



## EXECUTIVE SUMMARY

This report draws upon a wide range of published and unpublished statistical materials to present an overview of the educational status of girls and women in the United States. *Trends in Educational Equity of Girls & Women* contains a selection of indicators that illustrate the educational gains made by females in recent years as well as areas where gaps continue to exist. This statistical report assembles a series of indicators that examine the extent to which males and females have access to the same educational opportunities, avail themselves equally of these opportunities, perform at similar levels throughout schooling, succeed at similar rates, and reap the same benefits from their educational experiences.

This report serves as an update of an earlier publication, *Trends in Educational Equity of Girls & Women* (NCES 2000-030). General topics covered by this report are similar to those addressed in the 2000 report. Many indicators that were included in the 2000 report have been updated with the most recent data available. In addition, a number of new indicators have been added, designed to reflect the most current research on topics relevant to educational equity.

The report begins with an overview that summarizes the report's major findings. A series of 38 indicators follow, which examine various facets of educational equity. The indicators begin with preprimary and early elementary education, move through elementary and secondary education and postsecondary education, and finally, consider educational outcomes. Each

indicator shows the status of females relative to males. Some indicators include further breakdowns, such as those by race/ethnicity; however, the general focus of this report is on overall comparisons between males and females and not on the experiences of various subgroups, which may show different patterns. The data for the indicators are drawn primarily from surveys conducted by the National Center for Education Statistics (NCES), although several other sources of national and international data are used as well. Although these indicators provide valuable information on many aspects of educational equity, some important topics cannot be addressed with available, nationally representative data. Examples of such topics include the extent to which sexual harassment undermines the ability of schools to provide a safe and comfortable learning environment and whether girls and young women are encouraged to challenge themselves in their educational pursuits, especially in mathematics and science.

The data presented in this publication demonstrate that in elementary and secondary school and in college, females are now doing as well as or better than males on many indicators of achievement and educational attainment, and that large gaps that once existed between males and females have been eliminated in most cases and have significantly decreased in other cases. Women are still underrepresented in some fields of study, as well as more generally in doctoral and first-professional degree programs, although they

have made substantial gains in the past 30 years. These differences may have labor market consequences.

### Preprimary and Early Elementary Education

Certain kinds of preschool experiences, such as participating in high-quality preprimary programs and engaging in early literacy activities with parents, are widely believed to help prepare young children for the more structured learning that takes place in elementary school. Therefore, whether males and females have the same access to these kinds of opportunities is of interest from an educational equity standpoint.

*In terms of many learning opportunities, males and females start school on a similar footing. In certain other areas, females appear to start school ahead.*

Between 1990 and 2001, the percentage of 3- to 5-year-olds enrolled in preprimary programs and kindergarten increased. In 2001, similar percentages of males (63 percent) and females (64 percent) were enrolled in preprimary and kindergarten education (*indicator 1*). However, in terms of early learning experiences in the home, a higher percentage of females (86 percent) than males (82 percent) had been read to three or more times in the past week (*indicator 2*). For both males and females, participation in literacy activities generally increased between 1991 and 2001.

General knowledge assessments indicate that males and females are similar in terms of their general knowledge in kindergarten and first grade. Males and females also generally performed similarly on the overall reading assessment; however, higher percentages of females (80 percent) than males (73 percent) could recognize words by sight in the spring of first grade. Males and females had similar levels of sight word recognition in third grade (*indicator 3*).

Kindergartners who entered in the fall of 1998 increased their overall mathematics performance scores by 10 points by the spring of their kindergarten year compared to their initial assessment. By the end of third grade, these students more than tripled their performance. With the exception of the third-grade assessment, males and females performed similarly on overall

mathematics performance. In third grade, males scored higher than females, 87 to 83 (*indicator 4*). No differences were detected between males and females on any of the assessments of addition and subtraction skills.

### Elementary and Secondary Education

Because school attendance is generally compulsory between ages 6 and 16, equal access to schooling at the elementary and secondary level is not at issue. However, many topics beyond access to schooling remain of critical importance from an equity standpoint, such as the extent to which males and females have access to the same types of educational opportunities, take similar advantage of these opportunities, and achieve at the same level while in school. Data on various aspects of the elementary and secondary school experiences of males and females—such as their progress through school, academic performance, access to computers, and participation in extracurricular activities—provide some indication of the extent to which gender equity in education has been achieved.

