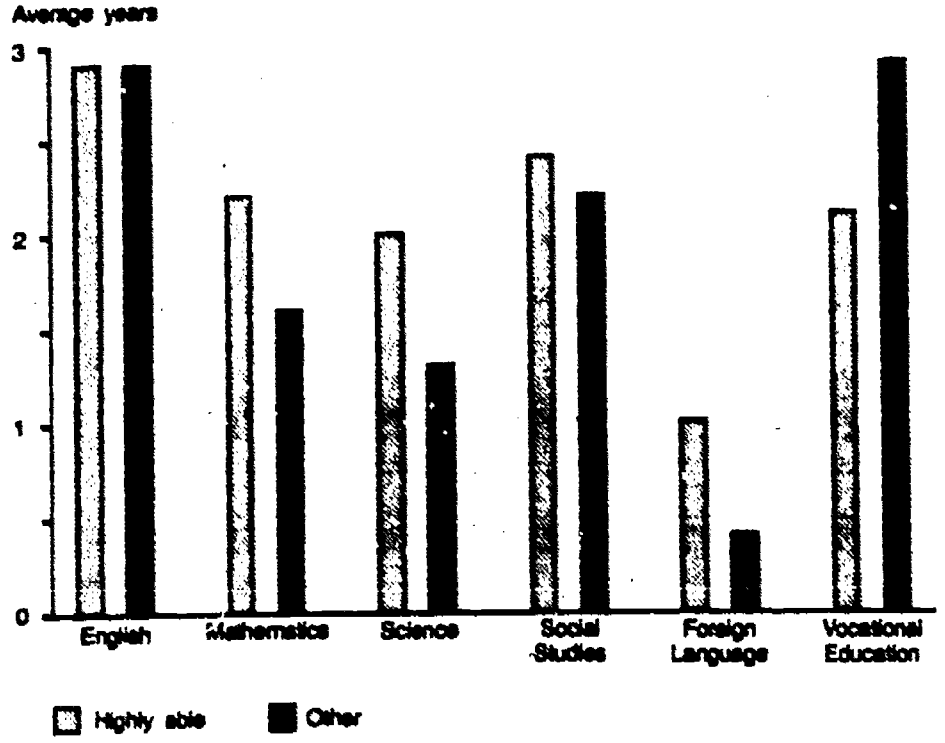
[3]The "other" racial/ethnic classification includes Asian or Pacific Islander and American Indian/Alaskan Native.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (August 1984).

Characteristics of 1980 Terminal-Degree Graduates, by Ability



Years Earned in Selected Academic Subjects



The highly able were disproportionately male and white and earned more average years in mathematics, science, and foreign language than other terminal-degree graduates.

Table 5.8

Job History Since Graduation of 1980 Terminal-Degree Graduates, by Ability: United States, Spring 1982

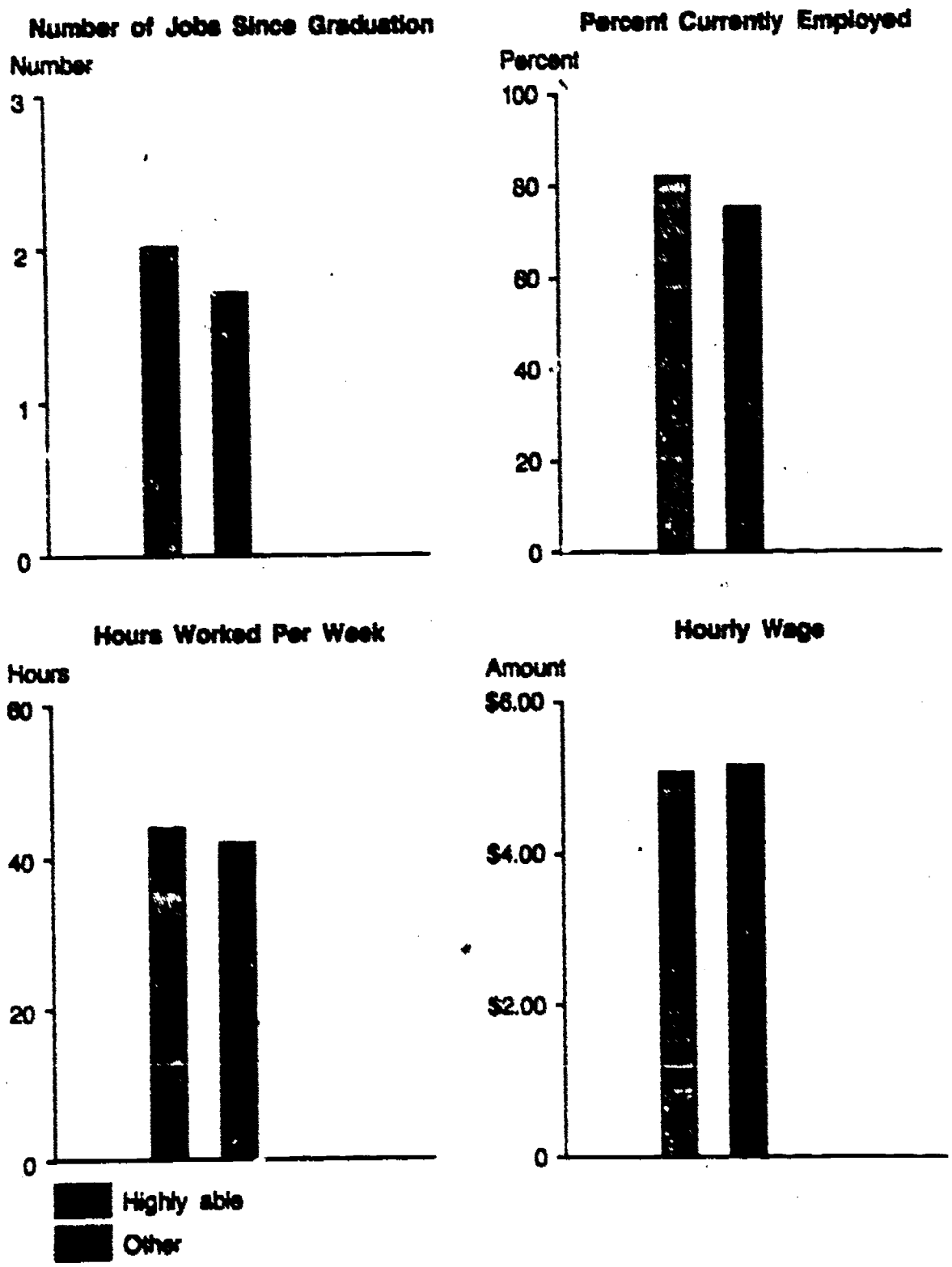
Item	Terminal Degree Graduates[1]	
	Highly Able[2]	Other
	Average	
Hours and earnings		
Number of jobs since graduation	2.0	1.7
Percent currently employed	82.2	75.6
Hours worked per week	43.8	41.7
Hourly wage	$5.96	$5.16
	Percent of Students Responding "Work With a Great Deal"	
Nature of work		
Work with people	60.4	64.4
Work with ideas	26.9	28.9
Do paperwork	35.1	25.4
	Percent of Students Responding "Very Satisfied"	
Job satisfaction		
Satisfied with working conditions	36.1	25.8
Satisfied with opportunities to develop skills	38.8	31.4
Satisfied with opportunities for promotion	25.7	21.9

[1]Terminal-degree graduates participated in no postsecondary school between spring 1980 and spring 1982. Terminal-degree status was measured with the High School and Beyond item asking if respondents had enrolled in or taken classes at any school between the time of leaving high school and the end of February 1982. Those missing on this item were deleted, as were those who indicated that they had not graduated from high school.

[2]Highly able graduates are those who scored in the upper quartile of their graduating class.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (August 1984).

Employment Characteristics of 1980 Terminal-Degree Graduates, by Ability



Although the highly able were somewhat more likely to have a job than other terminal-degree graduates, they did not differ greatly on other employment characteristics.

Table 5.9

Postsecondary Education Participation Rates of High School Graduates Immediately Following Graduation, by Selected Characteristics: United States, Fall 1972 to Fall 1980

Characteristic	Percent Participating in Fall 1972				Percent Participating in Fall 1980			
	Total[1]	4-Year Institution	2-Year Institution	Other[2]	Total[1]	4-Year Institution	2-Year Institution	Other[2]
All graduates	**53**	30	16	7	**54**	31	18	5
Male	**54**	31	17	6	**49**	30	16	4
Female	**53**	29	15	9	**56**	32	19	6
White, non-Hispanic	**55**	32	16	7	**55**	33	18	5
Black, non-Hispanic	**47**	26	12	9	**47**	30	14	5
Hispanic	**46**	16	21	8	**40**	16	18	5
Low performer	**30**	8	12	10	**27**	9	13	6
Median performer	**53**	26	20	8	**55**	29	22	5
High performer	**79**	60	15	4	**81**	65	15	3
Low SES	**34**	14	11	8	**35**	17	15	5
Male	33	15	12	6	32	16	14	4
Female	35	14	11	10	37	17	15	5
White, non-Hispanic	31	12	11	8	33	15	15	5
Black, non-Hispanic	39	20	10	10	41	24	13	4
Hispanic	41	15	18	8	32	13	14	5
Low performer	27	8	10	9	23	8	10	6
Median performer	36	16	11	9	41	19	19	4
High performer	62	41	18	4	62	44	16	3
Middle SES	**51**	25	18	8	**53**	30	19	5
Male	51	26	18	7	48	28	18	3
Female	50	24	16	10	58	31	21	6
White, non-Hispanic	51	25	18	8	54	30	19	5
Black, non-Hispanic	55	34	14	8	53	36	14	4
Hispanic	51	17	25	9	46	18	23	5
Low performer	30	8	12	10	28	10	14	6
Median performer	51	22	20	9	54	28	22	5
High performer	73	49	19	5	80	60	19	3
High SES	**79**	57	18	4	**77**	55	19	4
Male	78	56	18	3	73	51	18	4
Female	80	57	17	6	82	61	20	3
White, non-Hispanic	79	57	18	4	78	56	19	4
Black, non-Hispanic	81	53	21	8	70	48	21	2
Hispanic	(3)	(3)	(3)	(3)	74	45	20	10
Low performer	46	16	22	9	49	18	23	9
Median performer	74	43	25	6	75	44	28	4
High performer	89	76	11	2	86	75	10	3

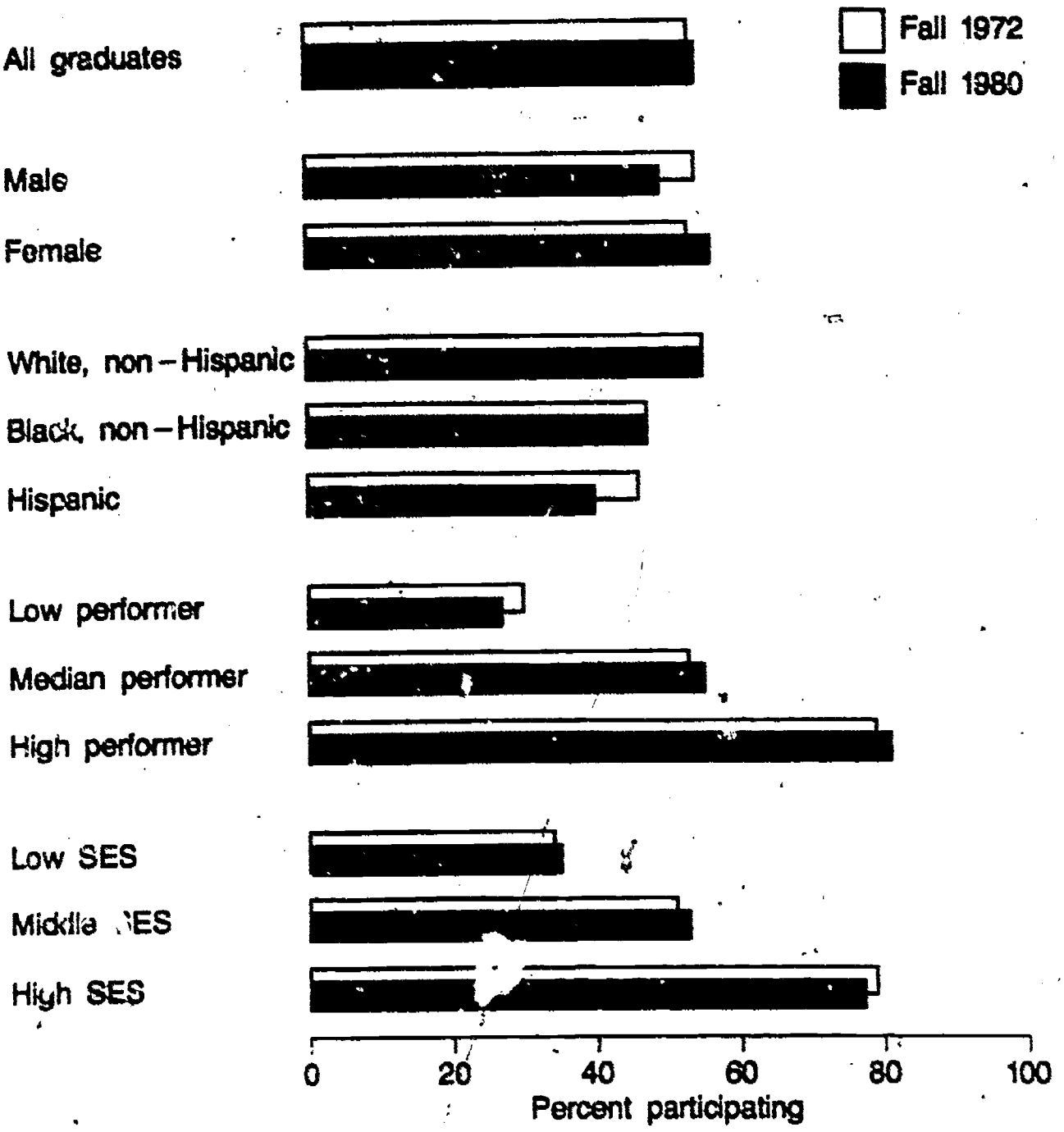
[1]Details may not add to totals because of rounding and because respondents in 1980 could have indicated that they attended more than one type of postsecondary institution.

[2]Includes vocational, trade, and business schools and schools that could not be classified otherwise.

[3]Small sample size precludes showing percents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 and High School and Beyond, unpublished tabulations (December 1983).

Postsecondary Education Participation of High School Graduates Immediately Following Graduation



While postsecondary enrollment rates of recent high school graduates remained stable overall between fall 1972 and fall 1980, rates dropped slightly among males and Hispanics and rose among females.