#### Progress Through School

*Females are less likely than males to repeat a grade and to drop out.*

The percentage of 5- to 12-year-old males who had repeated at least one grade declined between 1996 and 1999. In 1999, females ages 5 to 12 years old were less likely than males of the same age to have repeated a grade: approximately 8 percent of males compared to 5 percent of females had repeated a grade since starting school (*indicator 11*). In recent years, females have also become less likely than males to drop out of high school; for example, in 2001, the status dropout rate for 16- to 24-year-olds (i.e., the percentage who had not completed high school and were not enrolled in school) was 12 percent for males, compared to 9 percent for females (*indicator 19*). This marks a change from the general pattern in the 1970s, when dropout rates were similar for males and females.

The status dropout rate decreased for both males and females between 1972 and 2001. When examined by sex and race/ethnicity, the dropout rate of White males and females, Black males

and females, and Hispanic females decreased during this period, while no decrease was detected for Hispanic males.

Males and females who have a child in high school are more likely to drop out of high school and less likely to receive a bachelor's degree (*indicator 20*). Among females who were eighth-graders in 1988, 71 percent who had a child in high school had completed high school as of 2000, compared to 95 percent who had no child as of 2000. Furthermore, only 2 percent of females who had a child in high school had received a bachelor's degree by 2000, compared to 44 percent of those with no child. Becoming a parent while still in high school was related to the educational attainment of males as well. Males who became fathers in high school were significantly less likely than those who were not fathers, as of 2000, to have completed high school (65 percent vs. 94 percent) and to have received a bachelor's degree (4 percent vs. 36 percent).

*On a variety of measures, males seem to be more likely than females to experience serious problems at school and to engage in risky behaviors.*

Evidence suggests that females are less likely than males to have certain problems, such as being diagnosed with a learning disability and being victimized at school, which may negatively affect their progress through school (*The Condition of Education 1997*, NCES 97-388). In 1999, males in grades 1–5 were more likely than females to have been identified as having a disability (21 percent vs. 14 percent, respectively; *indicator 12*). In particular, males were more likely than females to have been identified with a learning disability, emotional disturbance, and speech impediment.

In 2001, among 12- to 18-year-old students, the percentage of males who reported that they had experienced criminal victimization at school during the previous 6 months was higher than the percentage of females reporting the same experience (6 vs. 5 percent). Similarly, a higher percentage of males than females reported being bullied at school (9 vs. 7 percent, *indicator 16*).

In addition, female students appear to be less likely than male students to engage in certain behaviors, such as drug use and violence that

may put themselves and others at risk. In 2001, females in grades 9–12 were less likely than males to report using alcohol at least once in the previous 30 days on school property (4 vs. 6 percent) as well as in general (45 vs. 49 percent). Likewise, high school females were also less likely than their male counterparts to report using marijuana at least once in the previous 30 days on school property (3 vs. 8 percent) as well as in general (20 vs. 28 percent, *indicator 18*). The percentage of students who reported being offered or given an illegal drug on school property in the previous 12 months was also lower for females (23 percent) than males (35 percent). Overall, the percentages of students who reported using cigarettes, marijuana, and who were offered, sold, or given an illegal drug on school property decreased between 1997 and 2001. However, there was no decrease detected during this period in the percentage of students who reported using alcohol on school property. Males in these grades were also much more likely than females to engage in certain violent activities on school property; higher percentages of males than females reported being in a physical fight in the previous 12 months (18 percent vs. 7 percent), and carrying a weapon to school in the previous 30 days (10 percent vs. 3 percent; *indicator 17*).

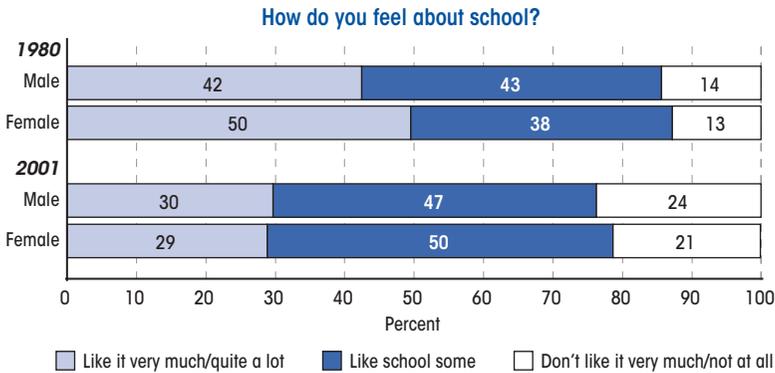
*High school seniors' attitudes toward school have become increasingly negative, particularly among females.*

Despite apparent differences in the extent to which females and males experience certain problems as they progress through school, the general attitudes of male and female high school seniors toward school were similar in 2001; 29 percent of females and 30 percent of males reported liking school very much (figure A and *indicator 13*). This marked a change from 1980, when females were more likely than males to report liking school. It also marked a decline, among both males and females, in these positive attitudes toward school from 1980, when 50 percent of females and 42 percent of males reported liking school very much. This decline occurred at a faster rate for females than for males.

### Academic Performance

Academic performance is a key measure of school success because high performance in school opens

Figure A. Percentage of high school seniors' responses to the question, "How do you feel about school?," by sex: 1980 and 2001



NOTE: The response rates for this survey do not meet NCES statistical standards. The response rate for this survey was less than 70 percent and a full nonresponse bias analysis has not been done to date.  
 SOURCE: University of Michigan, Institute for Social Research, Monitoring the Future Study, 1980 and 2001 unpublished data.

doors to postsecondary education and to well-paying jobs. For females to have the same opportunities as males in postsecondary education and in the labor market, it is important for them to be equally well prepared academically. Overall, females have done much better than males in reading and writing, but have generally, though not always, lagged behind in science and mathematics. Concern exists that this gap in science and mathematics may give them less access to high paying jobs, although there are no data to compare this disadvantage with the possible disadvantage faced by males because of their lower reading and writing achievement.

*Females have consistently outperformed males in reading and writing.*

Reading and writing are basic skills required for most jobs and for functioning in contemporary society. Scores on the main assessment of the National Assessment of Educational Progress (NAEP) reveal that females in grades 4, 8, and 12 have consistently outperformed males in reading. The main assessment data from NAEP show females continued to have higher reading scores than males at all three grades, but there were no measurable increases in females' scores when 1992 data were

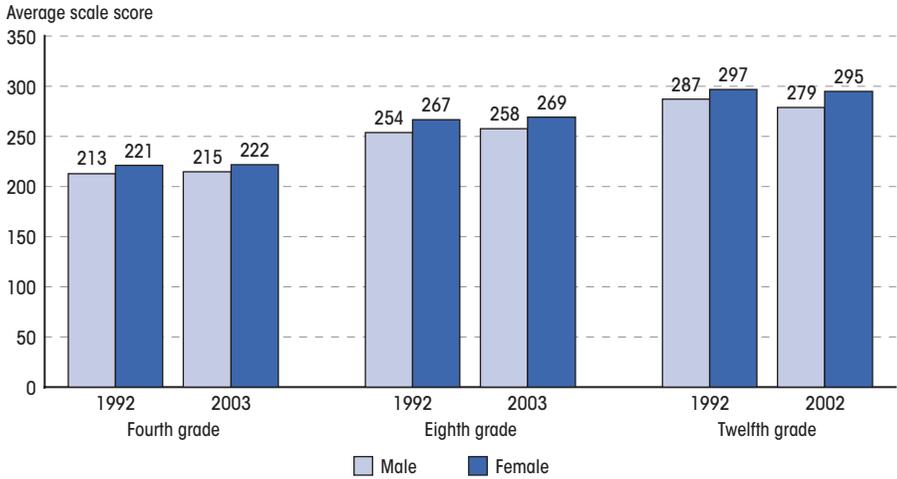
compared to 2003 data at grades four and eight, and there was a decrease in twelfth-grade reading scores for females—from 297 in 1992 to 295 in 2002 (figure B and *indicator 5*).

Gender differences in reading achievement have been observed internationally as well. In every G8 country participating in the Progress in International Reading Literacy Study (PIRLS) 2001, fourth-grade girls scored significantly higher than boys on the combined reading literacy scale. In the United States, girls scored an average of 18 points higher (*indicator 8*). In each of 28 Organisation for Economic Co-operation and Development (OECD) countries participating in the Program for International Student Assessment (PISA) in 2000, 15-year-old females outperformed their male peers in reading (*indicator 9*).

Females in the United States in grades 4, 8, and 12 also outperformed their male peers in writing in 1998 and 2002 (figure C and *indicator 5*).

However, females' higher achievement in reading and writing on the NAEP assessments did not translate into higher achievement on AP examinations in English. Although females accounted for a higher proportion of students taking the AP