Table 5.10

Full- and Part-Time Postsecondary Education Participation of 1980 High School Seniors 2 Years Following Graduation:[1] United States, Spring 1982

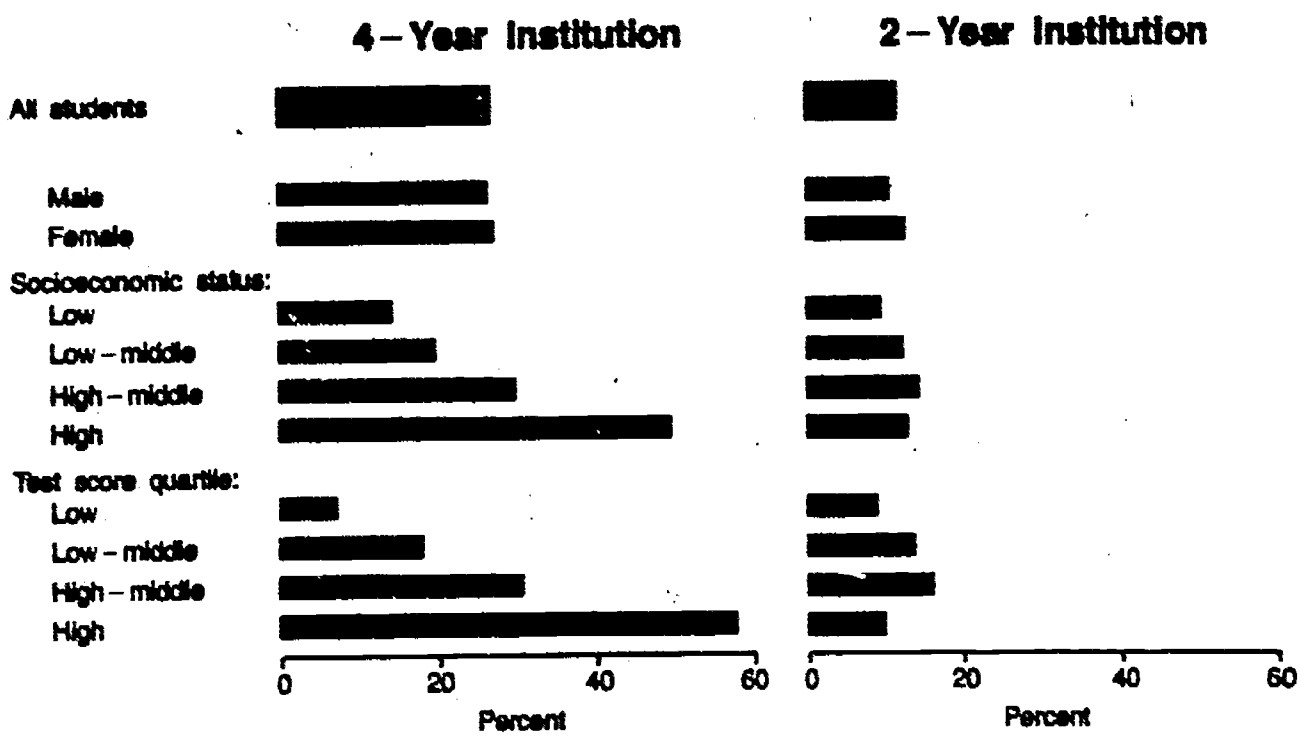
Characteristic	4-Year Institution	2-Year Institution	Vocational Institute	Multiple
	Percent Participating Full-Time			
All students	26.6	11.4	5.4	6.2
Male	26.2	10.4	5.1	5.1
Female	27.1	12.4	5.7	7.2
White male	27.9	10.3	5.1	5.5
Black male	25.1	9.4	5.8	3.1
Hispanic male	12.7	12.5	4.2	3.9
White female	29.4	12.4	5.3	7.1
Black female	23.3	10.1	7.3	8.9
Hispanic female	12.5	15.2	6.9	6.3
Socioeconomic status:				
Low	14.1	9.3	6.8	3.7
Low-middle	19.5	12.1	7.3	5.2
High-middle	29.6	14.0	4.8	4.5
High	49.4	12.7	3.1	9.1
Test-score quartile:				
Low	6.9	8.7	7.9	3.1
Low-middle	17.8	13.5	5.8	5.7
High-middle	30.5	15.7	6.0	8.9
High	57.6	9.8	2.9	7.3
	Percent Participating Part-Time			
All students	1.3	3.8	1.6	.4
Male	1.4	3.5	1.4	.3
Female	1.1	4.0	1.7	.5
White male	1.4	3.4	1.6	.4
Black male	.6	2.8	1.0	.2
Hispanic male	2.4	5.7	.9	.2
White female	1.2	4.2	1.7	.5
Black female	.5	2.2	2.2	.3
Hispanic female	.9	4.7	1.4	.5
Socioeconomic status:				
Low	1.1	3.0	2.0	.4
Low-middle	1.3	4.0	1.8	.3
High-middle	.8	4.3	2.2	.6
High	1.8	3.9	.4	.4
Test-score quartile:				
Low	.8	3.2	2.7	.6
Low-middle	1.1	4.7	2.3	.3
High-middle	1.8	4.3	1.2	.4
High	1.5	2.9	.6	.3

[1]Seniors may not have necessarily graduated to have participated in postsecondary education. For example, a small percentage of seniors may have left high school before graduating and then enrolled in a vocational institute.

[2]Students listed under the mutually exclusive "multiple" category attended more than one of the other institutional types.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (August 1984).

Full-Time Postsecondary Education Participation of 1980 High School Seniors, by Institutional Type



Enrollment in 4-year institutions increased as a function of increasing socioeconomic status and test performance. Students in the highest groups for both these scales were the least likely to attend vocational schools.

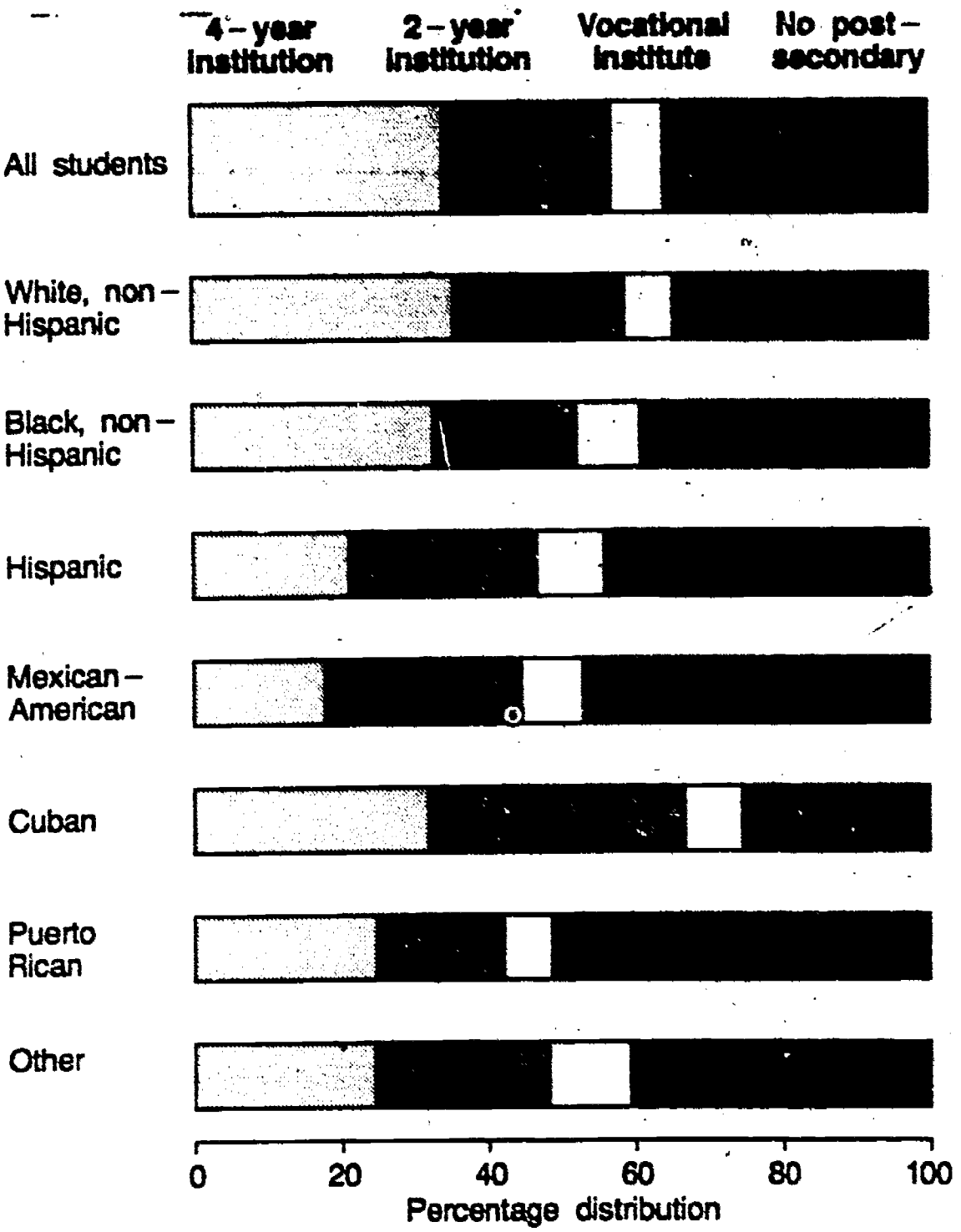
Table 5.11

Postsecondary Education Participation Rates of 1980 High School Seniors, by Race/Ethnicity and Hispanic Population Subgroup and Type of Institution: United States, Spring 1982

Race/Ethnicity and Hispanic Population Subgroup	Total	4-Year Institution	2-Year Institution	Vocational Institute	No Post-secondary
	Percentage Distribution				
Any Participation by February 1982					
All students	100.0	34.2	23.0	7.0	35.8
White, non-Hispanic	100.0	35.7	23.2	6.5	34.6
Black, non-Hispanic	100.0	32.6	19.7	8.7	39.1
Hispanic	100.0	21.3	25.6	9.1	44.0
Mexican-American	100.0	17.7	26.8	8.5	47.0
Cuban	100.0	32.0	34.9	7.7	25.4
Puerto Rican	100.0	24.5	17.5	6.8	51.2
Other	100.0	24.3	24.2	10.8	40.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (September 1984).

Distribution of 1980 High School Seniors Ever Enrolled in Postsecondary Institutions: February 1982



White and black high school seniors were more likely than Hispanics to attend 4-year institutions in the 2 years following graduation. Cubans displayed the highest postsecondary enrollment rates of any Hispanic subgroup in 4- and 2-year institutions.

Table 5.12

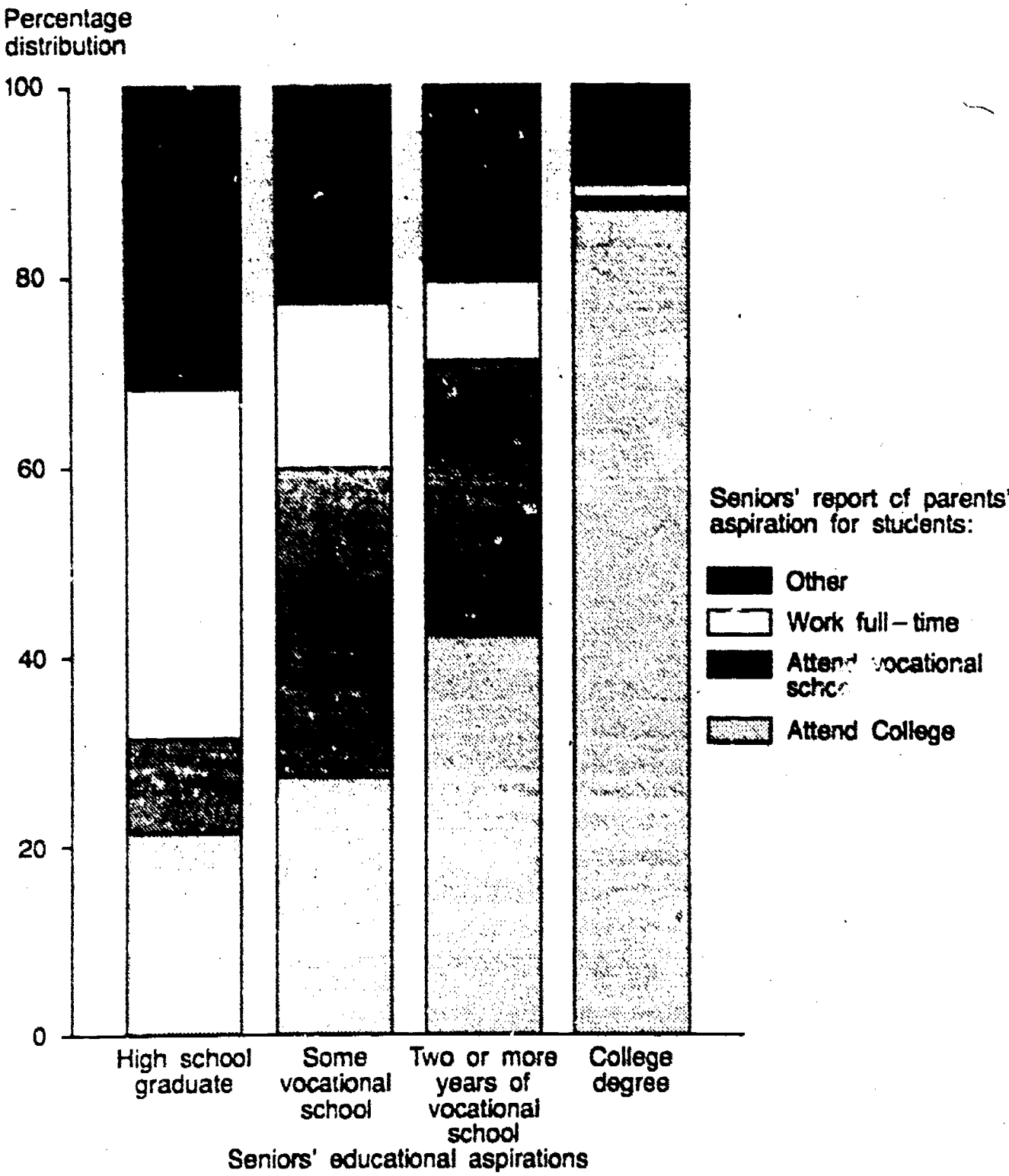
1980 High School Seniors' Report of Parents' Aspirations for Student, by Seniors' Educational Aspirations: United States, Spring 1982