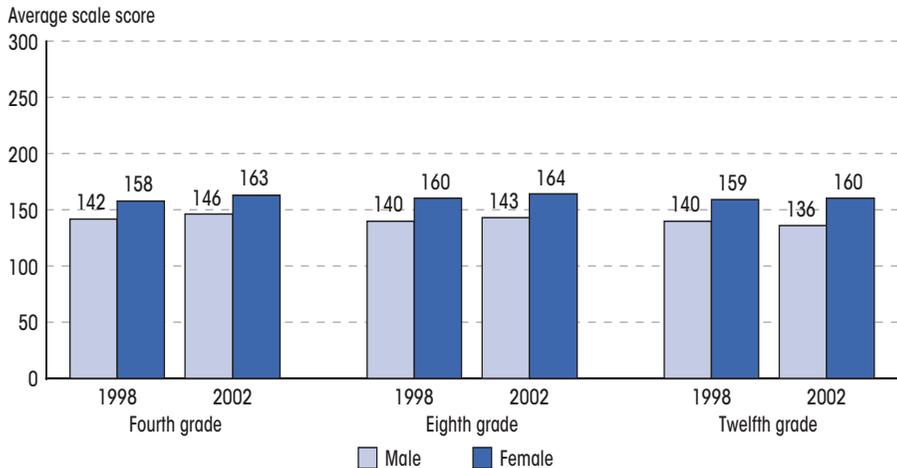
**Figure B. Average scale scores in reading for fourth-, eighth- and twelfth-graders, by sex: Various years, 1992, 2002, and 2003**



NOTE: These test scores are from the National Assessment of Educational Progress (NAEP). Accommodations were not permitted for the 1992 assessment. Scale ranges from 0 to 500. For a discussion of the reading scale score definitions, please see <http://nces.ed.gov/nationsreportcard/reading/scale.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 2002, and 2003 Reading Assessments.

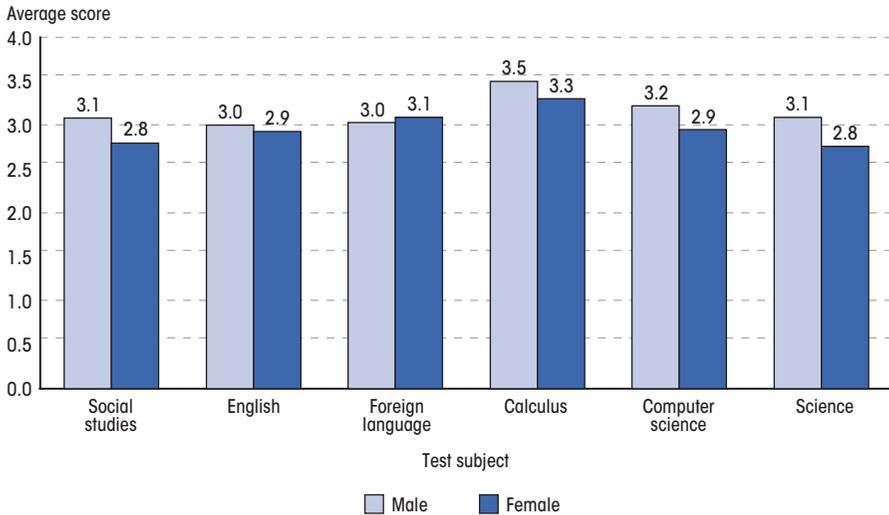
**Figure C. Average scale scores in writing for fourth-, eighth-, and twelfth-graders, by sex: 1998 and 2002**



NOTE: These test scores are from the National Assessment of Educational Progress (NAEP) Main Assessment. Scale ranges from 0 to 300, with a national average of 150. See *The Nation's Report Card: Writing 2002* for further score descriptions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 and 2002 Writing Assessments.

Figure D. Average score on Advanced Placement (AP) examinations, by test subject area and sex: 2002



NOTE: Please see the report, *Advanced Placement Program, National Summary Report, 2002*, from the College Board for more specific information regarding test subjects.

SOURCE: The College Board, *Advanced Placement Program, National Summary Report, 2002*.

examination in English in 2002, their average score was lower than that of males (figure D and *indicator 22*).

*There are some gender differences favoring male students in mathematics and science.*

Proficiency in science and mathematics has become particularly important, as jobs in our technological society increasingly require workers to use complex mathematics skills and scientific knowledge to solve problems (*The Nation's Report Card: Mathematics 2000*, NCEES 2001-517). Although there is a common perception that males consistently outperform females in mathematics, NAEP mathematics scores have not shown this (figure E and *indicator 6*). In mathematics, the gap between average scale scores has been quite small and fluctuated only slightly between 1990 and 2003.

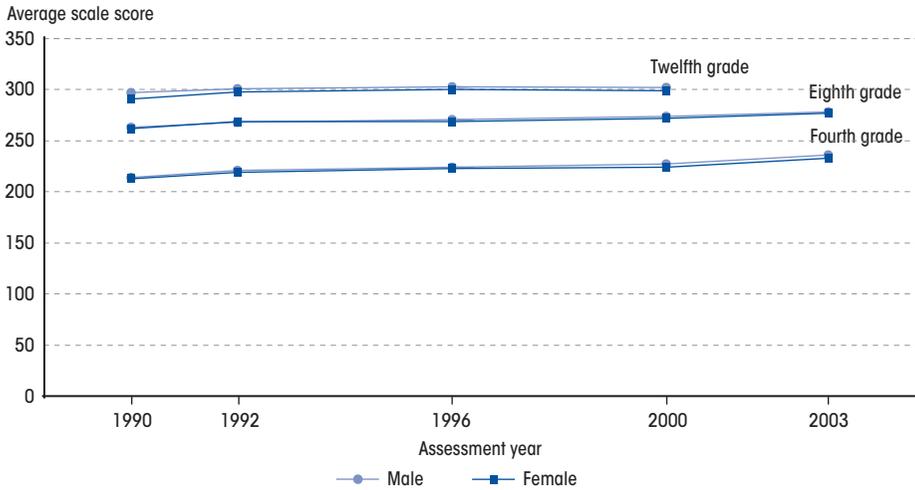
In 2002, males made up a higher proportion of students taking AP exams in science and calculus.

Males also obtained higher average scores on these examinations compared to females (figure D and *indicator 22*).

Gender differences in mathematics proficiency favoring males were observed internationally in PISA, although the differences were neither as large nor as consistent across countries as the differences favoring females in reading. In 13 of 28 participating countries, males outperformed females; however, this was not the case in the United States (*indicator 9*).

Trends in science achievement have been slightly different. Among fourth- and eighth-graders, males scored higher than females on the 2000 science assessment, but not on the 1996 assessment. In contrast, among twelfth-graders, males outperformed females on the 1996 assessment, but there was no measurable difference on the 2000 assessment. The score gap between males and females increased between 1996 and 2000 at the fourth and eighth grades, but there was no measurable

**Figure E. Average scale scores in mathematics for fourth-, eighth-, and twelfth-graders, by sex: 1990, 1992, 1996, 2000, and 2003**



NOTE: These test scores are from the National Assessment of Educational Progress (NAEP) Main Assessment. Scale ranges from 0 to 500. For both the 1990 and 1992 assessments, accommodations were not permitted. For a discussion of the mathematics scale score definitions, please see <http://nces.ed.gov/nationsreportcard/mathematics/scale.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1990, 1992, 1996, 2002, and 2003 Mathematics Assessments.

difference in the size of the gap at twelfth grade (*indicator 6*).

### *Gender gaps in mathematics and science coursetaking appear to be shrinking.*

Overall, females' high school academic programs in mathematics and science are at least as challenging as those taken by males. Female high school graduates in 2000 were more likely than their male peers to have taken algebra II, biology, AP/honors biology, and chemistry (figure F and *indicator 21*). Males, by contrast, were more likely than females to have taken physics. The percentage of male graduates who took calculus increased from 6 to 12 percent and the percentage of female graduates who took calculus increased from 4 to 11 percent between 1982 and 2000.

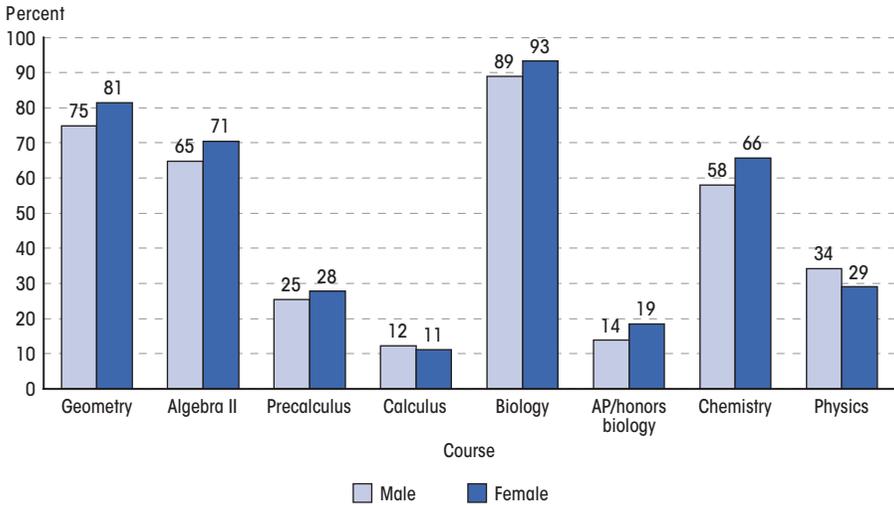
### **Computer Usage**

The computer has become a tool of vital importance in the home, classroom, and workplace. If females are less comfortable with this tool or have less access to a computer at home or at school, they could be at a disadvantage later in their educational careers or in the workplace. Based on available data, males and females have equal access to computers.