Seniors' Educational Aspirations	Total	Seniors' Report of Parents' Aspirations for Student: Attend College	Attend Vocational School	Work Full-Time	Enter the Military	Parents Don't Care	Senior Doesn't Know	Does Not Apply
		Percentage Distribution						
All seniors								
High school graduate	**100.0**	**21.4**	**10.0**	**37.0**	**4.0**	**3.6**	**7.0**	**16.8**
Some vocational school	**100.0**	**27.3**	**32.6**	**17.7**	**2.4**	**1.9**	**6.6**	**11.6**
2 or more years of vocational school	**100.0**	**42.2**	**29.0**	**8.6**	**4.4**	**2.2**	**3.3**	**10.1**
College degree	**100.0**	**86.1**	**.6**	**.9**	**.9**	**1.2**	**.7**	**7.6**
White males								
High school graduate	100.0	18.5	14.7	35.4	5.6	3.7	6.7	15.4
Some vocational school	100.0	20.6	41.3	17.6	1.1	4.5	6.3	8.7
2 or more years of vocational school	100.0	32.9	41.3	5.6	4.7	2.3	5.1	8.1
College degree	100.0	86.6	.3	.6	.8	1.5	.6	9.6
White females								
High school graduate	100.0	22.3	5.5	39.3	1.5	4.6	7.7	19.2
Some vocational school	100.0	29.3	28.1	18.3	2.9	.7	8.0	12.2
2 or more years of vocational school	100.0	48.3	16.9	11.2	4.5	3.1	1.1	15.0
College degree	100.0	90.1	.6	.3	.5	1.3	.6	6.6
Black males								
High school graduate	100.0	24.1	10.5	29.5	12.8	2.3	6.5	14.3
Some vocational school	100.0	32.0	23.6	24.2	10.9	1.6	1.6	6.2
2 or more years of vocational school	100.0	43.8	32.2	6.8	9.3	.0	3.4	4.6
College degree	100.0	82.7	.7	4.6	5.8	.4	.4	5.4
Black females								
High school graduate	100.0	30.0	6.6	39.4	4.5	1.3	3.9	14.4
Some vocational school	100.0	38.6	32.7	14.4	.8	.0	3.7	9.8
2 or more years of vocational school	100.0	53.1	19.4	10.0	3.7	1.5	3.3	9.1
College degree	100.0	90.3	1.5	.9	.6	.4	1.5	4.7
Hispanic males								
High school graduate	100.0	19.4	10.0	40.6	3.7	2.6	6.8	16.8
Some vocational school	100.0	22.7	40.5	18.1	2.2	.0	4.1	12.4
2 or more years of vocational school	100.0	48.2	27.7	14.1	3.1	1.2	.8	4.9
College degree	100.0	86.5	1.4	3.0	1.2	.6	1.6	5.8
Hispanic females								
High school graduate	100.0	28.1	6.4	36.4	2.3	3.6	7.2	16.0
Some vocational school	100.0	35.1	21.6	17.3	1.9	0	4.0	20.1
2 or more years of vocational school	100.0	56.0	19.5	10.0	3	7	4.6	8.9
College degree	100.0	87.4	1.6	4.4	.5	.6	1.6	4.1

NOTE. Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (August 1984).

1980 High School Seniors' Report of Parents' Aspirations for Student, by Seniors' Educational Aspirations



Among seniors who aspired to a college degree, 88 percent reported that their parents also hoped they would attend college. Seniors who wished to end their education with high school most often indicated that their parents wanted them to work full-time.

Table 5.13

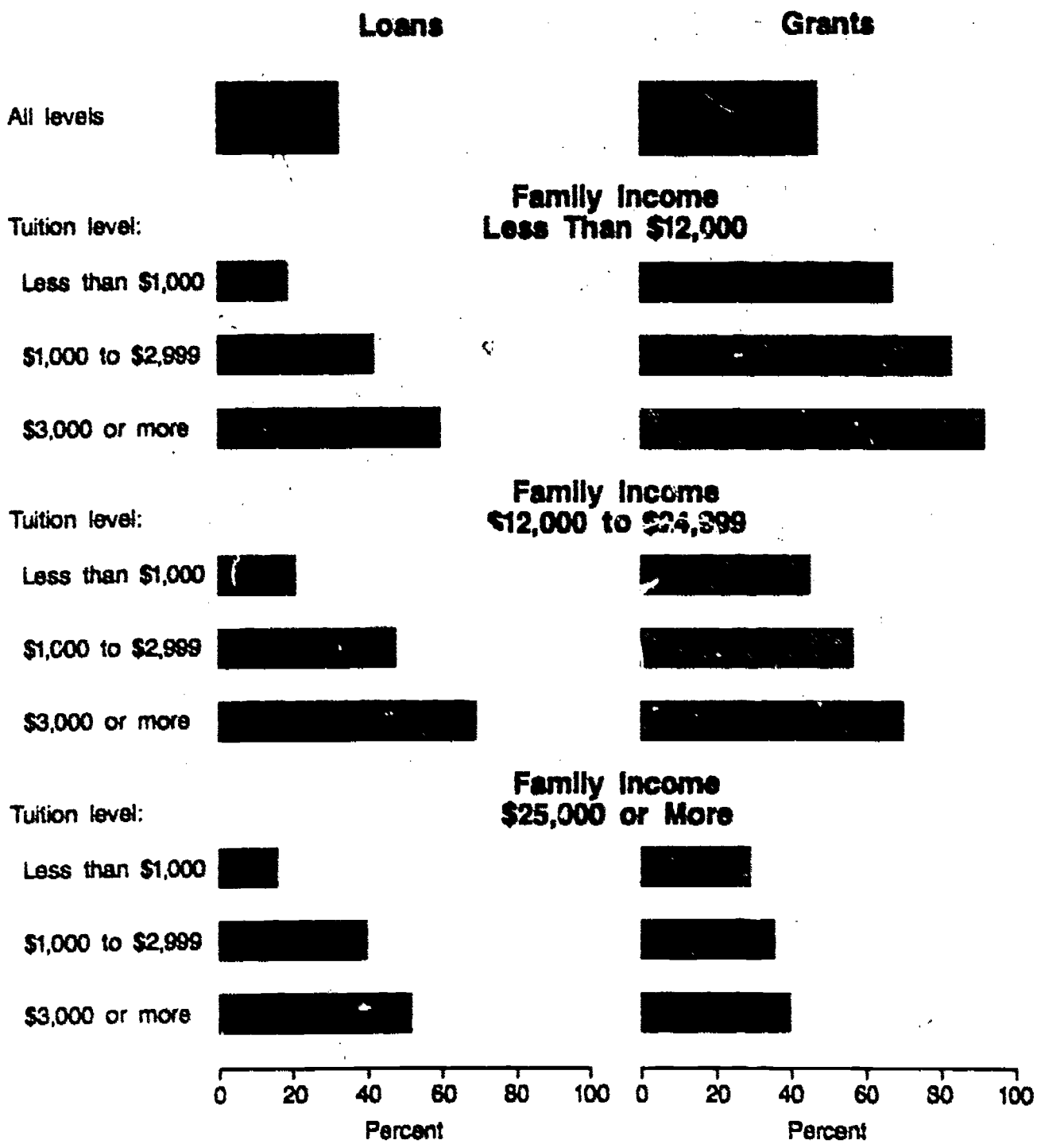
Percent of 1980 High School Seniors Entering Postsecondary School Immediately After Graduation Who Received a Loan or Grant: United States, Spring 1982

Family Income and Tuition Level	Any Loan	Any Grant	Pell Grant	Average Pell Amount Per Recipient
			Percent	
All levels	32.4	46.7	21.0	$956
Family income less than $12,000 and tuition:				
Less than $1,000	18.3	66.8	44.2	998
$1,000 to $2,999	41.5	82.4	59.9	1,249
$3,000 or more	59.3	91.4	75.1	1,284
Family income $12,000 to $24,999 and tuition:				
Less than $1,000	20.8	44.6	22.4	834
$1,000 to $2,999	47.2	56.0	30.7	976
$3,000 or more	58.8	69.5	37.1	867
Family income $25,000 or more and tuition:				
Less than $1,000	15.4	28.7	7.7	733
$1,000 to $2,999	39.4	35.1	9.3	789
$3,000 or more	51.3	39.3	7.7	862

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Study, unpublished tabulations (September 1984).

Chart 5.13

Percent of 1980 High School Seniors Entering Postsecondary School Immediately Following Graduation Who Received a Loan or Grant



Within each tuition level, students from low income families were the most likely to receive grants. Students from middle income families in high tuition schools were the most likely to receive loans.

Table 5.14

Intended Field of Study of College-Bound[1] High School Seniors, by Selected Characteristics: United States, Spring 1980 and Change From Spring 1972

Field of Study	Sex		Race/Ethnicity			Self-Reported High School Program		
	Male	Female	White and Other,[2] Non-Hispanic	Black, Non-Hispanic	Hispanic	Academic	General	Vocational
			Percentage Distribution in 1980					
Total	45.7	54.3	84.2	10.5	5.3	58.4	27.5	14.1
Preprofessional[3]	50.7	49.3	84.3	10.4	5.4	79.1	16.2	4.6
Humanities/arts	40.0	60.0	85.1	10.7	4.2	59.9	31.6	8.6
Education	23.5	76.5	88.0	7.1	4.9	52.1	39.5	8.4
Business	43.3	56.7	83.2	11.4	5.4	48.1	29.3	22.6
Social science	28.1	71.9	82.6	11.1	6.3	70.3	24.0	5.7
Biology/physical science/mathematics	60.2	39.8	89.1	6.7	4.2	73.0	21.6	5.5
Computer/engineering/ architecture	76.1	23.9	82.2	12.2	5.6	67.0	20.9	12.2
Agriculture/home economics/vocational	56.2	43.8	85.7	8.0	6.4	32.8	37.0	30.2
Health	11.7	88.3	83.2	11.6	5.2	57.5	27.9	14.6
			Percentage Point Change From 1972					
Total	-4.0	4.9	-6.9	4.4	2.5	-11.7	5.6	6.1
Preprofessional[3]	-13.0	13.0	-7.5	4.2	3.4	-7.7	4.9	2.7
Humanities/arts	2.5	-2.5	-5.6	5.0	.6	-10.2	6.7	4.0
Education	-4.5	4.5	-3.9	1.8	2.1	-19.3	16.9	2.4
Business	-20.4	20.4	-5.0	3.5	1.5	-5.4	3.7	1.6
Social science	-21.4	21.4	-7.7	4.1	3.5	-1.8	.5	1.3
Biology/physical science/mathematics	-3.5	3.5	-5.2	1.8	3.3	-11.5	8.1	3.5
Computer/engineering/ architecture	-16.0	16.0	-10.2	7.2	3.1	-7.0	1.6	5.5
Agriculture/home economics/vocational	-6.2	6.2	-7.2	3.7	3.5	-17.5	6.9	10.7
Health	-4.6	4.6	-6.7	4.5	2.2	-11.6	3.9	7.7

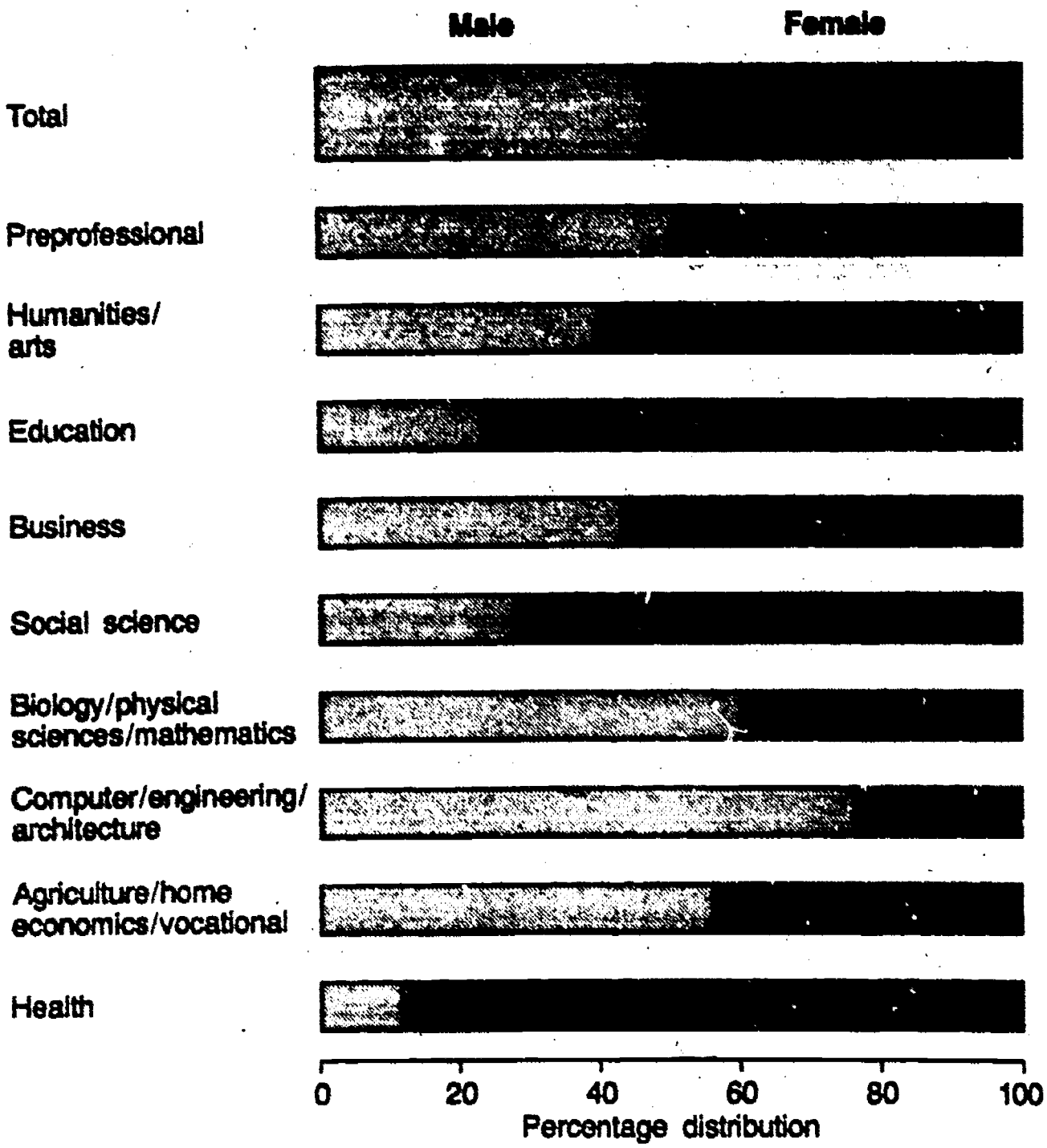
[1]The "college-bound" were seniors who planned to go to college at sometime in the future, whether in the year following high school or later and whether full-time or part-time.