### *Females are just as likely as males to use computers at home and at school.*

Reflecting the rapid spread of technology throughout society, the percentage of students in elementary and secondary school using computers at school increased from 60 percent of students in 1993 to 84 percent of students in 2001 (*indicator 10*). The percentage of students who used a computer at home increased from 25 percent of students to 66 percent of students.

**Figure F. Percent of public high school graduates of 2000 who had taken various mathematics and science courses in high school, by sex: 2000**



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000 High School Transcript Study (HSTS:00).

Similar percentages of males and females used computers at school. In addition, similar percentages of males and females reported computer use at home, both in general and for schoolwork. However, when looking at 5- through 17-year-olds, girls are slightly more likely than boys to use home computers for e-mail, word processing, and completing school assignments (*Computer and Internet Use by Children and Adolescents in 2001*, NCES 2004-014). Despite evident parity in general access to and use of computers, however, there is some evidence that at least some males leave high school with greater interest in and specialized knowledge of computers. For instance, males accounted for 86 percent of students who took the AP examination in computer science in 2002, and males had higher average scores on the examination than females (figure D and *indicator 22*).

### Extracurricular Activities

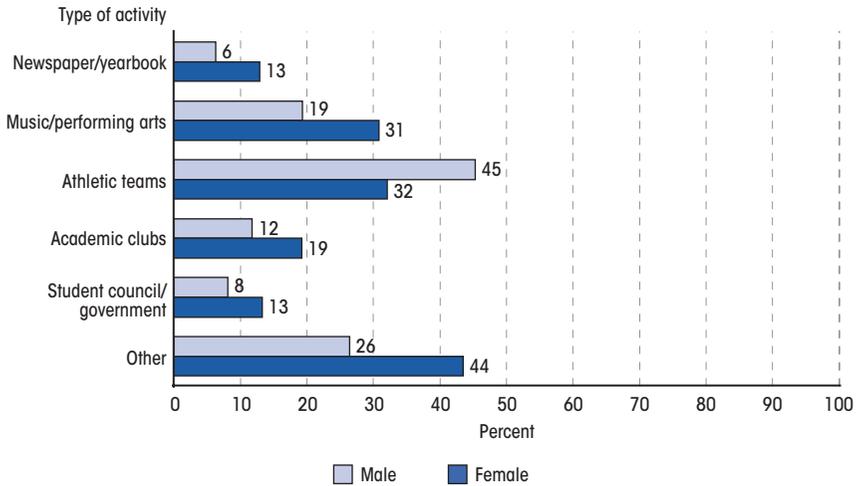
Extracurricular activities offer opportunities for students to develop skills that are important in the workplace and in society, such as team values, individual and group responsibility, physical

strength and endurance, competition, and a sense of community. Consequently, equal access to opportunities to develop such skills is an important component of educational equity.

#### *Females are more likely than males to participate in various afterschool activities, except for athletics.*

In 2001, females were more likely than their male peers to participate in music or other performing arts, belong to academic clubs, work on the school newspaper or yearbook, or to participate in the student council or government (figure G). Male students, however, were more likely to participate in school athletics than female students. Roughly one-third of female seniors reported participating in music or other performing arts, and one-third reported participating on athletic teams. In contrast, 19 percent of male students reported participating in music or other performing arts, while 45 percent reported participating on athletic teams (*indicator 15*). It is difficult to assess the relative importance of the different types of skills learned in the various activities.

**Figure G. Percent of high school seniors who participated in various school-related activities during the school year, by sex: 2001**



NOTE: The response rates for this survey do not meet NCES statistical standards. The response rate for this survey was less than 70 percent and a full nonresponse bias analysis has not been done to date.

SOURCE: University of Michigan, Institute for Social Research, Monitoring the Future Study, 2001.

## Postsecondary Education

Females currently have greater success than males in attaining postsecondary education. Females have higher aspirations than males while in high school, they are more likely to enroll in college immediately after graduating from high school, and they persist and complete degrees at higher rates than males. More than half of all bachelor's and master's degrees are awarded to females. Nevertheless, gender differences in majors still exist, with female bachelor's degree recipients much less likely than their male peers to major in computer science, engineering, and physical sciences. Females also still lag behind males in enrollment in first-professional and doctoral programs, but they have made gains in the past 30 years and are closing the gender gap.

### Transition to Postsecondary Education

High school students' plans for further education indicate the importance that young people attach to postsecondary education and their perceptions of their access to it. Aspirations are important, because they are a first step toward attainment. Both aspirations and undergraduate

enrollment rates of females have increased, and females have now surpassed males in both areas.