[2]The "other" classification includes Asian or Pacific Islander and American Indian/Alaskan Native.

[3]The preprofessional category includes advanced-degree fields such as dentistry, law, and medicine.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 and High School and Beyond, unpublished tabulations (January 1984).

Intended Field of Study of College-Bound 1980 High School Seniors



In 1980, females were disproportionately represented among college aspirants intending to major in humanities/arts, education, business, social science, or health. The preprofessional fields and computer/engineering/architecture fields became less male-dominated choices between 1972 and 1982.

Table 5.15

Occupational Plans of High School Seniors, by Selected Characteristics: United States, Spring 1980 and Change From Spring 1972

Occupation	Sex		Race/Ethnicity			Self-Reported High School Program		
	Male	Female	White and Other,[1] Non-Hispanic	Black, Non-Hispanic	Hispanic	Academic	General	Vocational
	Percentage Distribution in 1980							
Total	47.8	52.2	82.1	11.6	6.3	38.9	36.6	24.5
Professional I[2]	42.5	57.5	82.5	12.0	5.4	52.4	32.5	15.2
Professional II[3]	48.6	51.4	83.1	11.0	6.0	69.9	23.1	7.1
Technical	61.5	38.5	78.6	14.5	6.9	39.9	34.0	26.1
Teacher[4]	18.1	81.9	85.0	8.7	6.4	47.6	41.0	11.5
Manager/proprietor	58.0	42.0	83.0	12.0	5.1	37.8	39.2	23.1
Craftsman/operative	89.8	10.2	83.1	9.2	7.6	14.2	45.3	40.5
Clerical/sales	12.9	87.1	77.9	14.5	7.7	17.8	35.4	46.8
Service	31.9	68.1	81.7	10.7	7.6	20.8	51.7	27.5
Farmer and farm laborer	86.7	13.3	88.7	4.7	6.6	15.5	48.2	36.3
Military	74.7	25.3	66.1	25.0	8.9	27.3	45.7	27.0
	Percentage Point Change From 1972							
Total	.3	-.3	-6.0	3.1	2.9	-7.6	6.5	1.1
Professional I[2]	-4.9	4.9	-4.1	1.9	2.1	-8.1	4.5	3.7
Professional II[3]	-17.7	17.7	-7.9	4.0	4.0	-11.7	8.3	3.5
Technical	-3.1	3.1	-10.7	7.2	3.5	-14.4	6.4	8.0
Teacher[4]	-9.3	9.3	-2.9	.2	2.8	-24.3	18.8	5.5
Manager/proprietor	-18.5	18.5	-6.4	5.2	1.2	-7.5	10.3	-2.7
Craftsman/operative	1.8	-1.8	-3.9	.3	3.5	-3.0	1.4	1.5
Clerical/sales	4.9	-4.9	-8.5	5.1	3.5	.1	8.0	-8.2
Service	4.6	-4.6	-7.1	3.4	3.7	-6.2	6.1	.0
Farmer and farm laborer	-2.1	2.1	-6.4	2.1	4.2	-6.2	.6	5.6
Military	-7.6	7.6	-22.3	16.7	5.6	-17.3	7.4	9.9

[1]The "other" classification includes Asian or Pacific Islander and American Indian/Alaskan Native.

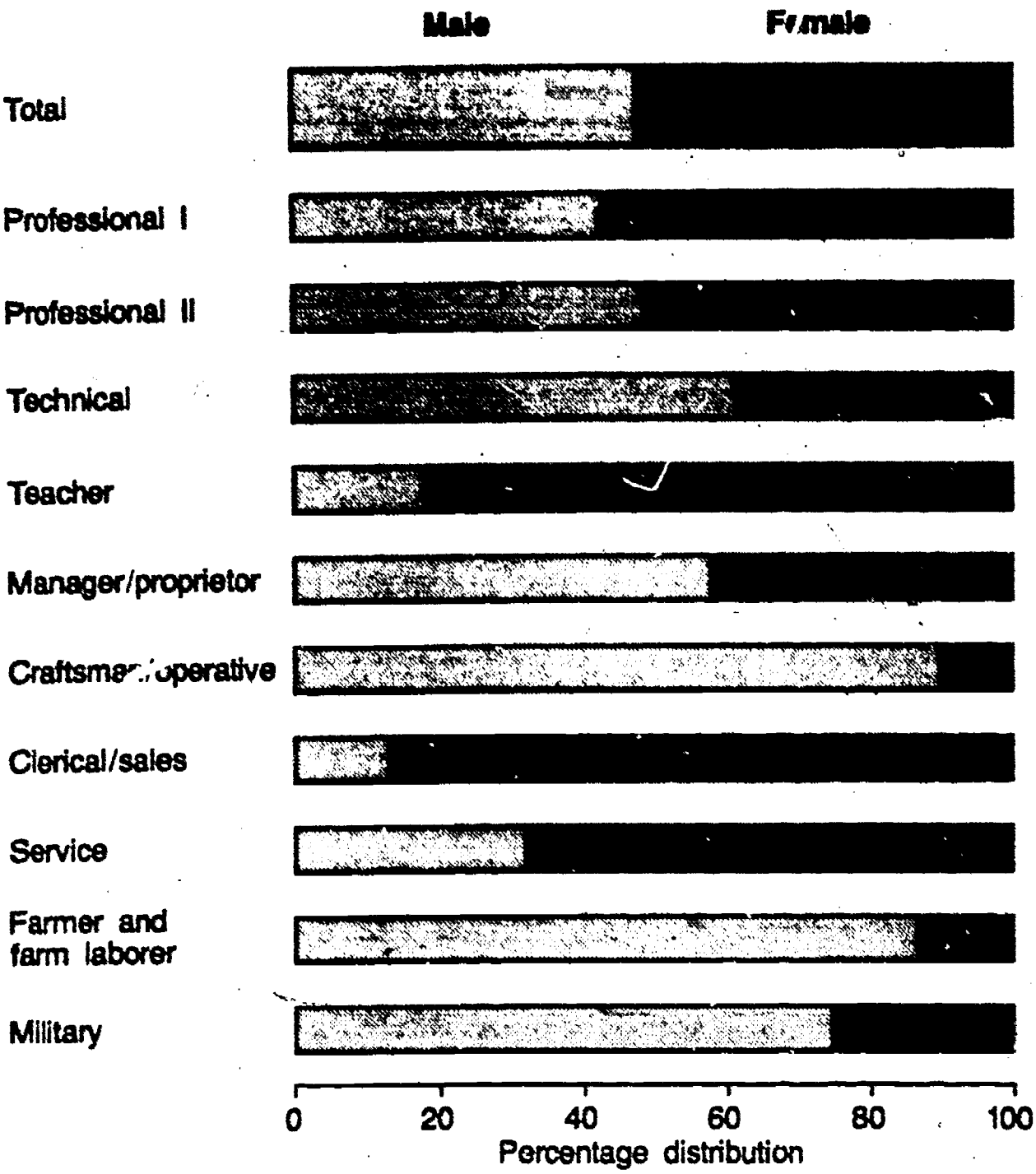
[2]The professional I category includes the occupations of accountant, architect, engineer, and librarian.

[3]The professional II category includes the occupations of chemist, dentist, judge, lawyer, mathematician, physician, statistician, and college or university teacher.

[4]The teacher category includes all teachers except those in colleges and universities.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 and High School and Beyond, unpublished tabulations (January 1984).

Occupational Plans of 1980 High School Seniors



Occupational plans of high school seniors followed sex stereotypes less in 1980 than in 1972. However, large differences remained in the choice of teaching and in technical and skilled occupations.

Source and Reliability of Estimates

The information presented in this report was obtained from many sources, including Federal and State agencies, private research organizations, and professional associations. The data were collected using several research methods including surveys of a universe (such as all colleges) or of a sample, compilations of administrative records, and statistical projections. A description of the information source and methods of data collection used for each data set is presented by each sponsoring organization in the following subsections, preceded by a general discussion of data accuracy.

Accuracy of Data

The accuracy of any data is determined by the joint effects of sampling and nonsampling errors. Estimates based on a sample will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. The resulting differences are called sampling errors or sampling variability. In addition, all surveys, both universe and sample, are subject to design, reporting, and processing errors, and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are less gaugeable than those produced by sampling variability.

The standard error is the primary measure of sampling variability. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 90 out of 100 that the difference would be less than 1.65 times the standard error; about 95 out of 100 that the difference would be less than 1.96 times the standard error; and about 99 out of 100 that it would be less than 2.5 times as large. Thus, the standard error provides a specific range with a stated confidence within which a given estimate would lie if a complete census had been conducted.

To illustrate this further, consider the table A1 of standard errors and 90 percent confidence intervals for estimates from the High School and Beyond (HS&B) sample. For an estimate of 30 percent of males participating in a program, the table shows that the standard error is 0.6 percent. This means that the chances are about 68 out of 100 that the 30 percent estimate is within 0.6 percent of the percent that could result from a complete census. Therefore, the 68 percent confidence interval is 29.4 to 30.6. In order to increase our confidence to 90 percent, we would have to use 1.65 times the standard error or 0.99 percent. Therefore the 90 percent confidence interval (rounded to tenths of a percent) would then be 29.0 to 31.0, which is the interval shown in the table.

A similar statement can be made concerning an estimated difference. The standard error of a difference between two sample estimates is approximately equal to the square root of the sum of the squared standard errors of the estimates. The standard error of a difference, a-b, is in fact:

$$s.e._{a-b} = \sqrt{s.e.^2_a + s.e.^2_b - 2s.e._{ab}}$$

It should be noted that the standard errors presented in subsequent sections and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

The preceding discussion on sampling variability was directed toward a situation concerning one or two estimates. A more difficult situation is encountered when determining the accuracy of statistical projections. In general, the further away from the actual data being used for the projections, the greater the variability in the projection. That is, if annual data from 1970 to 1983 are being used to project enrollment in institutions of higher education, the further away from 1983 one gets, the more variability in the projection. One is less sure of the 1993 projection of enrollment in institutions of higher education than the 1986 projection. A detailed discussion of the projections methodology is contained in *Projections of Education Statistics to 1992-93*, 1985.

Sources of Information

A large number and variety of sources were used as the basis of information for this report. Particular care should be taken in comparing data from the different sources. Differences in procedures, timing, phrasing of questions, interviewer training, and so forth, mean that the results from the several sources are not strictly comparable. The information in this report comes from the following different sources identified by the sponsoring agency or organization. Government sources are presented first, followed by private research and professional associations. It should be noted that more extensive documentaiton of survey procedures does not imply more problems with the data, only that more information is available on certain surveys than on others.

National Center for Education Statistics

Common Core of Data

The Common Core of Data (CCD) survey is a coordinated effort administered by the National Center for Education Statistics (NCES) to acquire and maintain statistical data on the 50 States, the District of Columbia, and the outlying areas. The CCD survey is a universe survey of State education agencies and the education agencies of the District of Columbia and outlying areas. Information is collected annually on staff and students at the school, LEA, and State levels. Revenues and expenditures are collected at the LEA and State levels.

Since the CCD is a universe survey, the information presented in this report from the CCD is not subject to sampling error. However, nonsampling error could occur from two possible sources—nonreturn and misreporting. In the case of CCD, nonreturn is minimal, with education agencies submitting almost all of the six survey instruments each year.

With the submission of data for over 85,000 public schools and approximately 15,800 local school districts compiled by 57 education agencies, the opportunity does exist, however, for misreporting. NCES attempts to minimize these errors by working closely with the Council of Chief State School Officers (CCSSO) and its Committee on Evaluation and Information Systems (CEIS).

Upon receipt of the data at NCES from the education agencies, the data are subjected to a comprehensive edit procedure. In cases where data are determined to be inconsistent, missing or out-of-range, the education agencies are contacted for verification and when necessary, revisions are made.

As in any questionnaire survey, interpretation of instructions and definitions may vary among respondents. Because elementary/secondary education is a State and local responsibility, any statistical total for the Nation as a whole reflects a composite of the different reporting practices in the States and areas. The use of standard forms and definitions tends to minimize these variations. Whenever State deviations from prescribed definitions and instructions are known, they are indicated in the footnotes. The State education agencies report data to NCES from data collected and edited in their regular reporting cycles for which they are reimbursed by NCES. NCES encourages the agencies to incorporate NCES items they do not already collect into their own survey systems where they will also be available for the subsequent CCD survey. The result over time has been fewer missing cells in each State's response with a lessening need to impute data.

If questions arise concerning the Common Core of Data they can be directed to:

Warren A. Hughes, Sr.
Institutional Surveys Branch
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

Fast Response Survey System

Survey of Remedial/Developmental Studies in Institutions of Higher Education, 1984

The Fast Response Survey System (FRSS) was established by NCES so that education data, needed within the Department of Education (ED) for planning and policy formulation, could be collected quickly and with minimum burden on respondents. FRSS provides preliminary estimates in as little as 4 months after the questionnaire has been developed. It accomplishes this by using small, preselected, general-purpose national samples, prearranged data collection procedures, and short, easily answerable questionnaires. Since the inception of the FRSS, 21 surveys have been conducted.

The survey of remedial/developmental courses in institutions of higher education was requested by the Office of the Under Secretary of the Department of Education to collect national data on the extensiveness and characteristics of remedial programs for entering freshmen. In August 1984 questionnaires were mailed to a stratified random sample of approximately 500 institutions of higher education. The response rate was 96 percent. The estimates were adjusted for non-response and measures of precision were calculated. The precision of an estimate can be measured by its coefficient of variation (C.V.) which is the ratio of the standard error of an estimate to the estimate itself. Generally, CV's for estimates, or for numbers in the table, are about 5 percent, ranging from 2 percent for estimates based on the total U.S. to 7 percent for subsets of the total U S.

For further information about FRSS in this particular study, contact:

Douglas A. Wright
Fast Response Survey System
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

1983-84 Private School Survey

The 1983 Private School Survey was conducted by Westat for the National Center for Education Statistics. The survey was carried out in two parts, one based on a "list" frame, and one based on an "area" frame. The area frame was used under the assumption that the lists available to NCES were not entirely comprehensive, and that list building techniques applied to a sample of Census areas would reveal some additional private schools.

NCES started with the most complete list available, which was comprised of some 21,000 schools, and conducted an update effort in 1983, based on review of new directories and other published sources. This effort resulted in a list of just under 27,000 schools. This frame was then stratified into 12 strata based on various combinations of religious affiliation and school level. A systematic sample of 1,320 schools was selected with probabilities equal to the square root of the enrollment of the school divided by the sum of the square roots of enrollment for all of the schools in the stratum. Inflating this sample provided an estimation universe, which was subsequently reduced by removing the estimated numbers of duplicates, non-respondents, coding errors, and ineligibles. The final estimated list universe of schools was 21,710. After follow-up procedures, the final response rate for the information presented here was 93 percent with little variation by affiliation category.

For the area sample, the basic frame was a list of all counties reported from the 1980 Census, adjusted so that independent cities were treated as counties and smaller counties were combined with other contiguous counties. This produced a list of 2,497 sampling units. These sampling units were stratified according to the four Census regions, in or out of a Standard Metropolitan Statistical Area (SMSA), and above or below the median private school enrollment for that region and SMSA status, yielding 16 strata. The final sample was a systematic one comprised of 75 sampling units, 8 of which were drawn with certainty based upon populations exceeding 1.7 million in the 1980 Census. The remaining units were selected with probabilities proportionate to the square root of the population of the unit within the stratum.

For each of the sampling units in the area design, nonoverlapping (with the list frame) schools were sought by reviewing directories of various types, e.g., local, private school organizations, telephone directories, and by telephone contacts with officials, churches, chambers of commerce, and selected vendors such as milk companies. These procedures produced 901 schools which met NCES criteria as functioning private schools. Survey and follow-up produced a response rate of 88 percent. When weighted, these data inflated to approximately 6,000 schools nationally. Since the area frame was designed to be nonoverlapping with the list frame, results for the area sample were combined with those for the list sample.

Additional information is available from:

Jeffrey Williams
Elementary and Secondary Education Analysis Branch
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

Teacher Demand and Shortage Survey

The 1983-84 Survey of Teacher Demand and Shortage was conducted by the Research Triangle Institute of North Carolina, under contract with the National Center for Education Statistics. During the 1983-84 school year, survey forms were sent in December of 1983 to a statistically selected sample of 2,540 of the approximately 15,300 public education agencies and to 1,000 of the approximately 27,000 private schools in the Nation. Useable responses were received from 2,263 public education agencies and 809 private schools. The responses were appropriately weighted and multiplied to provide estimates for each of the groupings specified on the tables. Estimates with very large sampling errors have been noted on the tables and readers are cautioned about drawing interpretations from data based on small samples. Detailed sampling error tables are available from the project officer.

Persons requiring more detailed information on this survey should contact the survey project officer:

John Sietsema
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

Higher Education General Information Survey

The Higher Education General Information Survey (HEGIS) is a coordinated effort administered by the National Center for Education Statistics (NCES). Its purpose is to acquire and maintain statistical data on the characteristics and operations of institutions of higher education. HEGIS,

developed in 1966, is an annual universe survey of institutions listed in the latest *Education Directory, Colleges and Universities.*

The information presented in this report draws on HEGIS surveys which solicit information concerning institutional characteristics, faculty salaries, finances, enrollment, and degrees. These surveys are part of the overall HEGIS package and as such cover all institutions in the universe. The data presented, therefore, are not subject to sampling error but are subject to nonsampling error. Due to the differing information solicited by the various survey instruments, the sources of nonsampling errors differ. Each survey will therefore be discussed separately. A validation study, "HEGIS Post-Survey Validation Study," was conducted for two HEGIS surveys, enrollment and degrees, in 1979. The information concerning the nonsampling error of these two surveys presented in this appendix draws considerably on this study.

Institutional Characteristics of Colleges and Universities

The Institutional Characteristics Survey provides the basis for the universe of institutions presented in the *Education Directory, College and Universities,* and used in all other HEGIS data collection activities. The universe is comprised of institutions that offer at least a 1-year program of college-level studies leading toward a degree and that meet certain accreditation criteria. In the fall, institutions included in the *Directory* the previous year receive a computer printout of their information with a request to update. Institutions not previously included that have applied for *Directory* listing are sent a questionnaire form. All institutions reported are certified as eligible to be listed by the Division of Eligibility and Agency Evaluation within the U.S. Department of Education.

Opening Fall Enrollment in Institutions of Higher Education

Opening Fall Enrollment in Institutions of Higher Education has been part of the HEGIS series since its development. The enrollment survey, as with the HEGIS degree survey, does not appear to suffer significantly from problems of nonreturn. The major sources of nonsampling error for this survey come from classification problems, availability of needed data, interpretation of definitions, the survey due date, and operational errors. Of these, the classification of students appears to be the main source of error. Institutions have problems in correctly classifying first-time freshmen, other first-time students, and unclassified students for both full-time and part-time categories. These problems are more evident at 2-year institutions (both private and public) and the private 4-year institutions. In 1977-78 the classification problem led to an estimated overcount of 11,000 full-time students and an undercount of 19,000 part-time students. Although the percentage of error for the grand total was quite small (less than 1 percent), the percentage of errors for detailed student levels might be as high as 5 percent or even higher at certain student levels.

Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty

The Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty survey has been collected every year since 1966, except for 1973-74. Although the survey form has changed a number of times during these years, only comparable data are presented in the report. The data are collected from the colleges and universities in a summary fashion.

This survey differs from other HEGIS surveys in that imputations are not made for nonrespondents. Thus, there is some possibility that the salary averages presented in this report may differ from the results of a complete enumeration of all colleges and universities. The response rate for the 1981-83 survey was 89.7 percent. The response rate for public colleges of 97.9 percent was substantially higher than the response rate for private colleges of 82.9 percent. It is probable that the public colleges' salary data are more accurate than the data for private colleges. Other sources of nonsampling error include computational errors and misclassification in reporting and processing.

NCES checked data reported by the individual colleges for internal and longitudinal consistency. The colleges were contacted by mail or telephone to check on inconsistent data.

Degrees and Other Formal Awards Conferred

The Degrees and Other Formal Awards Conferred survey has been part of the HEGIS series since its development. For the 1970-71 survey, however, the taxonomy was changed. The information from survey years 1970-71 through the present is therefore directly comparable, but care must be taken if information before this date is included in any com-

parison. The nonreturn rate does not appear to be a significant source of nonsampling error for this survey. The return rate over the years has been extremely high, with the rate for years 1977-78 and 1978-79 at 100 percent. Because of the high return rate, nonsampling error caused by imputation would also be minimal.

The major sources of nonsampling error for this survey are: differences in the HEGIS program taxonomies and taxonomies used by the school; classification of double majors and double degrees; operational problems; and timing of the survey. In the validation study conducted in 1979, it was found that the sources of nonsampling error noted above contributed to an error rate of 0.3 percent overreporting of bachelor's degrees and 1.3 percent overreporting of master's degrees. The differences, however, varied greatly among fields. Over 50 percent of the fields selected for the study had no errors identified. The major categories of fields that had large differences were: business and management, education, engineering, letters, and psychology. It is also shown that differences in proportion to the published figures were less than 1 percent for most of the selected fields that had some errors. Exceptions to these were: master's and Ph.D. programs in labor and industrial relations (20 percent and 8 percent), bachelor's and master's programs in art education (3 percent and 4 percent); bachelor's and Ph.D. programs in business and commerce, and distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and Ph.D. programs in psychology (11 percent).

Financial Statistics of Institutions of Higher Education

The Financial Statistics of Institutions of Higher Education survey has been part of the HEGIS series since its development. A number of changes were made in the financial survey instruments in 1975. While these changes were significant, only comparable information on trends is presented in this report. Other possible sources of nonsampling error in the financial statistics are nonresponse, imputation, and misclassification. The response rate has been over 90 percent for the years reported. Two general methods of imputation have been used: (1) if prior year's data were available for a nonresponding institution, these data were inflated using the Higher Education Price Index and adjusted according to changes in enrollments; or (2) if no previous year's data were available, current data were used from peer institutions selected for location (State or region), control, level, and enrollment size of institution. For the most recent year reported, the imputation method did not include the adjustment for changes in enrollments. It should be noted that the imputed current funds expenditures of the nonrespondents are less than 3 percent of the aggregate U.S. total.

To reduce reporting error, NCES uses national standards for reporting finance statistics. These standards are contained in *College and University Business Administration: Administrative Services (1974 Edition),* published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accoutants; and *HEGIS Financial Reporting Guide (1980),* by NCES. Wherever possible, definitions and formats in the survey form are consistent with those in these three accounting texts.

If questions exist concerning the surveys used as data sources for this report, or if other questions arise concerning HEGIS, they can be directed to:

Curtis O. Baker
University and College Surveys and
Studies Branch
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

National Longitudinal Study of the High School Class of 1972

The National Longitudinal Study (NLS) of the High School Class of 1972 periodically queries a national sample of the 1972 high school seniors to chart their educational, vocational, and personal development. NLS was initiated in the spring of 1972 by NCES. Over 1,000 public and private schools and nearly 18,000 students participated. Four follow-up surveys have been conducted since the 1972 base-year survey, in the fall of 1973, 1974, 1976, and 1979.

The original sample design was a deeply stratified two-stage probability sample with schools as first-stage sampling units and students as second-stage units. The first-stage sampling frame was constructed from computerized school files maintained by the Office of Education and by the National Catholic Education Association. Three strata were created: (1) schools in low income areas or with high black enrollments; (2) schools with large enrollments; and (3) schools with small enrollments. Within the first stratum,

schools were selected at twice the simple random sampling rate to ensure that the number of black students would be adequate for policy analysis. Within each of the other two strata, schools were selected at a fixed rate proportional to the total enrollment in that stratum. From each selected school, 18 students were randomly chosen to participate. The samples represent the Nation's 12th grade enrollment in 1972 in all public and private schools.

The main source of nonsampling error in a longitudinal study is usually the decrease in return rates over time. With NLS, 948 of the 1,200 primary sample schools participated in the base-year survey. Of the remainder, 21 had no seniors enrolled, and 231 either refused to participate or could not because they had received the request too late in the school year. In the summer of 1973, NCES made further attempts to secure the participation of the 231 schools that had not participated in the base-year survey, and to replace the 21 schools that had no seniors.

The "resurvey" activity, initiated prior to the first follow-up survey, involved securing school cooperation, choosing random samples of up to 18 former 1972 seniors per school, and then securing the last known addresses of those selected. This activity was successful in 205 of the 231 primary sample schools; thus, students from 1,153 of the 1,200 primary sample schools were included in the first follow-up survey. Also, an additional sample of 200 school districts was contacted during the base year to identify public schools not included in the original school sampling frame. Forty-five such schools were identified, and 23 of these were randomly selected as an "augmentation" sample to compensate for base-year undercoverage. Samples of former 1972 seniors from 16 of these augmentation schools participated in the first and subsequent follow-up surveys.

Due to the complexities of the base-year data collection, both unequivocal base-year data availability rates and subsequent follow-up response rates are difficult to compute. However, using the augmented base-year sample, the return rates were quite high.

Among the 16,683 individuals responding to the base-year questionnaire, the percentages also responding in the first, second, third, and fourth follow-up were approximately 94, 93, 89, and 83 percent, respectively. Of the 21,350 first follow-up questionnaire respondents, 95, 91, and 84 percent also responded to the second, third, and fourth follow-up, respectively. Sample retention among the 20,782 second follow-up respondents was 94 percent for the third follow-up and 87 percent for the fourth. Approximately 91 percent of the 20,092 third follow-up respondents also responded in the fourth follow-up.

Another area of possible nonsampling error in the NLS estimates is that of sample weights and nonresponse adjustments. Since students were selected with unequal probability, simple weighted tabulations could be misleading; thus, sample weights were computed for each student. The unadjusted sample weights were calculated as the inverse of sample inclusion probabilities, which are a function of the school selection probabilities and the student selection probabilities within school. Such calculations were difficult due to the several *post hoc* redefinitions of the sample; however, appropriate weighting was accomplished.

To provide better estimates of the attributes of this population, it was necessary to address the problem of compensating for instrument nonresponse. This was accomplished through weight adjustments. Because of the various sample redefinitions and augmentations, several sets of adjusted weights were computed. The general procedure used was a weighting-class approach, which distributes the weights of nonrespondents to respondents most like them. Weighting classes were defined by several survey classification variables: race, sex, high school curriculum, high school grades, and parents' education. Differential response rates for students in different weighting classes were reflected in this adjustment.

In addition to the nonresponse adjustment, the problem of nonresponse was addressed by identifying 88 critical questions. Special effort was then made to contact participants who failed to respond to these items in their questionnaires.

Estimates of the sampling errors for the NLS were calculated as a joint function of the estimated percentage and the sample size for the percentage base (denominator). The actual standard error estimate for a percentage from the complex stratified multistage NLS sample is inflated over the standard error estimate that would have been obtained had a simple random sample of students been selected. The estimated standard errors ranged from 1.19 to 6.00 for a sample size equal to 100 and estimated percentages of 1 (or 99) to 50; and standard errors ranged from 0.08 to 0.42 for a

sample size equal to 20,000 and the same estimated percentages.

Questions concerning the NLS can be directed to:

Andrew Kolstad
Longitudinal Studies Branch
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

High School and Beyond

High School and Beyond (HS&B) is a national longitudinal survey of 1980 high school seniors and sophomores conducted by NCES. A probability sample of 1,015 high schools was selected with a target number of 36 seniors and 36 sophomores in each of the schools. A total of 58,270 students participated in the base-year survey. Substitutions were made for noncooperating schools in those strata where it was possible, but not for students. Student and parent refusals and student absences resulted in an 84 percent completion rate for students. This refers to the overall return rate of the survey and not the completion rate of each item within the survey.

Several small groups in the population were oversampled to allow for special study of certain types of schools or students. Students completed questionnaires and took a battery of cognitive tests. In addition, a sample of parents of sophomores and seniors (about 3,600 for each cohort) was surveyed.

Nonresponse can come from the 9 percent school nonresponse, a 16 percent student nonresponse, and the nonresponse rates for given items. The nonresponse rates by item for those students returning a survey range from a low of 0.3 percent (questioning if the student expects to graduate) to a high of 21 percent (concerning family income). Examples of the sampling variability in the estimates from the HSB survey are given in table A1.

The standard error (s.e.) of an individual percentage (p) can also be approximated by the formula $s.e.(p) = 1.6/p(100-p)/n$ where n is the sample size and 1.6 is a factor used to adjust for the particular sample design used in High School and Beyond. In evaluating a difference between two percentages, the standard error of the difference may be conservatively approximated by taking the square root of the sum of the squared standard errors of the two percentages. For example, the estimated percentage of seniors in the Northeast enrolled in academic programs was 51 percent while the estimate for seniors in the South was 33 percent, a difference of 18 percentage points. Using the formula and the sample sizes from the table, the standard errors of the two percentages being compared are calculated to be:

$$1.6\ \sqrt{(51)\ (49)/5{,}587} = 1.1$$

$$1.6\ \sqrt{(33)\ (67)/9{,}142} = 0.8$$

The standard error of the difference is therefore

$$\sqrt{1.1^2 + 0.8^2} = \sqrt{1.21 + 0.64} = 1.4$$

The sampling error (95 chances in 100) of the difference is double the standard error, or approximately 3 percentage points, and the 95 percent confidence interval for the difference is 18 ± 3 or 15 to 21 percentage points.