*Female high school seniors tend to have higher educational aspirations than their male peers.*

In 1990 and 2001, female high school seniors were more likely than their male peers to report that they definitely planned to graduate from a 4-year college (62 percent vs. 51 percent in 2001; *indicator 23*). By 2001, female high school seniors were also more likely than males to report that they definitely would attend graduate or professional school (25 percent vs. 16 percent). This marked a change from 1980, when a higher percentage of males than females reported that they definitely would attend graduate or professional school.

*Females are more likely than males to enroll in college the fall immediately following graduation from high school.*

From 1972 to 2001, the proportions of both males and females who enrolled in college immediately after finishing high school increased, but

females' enrollment increased at a faster rate. In 1972, male high school graduates were more likely than their female peers to enroll in a 2- or 4-year college in the fall after graduating from high school (53 percent vs. 46 percent) (figure H and *indicator 24*). However, despite long-term increases in enrollment between 1972 and 2001, the proportions of females who enrolled in college after high school declined 7 percentage points between 1997 and 2001.

*A majority of undergraduates are female.*

The proportion of the undergraduates who were female increased from the minority to the majority of students between 1970 and 2000; in 1970, 42 percent of all undergraduates were female, while in 2000, 56 percent were female (*indicator 25*). In part, this reflects an increase in the numbers of young women who enter college immediately after completing high school, but it also reflects a sizable number of older women enrolled in school (*Digest of Education Statistics 2002*, NCES 2003–060). Since the late 1970s, at least half of all part-time students have been female, and since 1985, a majority of full-time students have been female as well (figure I). In

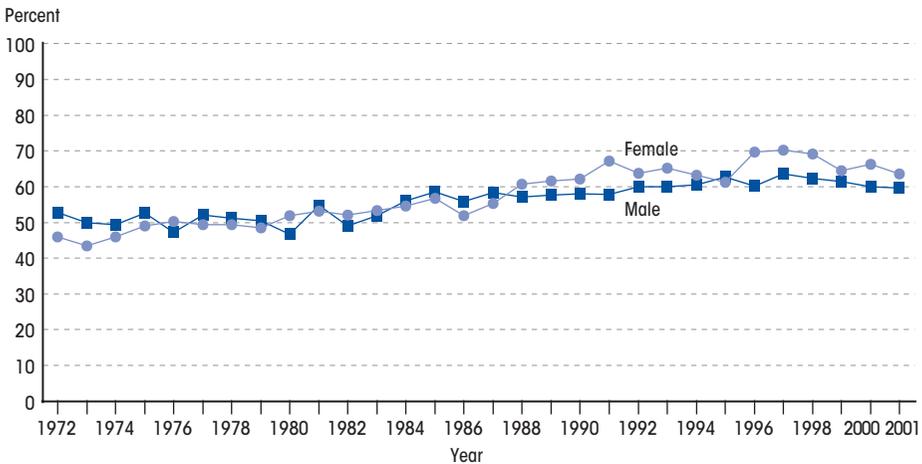
2000, females accounted for 55 percent of full-time enrollment and 58 percent of part-time enrollment.

*Females make up the majority of graduate, but not first-professional, students.*

Females have made even larger gains at the graduate level than at the undergraduate level. In 1970, 39 percent of all graduate students were female, a slightly lower proportion than at the undergraduate level, but in 2000, 58 percent of graduate students were female, a slightly higher proportion than at the undergraduate level (figure J). Female graduate students accounted for a greater percentage of part-time enrollment (61 percent) than of full-time enrollment (54 percent) in 2000.

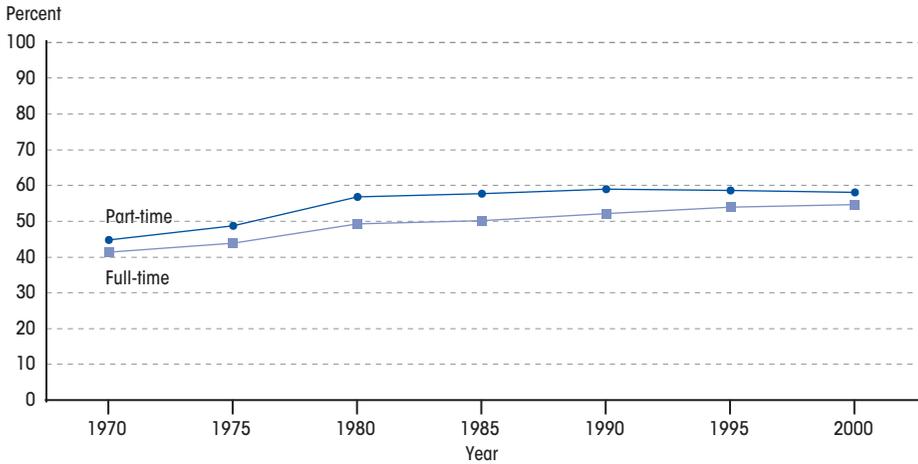
The majority of first-professional students are still men, but women have made dramatic and consistent gains in their representation since 1970 (figure J). While 9 percent of students in first-professional degree programs were women in 1970, by 2000, 47 percent of full-time and 44 percent of part-time first-professional students were women.