As part of the first followup survey of High School and Beyond, transcripts were requested in fall 1982 for an 18,152-member subsample of the sophomore cohort. Of the 15,941 transcripts actually obtained, 1,969 were excluded because the students had dropped out of school before graduation, 799 were excluded because they were incomplete, and 1,057 transcripts were excluded because either the student graduated before 1982 or the transcript indicated neither a dropout status nor graduation. Thus, 12,116 transcripts were utilized for the overall curriculum analysis. All courses in each transcript were assigned a 6-digit code based on *A Classification of Secondary School Courses* (CSSC) which was developed by Evaluation Technologies, Inc. under contract with NCES. The number of credits earned in each course was expressed in Carnegie units. The Carnegie unit is a standard of measurement that represents one credit for the completion of a 1-year course. To receive credit for a course, the student must have received a passing grade (pass, D, or higher). Students who transferred from public to private schools or from private to public schools between their sophomore and senior years were eliminated from public/private analyses.

The High School and Beyond survey included a cognitive test battery that was administered to the students. The 1980 sophomore cohort took the same battery of cognitive tests in both the base year (1980) and the follow-up (1982). The test battery comprised six tests which covered the areas of reading, vocabulary, writing, mathematics, science and

civics education. These tests were constructed by the Educational Testing Service from their question pool.

The analysis of the reading, science, and mathematics tests presented in this report was based on 19,404 sophomores of 1980 who also took the follow-up test in 1982. The reading test focused on straightforward comprehension, but also required the use of both analytic and interpretive skills. The science test was a brief assessment of science knowledge and scientific reasoning ability. The mathematics test contained two parts: one required the use of basic arithmetic computation skills; the other tested problem-solving abilities and higher-level mathematical skills (application).

The Hispanic analyses presented in this report relied on students' self identification to classify respondents as members of the various Hispanic subgroups. The classification was based on respondents' answers to the following questions: "What is your origin or descent? (If more than one, please mark below the one you consider the most important part of your background) (MARK ONE)." Under the heading Hispanic or Spanish, four possible answers were listed: 1) Mexican, Mexican-American, Chicano; 2) Cuban, Cubano; 3) Puerto-Rican, Puertorriqueno or Boricua; 4) Other Latin American, Latino, Hispanic, or Spanish descent (WRITE IN).

If questions arise concerning the High School and Beyond study, contact:

Jeffrey Owings
Longitudinal Studies Branch
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

Second International Mathematics Study

The Second International Mathematics Study was organized under an association of research institutes in about 24 countries known as the International Association for Evaluation of Educational Achievement (IEA). Sample surveys of two population groups were conducted during the 1981-82 school year in 20 countries. Data were collected from school administrators, teachers, and students.

Population A included all students in the grade where the majority of students had attained the age of 13.0 to 13.1 years by the middle of the school year. In all countries, school enrollment is nearly universal at that age and represents the final year of elementary school for most countries. For the United States, population A was the eighth grade. For Japan, the seventh grade was chosen for

Table A1

Standard Errors of the Estimated Percent Participating in Selected Programs of the High School and Beyond Study

Subgroup	Estimated Percent	Standard Error of Estimated Percent	90 Percent Confidence Interval
All students or whites.....	10 (or 90)	0.3	9.5-10.5(89.5-90.5)
	30 (or 70)	.4	29.3-30.7(69.3-70.7)
	50	.5	49.2-50.8
Males or females.....	10 (or 90)	.4	9.4-10.6(89.4-90.6)
	30 (or 70)	.6	29.0-31.0(69.0-71.0)
	50	.6	49.0-51.0
Blacks.....	10 (or 90)	.7	8.8-11.2(88.8-91.2)
	30 (or 70)	1.1	28.2-31.8(68.2-71.8)
	50	1.2	48.1-51.9
Hispanics.....	10 (or 90)	.8	8.7-11.3(88.7-91.3)
	30 (or 70)	1.2	28.0-32.0(68.0-72.0)
	50	1.3	47.8-52.2

study because the cognitive mathematics tests were more appropriate for that grade level.

Population B was defined as all students who were in the terminal grade of secondary education and who were studying mathematics as a substantial part of their academic program. These students were taking at least 5 hours of mathematics classes each week. In the United States, classes of pre-calculus and calculus were chosen. These classes represented about 12 percent of the total age group. In other countries, population B represented between 6 and 50 percent of the age group.

Altogether, about 20 country educational systems participated in the population A survey and 15 systems participated in the population B survey. The sample sizes for these 35 samples ranged from 1,000 to 8,800 students.

Further information on the sampling methodology and response rates is available from:

Larry E. Suter
International Education Statistics Program
National Center for Education Statistics
1200 19th St., NW.
Washington, D.C. 20208-1402

National Institute of Education

Graduate Record Examinations and Professional School Admission Test Score Changes

The National Institute of Education (NIE) has analyzed changes over two decades in performance on graduate and professional school admissions tests. Approximately 25 to 30 percent of the potential pool of U.S. college graduates and soon-to-be graduates take these tests. The 23 types of tests examined included tests of general learned abilities and tests of advanced achievement in 15 specific subject areas. For most of these tests, the analysis covered the years 1964 to 1982. Test takers, although not statistically representative of all graduates, do comprise a significant sample, and their performance can be used as one indicator of the changing quality of student learning in U.S. higher education.

In the NIE analysis, change is measured against the mean standard deviation for a specific time period. Standard deviation units are a far more accurate way of measuring change in performance over time for these tests than either points or percentages, principally because: (a) no two of these examinations have the same scales, and (b) the standard deviation accounts for the different characteristics of many groups of students who took these examinations over a long period of time.

Those interested in further information may refer to the National Institute of Education publication, *The Standardized Test Scores of College Graduates, 1964-1982*, 1985, or contact:

Clifford Adelman
National Institute of Education
1200 19th Street, NW.
Washington, D.C. 20208-1402

National Assessment of Educational Progress

The National Assessment of Educational Progress (NAEP) is a project funded by the National Institute of Education. The overall goal of the project is to determine the Nation's progress in education. To accomplish this goal, a cross-sectional study was designed and initially implemented in 1969. Each year NAEP has gathered information about levels of education achievement across the country. NAEP has surveyed the education attainments of 9-, 13-, and 17-year-olds and young adults (ages 25-35) in 10 learning areas. Different learning areas have been assessed every year, and all areas have been periodically reassessed in order to measure possible changes in education achievement.

The reading assessment presented in this publication was designed by the Education Commission of the States and conducted by the Educational Testing Service. Multistage probability samples were used. The primary sampling units were stratified by region, and within region, by State, size of community, and for the two smaller sizes of community strata, by socioeconomic level. Assessment exercises were administered either to individuals or small groups of students by specially trained personnel.

Information from NAEP is subject to both nonsampling and sampling error. Two possible sources of nonsampling error are nonparticipation and instrumentation. Nonparticipation is held to a minimum through oversampling, although this does not assess the bias of nonparticipants. Instrumentation nonsampling error concerns whether the NAEP assessment instruments measure what is being taught and in turn what is being learned by the students.

If questions exist concerning NAEP, contact:

National Assessment of Educational Progress
P.O. Box 2923
Princeton, New Jersey 08541

Office for Civil Rights

Civil Rights Survey of Elementary and Secondary Schools

The Fall 1982 Civil Rights Survey of Elementary and Secondary Schools was conducted to obtain data on the characteristics of students enrolled in public schools throughout the Nation. The information is required by the U.S. Education Department's Office for Civil Rights (OCR) to fulfill its responsibilities under Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. Some 5,000 school districts and 51,000 individual schools participated. School districts were not randomly selected; rather, districts warranting continued monitoring based on the 1978 survey were chosen as well as a random sample of remaining districts with at least 300 students.

Further information is available from:

Nancy Russell
Surveys Branch
Office for Civil Rights
400 Maryland Avenue SW.
Washington, D.C. 20202

Bureau of the Census

Current Population Survey

Estimates on school enrollment as well as social and economic characteristics of students are based on data collected in the Census Bureau's monthly household survey. The monthly Current Population Survey (CPS) sample consists of 614 areas, comprising 1,113 counties, independent cities, and minor civil divisions throughout the 50 States and the District of Columbia. The sample was initially selected from the 1970 census files and is periodically updated to reflect new housing construction when possible.

The monthly CPS deals primarily with labor force data for the civilian noninstitutional population (excludes military personnel and their families living on post and inmates of institutions). In addition, supplemental questions are asked about the education of all eligible members of the household. These questions in the October 1982 survey obtained information on highest grade completed, level of current enrollment, attendance status, number and type of courses, degree or certificate objective, and organizational type offering instruction.

The estimation procedure employed for the monthly CPS data involves the inflation of weighted sample results to independent estimates of characteristics of the civilian noninstitutional population in the U.S. by age, sex, and race. These independent estimates are based on statistics from decennial censuses; statistics on births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces. Generalized standard error tables are provided in the *Current Population Reports.*

Further information is available from:

Susan Hill
National Center for Education Statistics
1200 19th Street, NW.
Washington, D.C. 20208-1402

Quarterly Summary of Federal, State and Local Tax Revenue

State tax revenue data shown in this report are collected as part of the Quarterly Summary of Federal, State and Local Tax Revenue through mailed surveys of appropriate State offices. In some instances, data were compiled by the Bureau of the Census from official State records.

The concept of "taxes" is comprised of all compulsory contributions exacted by a government for public purposes, except employer and employee assessments for retirement and social insurance purposes, which are classed as insurance trust revenue. Outside the scope of this report are collections for the unemployment compensation "taxes" imposed by each of the State governments and the District of Columbia. Included, however, are all receipts from licenses and compulsory fees, including those imposed for regulatory purposes, as well as those designed to provide revenue.

Data are subject to possible inaccuracies in classification, response, and processing. Care is taken to keep such errors to a minimum in examining, editing, and tabulating the data.

More detailed figures on State tax revenues, with definitions of particular types of taxes, appear in the annual reports,

State Government Tax Collections and *State Government Finances*.

Further information is available from:

Donna Hirsch
Governments Division
Bureau of the Census
Washington, D.C. 20233

Market Data Retrieval

Market Data Retrieval is a market research company that compiles mailing lists of school and school districts. They also conduct special analyses of characteristics of schools. In the last few years they have conducted surveys of computer use in public and private schools.

During the annual summer survey of public school districts, Market Data Retrieval included questions on the number of schools using computers. All the school districts were contacted about the number of their schools using computers. In the fall, an additional mail survey was conducted to gather more information on the number and type of computers being used. Data on computer utilization were reported for 86 percent of public schools. These data were used to generate State by State estimates which were aggregated to construct a national total.

Private school data were compiled through mail and telephone surveys during the middle of the 1982-83 and 1983-84 school years. The 1983-84 response rate for the Catholic schools was 96 percent and the rate for the other private schools was 89 percent.

Further information on these surveys may be obtained from:

Ginny Cardozo
Market Data Retrieval
Ketchum Place
Westport, Connecticut 06880

National Center for Education Information

Teacher Certification Survey

In June 1984, the National Center for Education Information (NCEI) conducted a teacher certification survey of directors of teacher education and certification in State departments of education. The research was carried out as part of a larger project examining teacher preparation. The mailed questionnaire collected information from States about teacher graduates, certification of classroom teachers, and the status of the States on current issues relating to teachers. One follow-up mailing was sent to the States that did not respond and later phone calls were made to collect missing data from all States. All States and D.C. responded to the survey. Additional information on the survey results is available in the NCEI report, *The Making of A Teacher*, or by contacting:

C. Emily Feistritzer
National Center for Education Information
Suite 707
1901 Pennsylvania Avenue, NW.
Washington, D.C. 20006

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports revenue and expenditure data in its annual publication, *Estimates of School Statistics*. Each year, NEA prepares regression-based estimates of financial and other education statistics that are submitted to the States for verification. Generally, about 30 States adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA.

The School Finance Project of the U.S. Department of Education used revised estimates of financial data prepared by NEA because it was the most current source. Expenditure data reported to NCES must be certified for use in Department of Education formula grant programs, such as Chapter I of the Education Consolidation and Improvement Act. As a result, NCES data are not available as soon as NEA estimates. In order to be consistent, therefore, NEA's data were used throughout the period studied by the School Finance Project.

If questions exist concerning the NEA estimates, they can be directed to:

National Education Association—Research
1201 16th Street NW.
Washington, D.C. 20036

Status of the American Public School Teacher

Status of the American Public School Teacher is a survey conducted every 5 years by the National Education Association (NEA). The survey was designed by the NEA Research Division and initially administered in 1956. The intent of the survey is to solicit information covering various aspects of public school teachers' professional, family, and civic lives.

Selection of participants for the survey is accomplished using a two-stage sample design, with the first stage stratum being determined by the number of students enrolled in the districts. Selection probabilities are determined so that the resulting sample is self-weighting. In 1980-81, a sample of 1,768 was selected from the approximately 2,185,000 public school teachers and 1,326 usable replies were obtained. This yielded a response rate of 75 percent.

Possible sources of nonsampling errors are nonresponses, misinterpretation, and, when comparing data over years, changes in the sampling method and instrument. Misinterpretation of the source items should be minimal, as the sample responding is not from the general population but one knowledgeable about the area of concern. With the sampling procedure changed after 1956, and some wording of items changed over the different administrations, care is taken to present only comparable data.

Since sampling is used, sampling variability is inherent in the data. An approximation to the maximum standard error for estimating the population percentages is 1.4 percent. To estimate the population percentage with 90 percent confidence, the maximum standard error of 1.4 percent is multiplied by 1.65 (0.014 x 1.65 = 0.023) to produce the largest error associated with any single sample proportion (2.3 percent). For example, if a sample percentage is 60 percent, there is a 90 percent chance that the population percentage lies between 57.7 percent and 62.3 percent (60 percent ± 2.3 percent). If comparisons of two percentages are to be made, table A2 gives maximum differences for significance at the 90-percent-confidence level.

If questions exist concerning the Status of the American Public School Teacher Survey, they can be directed to:

Suzanne Edgar
National Education Association
Research Division
1201 16th Street, NW.
Washington, D.C. 20036

Child Trends, Inc.

The National Survey of Children

The first wave of the *National Survey of Children* was

Table A2

Maximum Differences Required for Significance (90-Percent-Confidence Level) Between Sample Subgroups of the Status of the American Public School Teacher Survey

Size of One Subgroup	Size of Other Subgroup						
	100	200	300	400	500	600	700
100	11.6	10.1	9.5	9.2	9.0	8.9	8.8
200	10.1	8.2	7.5	7.1	6.9	6.7	6.6
300	9.5	7.5	6.7	6.3	6.0	5.8	5.7
400	9.2	7.1	6.3	5.8	5.5	5.3	5.2
500	9.0	6.9	6.0	5.5	5.2	5.0	4.8
600	8.9	6.7	5.8	5.3	5.0	4.7	4.6
700	8.8	6.6	5.7	5.2	4.8	4.6	4.4

initiated by the Foundation for Child Development and carried out by the Institute for Survey Research at Temple University in 1976. Its purpose was to study the well-being of children across a broad range of indicators. The second wave was funded by the National Institute of Mental Health and the Foundation for Child Development to follow-up a sample of respondents from the first wave in order to examine the consequence of marital disruption on the development and well-being of children. The follow-up study was conducted in 1981 under the direction of Nicholas Zill and James L. Peterson, Child Trends, Inc., and Frank F. Furstenberg, Jr., University of Pennsylvania.

In 1976, data were collected from both the parent and teacher of each child regarding whether the child had a health condition which limited school work or sports activities and, if so, what the nature of the condition was. Both parents and teachers were asked about their perceptions of the child's need for or use of special educational resources due to specific handicapping conditions. Also included were questions about the perception of need for or use of advanced instruction or classes for the gifted. In addition, both the parent and child were asked about educational aspirations and expectations, and the parent and teacher were asked about school performance and school adjustment. In 1981 these same questions were replicated, except that the full range of questions about perceptions of need for and use of special educational resources were included in the teacher questionnaire only. Parents were asked a simpler question — whether the child was receiving any special classes for remedial work or for advanced work. Analyses have shown that these simpler questions relate as well as the more detailed ones when parent responses are compared with those of teachers.

In the first wave, the study population was defined as children aged 7 to 11 years living in households in the 48 continguous States. The sample was designed to yield approximately 500 interviews with black children and 1,500 with nonblack children. Within each racial group, several stages of selection were employed to ensure that each eligible child had an equal probability of being selected.

Interviews were conducted with the eligible child and the parent who would be most capable of providing information about the child. This was usually the mother. If a selected family had three or more little children, two were selected at random to be interviewed. As a result of these procedures, 2,193 households containing one or more eligible children were located; from these households full interviews were completed with 2,279 children in 1,747 households, or 80 percent. A follow-up study of schools attended by the children was conducted in the spring of 1977. School information, obtained from the child's main teacher, was gathered for 73 percent of the sample, or 1,682 children.

Weights were developed to adjust for the oversampling of black children, and to correct for minor differentials between census and sample figures for age, sex, and race of child, and residential location.

In 1981 limited resources precluded reinterviewing the entire sample. Because of the focus on marital disruption, the reinterviews included all children in families that had experienced a marital disruption by the time of the earlier survey, all children whose parents had previously reported a high-conflict marriage, and a randomly selected subsample of children from stable marriages with low or medium conflict, which were eventually weighted back to their true proportion in the original sample. In all, children from 1,350 families were selected to be in the subsample. From this subsample full interviews were completed with 1,377 children in 1,047 or 78 percent of the families.

As before, interviews were conducted with a parent and one or two children in the household. In more than 97 percent of the cases the parent interviewed was the same individual who had participated in the first wave of the study. School information was again collected by mailed questionnaires, which were completed for 1,137 or 83 percent of the children who were reinterviewed.

New weights were developed to take account of the differential rates of selection and completion across groups in the subsample, and to adjust for other minor variations by income, ethnicity, and area of residence. Except for minor differences due to migration, these data when weighted constitute a national sample of children ages 12 to 16 in 1981.

One important difference in the design of the two surveys, necessitated by budget restrictions, was that most of the follow-up interviews were carried out by telephone. In order to be able to test their reliability, a random subsample of personal interviews were carried out. Later statistical analysis revealed no detectable differences between telephone and personal interviews.

Since teacher questionnaires were not completed for all

children in the study, non-response may introduce some bias into the school-based results. Most likely to be missed were urban blacks because of the lower rate of cooperation from large city school systems. Nonetheless, non-response to the school questionnaire was about evenly distributed over ethnic, regional, and other demographic groupings, so that biases, if any, should be small.

The differences discussed in the text are of a magnitude that they can not be attributed to sampling error alone. Generalized standard errors are available from Child Trends, Inc.

Further information about the National Survey of Children may be obtained from:

Nicholas Zill
Child Trends, Inc.
1990 M Street, NW.
Washington, D.C. 20036

Definitions of Selected Terms

The following terms are defined as they generally apply in the text. Readers interested in more technical, detailed definitions should refer to the appropriate National Center for Education Statistics (NCES) Handbook.

Academic program: A program of studies designed primarily to prepare students for a 4-year college program.

Achievement test: An examination that measures the extent to which a person has acquired certain information or mastered certain skills, usually as a result of specific instruction.

American College Test (ACT): An examination of the potential of a person to succeed academically as measured by tests of performance.

Advanced/honors courses: Special accelerated courses for students who have achieved a high standard of performance in a special subject area or who had generally high scholarship.

Appropriations: An authorization granted by a legislative body to make expenditures and to incur obligations for specific purposes.

Assessment area: A particular aspect of behavior or ability which is evaluated or appraised by means of a test or other measurement instrument.

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study.

Basic student charges: Charges incurred by students for the cost of higher education, including room and board, tuition, and required fees at both the undergraduate and graduate levels.

Central cities: The largest city with 50,000 or more inhabitants in a Standard Metropolitan Statistical Area (SMSA). A smaller city within an SMSA may also qualify if it has at least 250,000 inhabitants or has a population of one-third or more of that of the largest city and a minimum population of 25,000. An exception occurs where two cities have contiguous boundaries and constitute, for economic and social purposes, a single community of at least 50,000, the smaller of which must have a population of at least 15,000.

Carnegie unit: A standard of measurement that represents one credit for the completion of a 1-year course.

Civilian labor force: All persons in the labor force who are not in the Armed Forces, whether they are classified as employed or unemployed.

Classroom teacher: A staff member assigned the professional activity of instructing students in classroom situations for which daily student attendance figures for the school system are kept.

Cohort: A group of individuals that have a statistical factor in common, e.g., year of birth.

College: A postsecondary school which offers general or liberal arts education, usually leading to a first degree. Junior colleges and community colleges are included under this terminology.

Competency-based certification: The general process by which the State (or agency or organization authorized by the State) provides a credential to an individual. Processes may require individuals to demonstrate a mastery of minimum essential generic and specialization competencies and other related criteria adopted by the board through a comprehensive written examination and through other procedures that may be prescribed by the board of education examiners.

Computer-assisted instruction: Programmed instruction utilizing an electronic computer as the principal medium of instruction.

Comprehensive secondary school: A general secondary school offering programs in both vocational and general academic subjects.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Core current expenditures: Measure of total expenditures, excluding transportation and food service costs, used in interstate comparisons.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current funds expenditures (higher education): Money spent to meet current operating costs, including salaries,

wages, utilities, student services, public services, research libraries, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

Current funds revenues: Money received during the current fiscal year from revenue which can be used to pay obligations currently due, and surpluses reappropriated for the current fiscal year.

Discipline division (new classification): The recent reclassification of disciplines designed to reflect the emergence of new instructional programs. Tables in this report on earned degrees conferred specify whether the data are presented according to the new classification or traditional classification.

Doctor's degree: An earned degree carrying the title of Doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree, and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.) musical arts (D.M.A.), business administration (D.B.A.), and engineering (D. Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First professional degrees, such as M.D. and D.D.S., are counted separately and are not included under this heading.

Dropouts: Persons not enrolled in school and not high school graduates.

Educational attainment: The highest grade of regular school attended and completed.

Education major: A student whose program of studies gives primary emphasis to subject matter in the area of education and who, according to his/her institutional requirements, concentrates a minimum number of courses or semester hours of college credit in the specialty of education.

Elementary school: A school classified as elementary by State and local practice and composed of any span of grades not above grade 8. A preschool or kindergarten school is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary/secondary school: As reported in this publication, includes only regular school, i.e., schools that are part of State and local school systems, and also most nonprofitmaking private elementary/secondary schools, both religiously affiliated and nonsectarian. Schools not reported include subcollegiate departments of institutions of higher education, residential schools for exceptional children, Federal schools for Indians, and Federal schools on military posts and other Federal installations.

Employed: All civilians who did any work at all as paid employees, or who worked in their own businesses or professions or on their own farms, or who worked 15 hours or more as unpaid workers on a farm or in a business operated by a member of the family. The employed include as well all those who were not working but who had jobs or businesses from which they were temporarily absent, whether or not they were paid for time off by their employers, and whether or not they were seeking other jobs.

Enrollment: The total number of students in a given school unit.

Endowment: A permanent financial provision for any purpose or object (such as funds provided for the use of a school, church, or research agency), the principal of which must be kept intact and prudently invested, while the income may be expended for the purpose for which the provision was made.

Endowment Income: The net earnings (usually calculated on an annual basis) of a permanent fund; the sum that may be devoted to the cause for which the endowment was established.

Expenditures: Charges incurred, whether paid or unpaid, which are presumed to benefit the current fiscal year. For elementary/secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For government, these include charges net of recoveries and other correcting transactions—other than for retirement of debt, investment in securities, extension of credit, or as agency transactions. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

Expenditures per student: Charges incurred for a particular period of time divided by a student unit of measure, e.g., average daily attendance or average daily membership.

Explusion: The action, taken by school authorities, compelling a student to withdraw from school for reasons such as extreme misbehavior, incorrigibility, or unsatisfactory achievement or progress in school work.

First-professional degree: A degree that signifies both (a) completion of the academic requirements for beginning practice in a given profession and (b) a level of professional skill beyond that normally required for a bachelor's degree. This degree usually is based on a program requiring at least 2 academic years of work prior to entrance and a total of at least 6 academic years of work to complete the degree program, including both prior-required college work and the professional program itself. First-professional degrees are awarded in fields such as dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), law (J.D.), and theological professions (M. Div. or M.H.L.).

First-time college students: Students not previously enrolled in any institution of higher education.

Full-time-equivalent enrollment: Enrollment of full-time and the equivalent part-time students as reported by the institution or as computed by adding one-third of part-time to full-time enrollment.

Full-time personnel: Employees whose positions require them to be on the job on school days throughout the school year, at least the number of hours the schools are in session; or, for higher education, those members of the staff of an educational institution who are employed on a full-time basis and whose major regular assignment is instruction.

Full-time students (higher education): Students enrolled in courses with total credits equal to at least 75 percent of the normal full-time course load.

General educational development (GED) program: Academic instruction to prepare persons to take the high school equivalency examination.

General program: A program of studies designed to prepare students for the common activities of persons as citizens, family members, and workers. A general program of studies may include instruction in both academic and vocational areas.

GED recipients: Persons who have obtained certification of high school equivalency because they have met State requirements and passed an approved exam, which is intended to provide an appraisal of their achievement or performance in the broad subject matter areas usually required for high school graduation.

Geographic regions: 1) Regions used by the Bureau of the Economic Analysis of the U.S. Department of Commerce, the National Assessment of Educational Progress, and the National Education Association, as follows: (The National Education Association designates the Central region as Middle region in its classification.)

Northeast	*Southeast*
Connecticut	Alabama
Delaware	Arkansas
District of Columbia	Florida
Maine	Georgia
Maryland	Kentucky
Massachusetts	Louisiana
New Hampshire	Mississippi
New Jersey	North Carolina
New York	South Carolina
Pennsylvania	Tennessee
Rhode Island	Virginia
Vermont	West Virginia

Central (Middle)	*West*
Illinois	Alaska
Indiana	Arizona
Iowa	California
Kansas	Colorado
Michigan	Hawaii
Minnesota	Idaho
Missouri	Montana
Nebraska	Nevada
North Dakota	New Mexico
Ohio	Oklahoma
South Dakota	Oregon
Wisconsin	Texas
	Washington
	Wyoming

2) Regions and divisions used by the U.S. Bureau of the Census in Current Population Survey tabulations, as follows:

Northeast

(New England)
Maine
New Hampshire
Vermont
Massachusetts
Rhode Island
Connecticut

(Middle Atlantic)
New York
New Jersey
Pennsylvania

North Central

(East North Central)
Ohio
Indiana
Illinois
Michigan
Wisconsin

(West North Central)
Minnesota
Iowa
Missouri
North Dakota
South Dakota
Nebraska
Kansas

South

(South Atlantic)
Delaware
Maryland
District of Columbia
Virginia
West Virginia
North Carolina
South Carolina
Georgia
Florida

(East South Central)
Kentucky
Tennessee
Alabama
Mississippi

(West South Central)
Arkansas
Louisiana
Oklahoma
Texas

West

(Mountain)
Montana
Idaho
Wyoming
Colorado
New Mexico
Arizona
Utah
Nevada

(Pacific)
Washington
Oregon
California
Alaska
Hawaii

Handicapped: Those children evaluated as having any of the following impairments, who because of those impairments need special education and related services. (These definitions apply specifically to data from the U.S. Office of Special Education and Rehabilitative Services presented in this publication.)

Deaf: A hearing impairment which is so severe that the student is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects educational performance.

Deaf-blind: Concomitant hearing and visual impairments the combination of which causes such severe communication and other developmental and educational problems that they cannot be accommodated in special education programs solely for deaf or blind students.

Hard of hearing: A hearing impairment, whether permanent of fluctuating, which adversely affects a student's educational performance but which is not included under the definition of "deaf" in this section.

Mentally retarded: Significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, which adversely affects a child's educational performance.

Multihandicapped: Concomitant impairments (such as mentally retarded-blind, mentally retarded-orthopedically impaired, etc.), the combination of which causes such severe educational problems that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf-blind students. This category includes those students who are severely or profoundly mentally retarded.

Orthopedically impaired: A severe orthopedic impairment which adversely affects a student's educational performance. The term includes impairment caused by congenital anomaly, disease, and from other causes.

Other health impaired: Limited strength, vitality, or alertness, due to chronic or acute health problems such as a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes, which adversely affects a student's educational performance.

Seriously emotionally disturbed: A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: an inability to learn which cannot be explained by intellectual, sensory, or health factors; an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; inappropriate types of behavior or feelings under normal circumstances; a general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms or fears associated with personal or school problems. The term includes children who are schizophrenic or autistic. The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed.

Specific learning disabled: A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental asphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or of environmental, cultural, or economic disadvantage.

Speech impaired: A communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, which adversely affects a student's educational performance.

Visually handicapped: A visual impairment which, even with correction, adversely affects a student's educational performance. The term includes partially seeing and blind children.

High school: A secondary school offering the final years of nigh school work necessary for graduation, usually including grades 10, 11, 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

Higher education: Study beyond the secondary school level at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

Higher education institutions (new classification):

Doctoral-granting: These institutions are characterized by a significant level and breadth of activity in commitment to doctoral-level education as measured by the number of doctorate recipients and the diversity in doctoral-level program offerings.

Comprehensive: These institutions are characterized by diverse post-baccalaureate programs (including first-professional), but do not engage in significant doctoral-level education.

General baccalaureate: These institutions are characterized by their primary emphasis on general undergraduate, baccalaureate-level education. They are not significantly engaged in post-baccalaureate education.

Specialized: These baccalaureate or post-baccalaureate institutions are characterized by a programmatic emphasis in one area (plus closely related specialties), such as business or engineering. The programmatic emphasis is measured by the percentage of degrees granted in the program area.

2-year: These institutions confer at least 75 percent of their degrees and awards for work below the bachelor's level.

Non-degree granting: These institutions offer undergraduate or graduate-level study, but do not confer degrees or awards.

Higher education institutions (traditional classification):

4-year institutions: A higher education institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a baccalaureate degree. Within this category, a university is a postsecondary institution which typically comprises one or more graduate professional schools.

2-year institutions: A higher education institution legally authorized to offer and offering at least a 2-year program of college-level studies which terminates in an associate degree or is principally creditable toward a baccalaureate degree.

Junior high school: A separately organized and administered secondary school intermediate between the elementary and senior high schools, usually including grades 7, 8, and 9 (in a 6-3-3 plan) or grades 7 and 8 (in a 6-2-4 plan).

Labor force participation rate: The labor force participation rate is the percent of the civilian noninstitutional population in the labor force.

Master's degree: An earned degree carrying the title of Master. One type of Master's degree—including the Master of Arts degree (M.A.) and the Master of Science degree (M.S.)—usually is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally-oriented program (e.g., in education (M.Ed.), in business administration (M.B.A.), in fine arts (M.F.A.), in music (M.M.), in social work (M.S.W.), in public administration (M.P.A.), and in other fields). A third type of master's degree is awarded in professional fields for study beyond the first-professional degree (e.g., the Master of Laws (LL.M.) and Master of Science in various medical specializations).

Metropolitan-nonmetropolitan residence: The population residing in standard metropolitan statistical areas (SMSAs) constitutes the metropolitan population. Except in New England, an SMSA is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition to the county, or counties, containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, SMSA's consist of towns and cities, rather than counties.

Migration: Movement of students into or out of State to attend college. Net migration equals the number of students who come into a State minus the number of students who leave the home State to attend college.

Microcomputer: Small, self-contained "personal" computer including at least a TV-like screen and typewriter keyboard.

Middle school: A school administrative unit between the primary elementary unit and the last or secondary unit in the school system; in one form of organization it includes, in one school, children of approximate age 10 to 14 in the coventional grades 5 to 8.

Minimum-competency testing: Measuring the acquisition of competence or skills to or beyond a certain specified standard.

Mother tongue: A classification factor developed for use in the High School and Beyond Survey, generated by the cross tabulation of the questions, "What was the first language you spoke as a child?" and "What other language did you

speak as a child?" If "English" was answered to the first question, and "none" to the second, the respondent's mother tongue was considered monolingual English. If "English" was answered to the first question and "Spanish" to the second, then the classification was English dominant. If "Spanish" was answered to the first question and "English" to the second, the response was classified as Spanish dominant, and if "Spanish" was answered to the first and "none" to the second, the individual's mother tongue was considered Spanish monolingual.

Newly qualified teacher: The designation assigned to persons who meet both of the following criteria: (1) they first became eligible for a teaching license during the period of the study referenced; or they were not certified or eligible for a teaching license, but were teaching at the time of the survey, and; (2) they never held full-time, regular teaching positions (as opposed to substitute) prior to completing the requirements for the degree which brought them into the survey.

Nonresident alien: A person who is not a citizen of the United States and who is in this country on a temporary basis and does not have the right to remain indefinitely.

Part-time students: Students who are carrying less than a full course load, as determined by the State, local school system, or institution.

Preprimary program: A set of organized educational experiences for children attending prekindergarten and kindergarten classes including Head Start programs.

Primary school: A separately organized and administered elementary school for students in the lower elementary grades, usually including grade 1 through grade 3 or the equivalent, and sometimes including preprimary years.

Private school: A school which is controlled by an individual or by an agency other than a State, a subdivision of a State, or the Federal government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

Proprietary school: An educational institution that is under private control and whose profits derive from revenues subject to taxation.

Public school: A school operated by publicly elected or appointed school officials in which the program and activities are under the control of these officials and which is supported primarily by public funds.

Racial/ethnic group: Classification indicating general racial or ethnic heritage based on self-identification as in data collected by the Bureau of the Census or on observer identification as in data collected by the Office for Civil Rights. These categories are in accordance with the Office of Management and Budget standard classification scheme presented below:

White: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

Black: A person having origins in any of the black racial groups of Africa.

Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

Asian or Pacific Islander: A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.

American Indian or Alaskan Native: A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

Regular day school: State-approved elementary/secondary school offering at least one grade beyond kindergarten, attended by students during a part of the day, as distinguished from a residential school. Not included in this category are residential schools for exceptional children, Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments or institutions of higher education.

Religiously affiliated school: A private school over which in most cases a parent church group exercises some control or to which it provides some form of subsidy. Catholic schools include those affiliated with the Roman Catholic Church, including the "private" Catholic schools operated by religious orders. "Other" affiliation includes schools associated with other religious denominations. An unaffiliated

school is usually privately operated or under control of a board of trustees or directors.

Remedial/developmental courses: Program, course, or other activity (usually in the area of reading, writing, and math) for a student lacking those skills necessary to perform college-level work at the level required by the attended institution.

Revenues: All funds received from external sources, net of refunds, and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation or investments, and non-routine sale of property.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

Scholastic Aptitude Test (SAT): An examination used to predict the facility with which the individual will progress in learning college-level academic subjects.

School: A division of the school system consisting of students comprising one or more grade groups or other identifiable groups, organized as one unit with one or more teachers to give instruction of a defined type, and housed in a school plant of one or more buildings.

School district: An educational agency at the local level that exists primarily to operate public schools or to contract for public school services. This term is used synonymously with the terms "local basic administrative unit" and "local education agency."

Secondary school: A school comprising any span of grades beginning with the next grade following an elementary or middle school and ending with or below grade 12.

Senior high school: A secondary school offering the final years of high school work necessary for graduation and invariably preceded by a junior high school.

Socioeconomic status (SES): For the High School and Beyond and the National Longitudinal studies, the SES index is a composite of five equally weighted, standardized components: father's education, mother's education, family income, father's occupation, and household items. The terms high, middle, and low SES refer to the upper, middle two, and lower quartiles of the weighted SES composite index distribution.

Source of funds: Identifies the agency, governmental or otherwise, which appropriates the money used by a local school or local educational agency.

Special education: Direct instructional activities or special learning experiences designed primarily for students identified as having exceptionalities in one or more aspects of the cognitive process and/or as being underachievers in relation to the general level or model of their overall abilities. Such services usually are directed at students with the following conditions: (1) physically handicapped; (2) emotionally handicapped; (3) culturally different, including compensatory education; (4) mentally retarded; (5) students with learning disabilities. Programs for the mentally gifted and talented are also included in some special education programs.

Standardized test: A test composed of a systematic sampling of behavior, having data on reliability and validity, administered and scored according to specific instructions, and capable of being interpreted in terms of adequate norms.

Standardized test performance: The weighted distributions of composite scores from standardized tests used to group students according to performance.

State university: A university controlled by a State that emphasizes undergraduate and graduate instruction in the liberal arts and in professional schools such as those of law, medicine, education, and commerce. Contrasts with a land-grant college, which emphasizes agriculture, engineering, and professional curricula based chiefly on the sciences.

Student education expenditures (higher education): Expenditures for formal instruction and activities that are most closely related to instruction. Includes instruction and research that are part of regular instructional services (department research), extension and public services, libraries, physical plant operation and maintenance, general administration, and other sponsored activities.

Suspension: Temporary dismissal of a student from school by duly authorized school personnel in accordance with established regulations.

Teacher education institution: Any educational institution concerned with the conduct of activities regarded as significant in the professional education of teachers and whose program is given appropriate recognition by State agencies that certify teachers; institutions included are teachers colleges, normal schools, and universities and colleges that have teacher education programs.

Teaching candidate: Student taking a course of studies which is designed to prepare him/her for the teaching profession and which usually leads to the attainment of a teaching certificate, approved by the State, regional, or national accrediting body.

Teacher certification: Issuance of a certificate indicating that the holder has fulfilled the minimum teaching requirements as prescribed by the authority issuing the certificate.

Teacher shortage: Number of teaching positions that were vacant, abolished, or withdrawn because: a candidate was sought and not found; courses were eliminated because of budget cuts or administrative decisions not to offer courses in a given field; a teacher was laid off; a position was filled by a temporary substitute.

Transcript: An official list of all courses taken by a student at a school or college showing the final grade received for each course, with definitions of the various grades given at the institution.

Tuition and fees: A payment or charge for instruction, or compensation for services, privileges, or for the use of equipment, books, or other goods.

Unclassified students (higher education): Not candidates for a degree or other formal award, although taking courses for credit in regular classes with other students.

Undergraduate students (higher education): Students registered at an institution of higher education who have not completed requirements for a bachelor's degree.

Unemployed: Civilians who, during a survey period, had no employment but were available for work and (1) had engaged in any specific jobseeking activity within the past 4 weeks, or (2) were waiting to be called back to a job from which they had been laid off, or (3) were waiting to report to a new wage or salary job within 30 days.

University: An institution of higher education consisting of a liberal arts college, offering a program of graduate study, and having usually two or more professional schools or faculties and empowered to confer degrees in various fields of study.

Vocational program: A program of studies designed to prepare students for employment in one or more semiskilled, skilled, or technical occupations.

Vocational program classification: Vocational education programs are usually categorized into one of the following areas:

Agriculture: Instruction designed to improve competencies in agricultural occupations. Included is the study of agricultural production, supplies, mechanization and products, ornamental horticulture, forestry, and the services related thereto.

Business: Program of instruction that prepares individuals for a variety of activities in planning, organizing, directing, and controlling all business office systems and procedures. May include instruction in preparing, transcribing, systematizing, and preserving written communications and records; preparing and analyzing financial records; collecting accounts and receiving and disbursing money; gathering, processing and distributing information and mail, operating office machines and electronic data processing equipment; storing, distributing, and accounting for inventories for materials; operating telephone switchboards and delivering messages, and performing other business office duties.

Consumer and homemaking: Study concerned with the economic welfare of the consumer and consumer groups in everyday life, e.g., competency in managing money, purchasing and using goods and services, banking, investments, credit, and the role of the consumer in the economy.

Health: Related courses organized to prepare students for assisting qualified personnel in providing diagnostic, therapeutic, preventive, restorative, and rehabilitative services to people, including understanding and skills essential to provide care and health services to patients.

Industrial arts: Related courses organized for the development of understanding about the technical, consumer, occupational, recreational, organizational,

managerial, social, historical, and cultural aspects of industry and technology.

Marketing: The area of study dealing with the flow of goods and services from the producer to the consumer and related activities such as salesmanship, advertising, and retailing.

Technical: Program of instruction that normally includes the study of underlying sciences and supporting mathematics inherent in a technology, as well as methods, skills, and materials commonly used and services performed in the technology. Technical education prepares individuals for the occupational area between the skilled craftsman and the professional person such as the physician, the engineer, and the scientist.

Trade and industrial: Vocational education concerned with preparing persons for initial employment, or for upgrading or retraining workers in a wide range of trade and industrial occupations. Such occupations are skilled or semiskilled and are concerned with designing, producing, testing, maintaining, or repairing any product or commodity.

Vocational home economics: Courses of instruction emphasizing the acquisition of competencies needed for getting and holding a job and/or preparing for advancement in an occupational area using home economics knowledge and skills.

Announcement

National Center for Education Statistics

U S DEPARTMENT OF EDUCATION

Office of the Assistant Secretary for Educational Research and Improvement

September 1985

NCES Reports on the Condition of Education, 1985

The National Center for Education Statistics announces the release of the 11th annual edition of *The Condition of Education*. Mandated by Congress, this statistical report profiles trends and developments in students and schooling at all levels of education. Special emphasis chapters in the 1985 edition focus on elementary and secondary school teachers, handicapped students, and student transition from high school.

Among the major items reported:

- During the 1970's and early 1980's the proportion of minority enrollment in many of the largest city school systems significantly increased. In some systems, this proportion more than doubled between 1970 and 1982.

- Enrollment in 4-year institutions of higher education is projected to decrease significantly during the 1980's and into the 1990's, while enrollment in 2-year institutions is not expected to decline until the 1990's.

- Between 1970-71 and 1981-82, the number of first-professional degrees awarded in law more than doubled; in medicine they increased by three-fourths. Females increased their representation appreciably across all first-professional fields.

- Public school districts reported an average of fewer than 2 shortages for every 1,000 current teachers in 1983-84. Fields in which greater shortages were reported include bilingual education, some special education sub-areas, physics, and computer science.

- The number of students served in educational programs for the handicapped has increased steadily since 1976-77. The major increase has been for students with specific learning disabilities, while the numbers served in most other handicap categories have actually declined over the same period.

- Higher reentry rates of public high school dropouts were associated with higher socioeconomic status and test performance as well as previous enrollment in an academic curriculum.

Copies of *The Condition of Education, 1985* are available for $10.00 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (request stock number 065-000-00241-8). Send check or money order payable to the U.S. Government Printing Office. For your convenience, an order form is included on the back of this announcement.

NCES 85-402a

ORDER FORM To: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Enclosed is $ _____ ☐ check, ☐ money order, or charge to my Deposit Account No.

☐☐☐☐☐☐–☐

Order No._____

VISA® MasterCard

Credit Card Orders Only

Total charges $_____ Fill in the boxes below.

Credit Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiration Date Month/Year ☐☐☐☐

For Office Use Only

	Quantity	Charges
Enclosed		
To be mailed		
Subscriptions		
Postage		
Foreign handling		
MMOB		
OPNR		
UPNS		
Discount		
Refund		

Company or personal name

Additional address/attention line

Street address

City State ZIP Code

(or Country)

PLEASE PRINT OR TYPE

Please send_____ copy(ies) of The Condition of Education, 1985 @ $10.00 each (stock number 065-000-00241-8).