**Figure H. Percent of high school completers who were enrolled in college the October following high school completion, by sex: October 1972 to October 2001**



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys (CPS), 1973–2001.

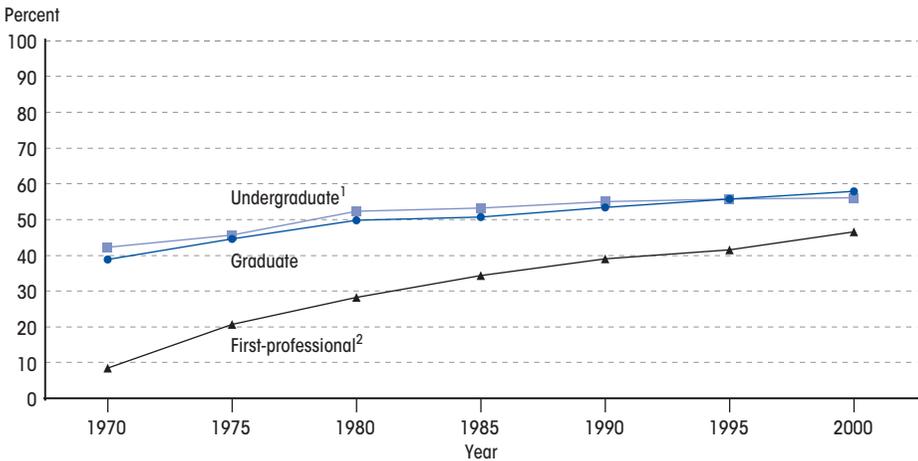
**Figure I. Percent of undergraduates who were female, by enrollment status: Various years, fall 1970 to fall 2000**



NOTE: Includes unclassified undergraduate students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2002*, based on Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys; and Integrated Postsecondary Education Data System (IPEDS), "Enrollment" surveys.

**Figure J. Females as a percent of total enrollment in undergraduate, graduate, and first-professional education: Various years, fall 1970 to fall 2000**



<sup>1</sup>Includes unclassified undergraduate students.

<sup>2</sup>First-professional students are enrolled in the fields of dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D. Phar.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic medicine (D.C. or D.C.M.), law (J.D.), and the theological professions (M.Div. or M.H.L.).

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2002*, based on Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys; and Integrated Postsecondary Education Data System (IPEDS), "Enrollment" surveys.

## Persistence and Attainment

Enrollment in postsecondary education is one indicator of access. However, completion of post-secondary programs is an even more important indicator of personal success and of an education climate that fosters parity in opportunity.

### *Females are more likely than males to persist and attain degrees.*

Among freshmen who enrolled in a college or university for the first time in 1995–96 seeking a bachelor's degree, a greater percentage of females (66 percent) than males (59 percent) had earned a bachelor's degree by the spring of 2001 (*indicator 28*). A greater percentage of males than females were still enrolled (16 percent vs. 13 percent), indicating that some of the difference in attainment rates might eventually be reduced. A higher percentage of males (21 percent) than females (16 percent) had not obtained a bachelor's degree and were no longer enrolled for a bachelor's degree.

Considering degree attainment more generally (not just those who started in 1995–96), females earned more than half of all bachelor's degrees in 2001 (57 percent; *indicator 29*). This statistic reflects the increasing proportions of female students in postsecondary education, as previously noted. The proportions of Black and Hispanic bachelor's degree recipients who were female in 2000–01 (66 and 60 percent, respectively) were higher than the proportion of White degree recipients who were female (57 percent; *indicator 30*).

The increase in participation by females in postsecondary education over the past 30 years has meant that, among the general population ages 25–29 in 2002, a slightly higher percentage of females than males had attained a bachelor's degree or higher (32 percent vs. 27 percent; *indicator 33*).

### *Degrees in certain fields of study continued to be disproportionately awarded to males or to females, although changes have occurred in recent years.*

Historically, females have tended to account for the majority of bachelor's degrees in fields that often lead to lower paying occupations,

such as education and health professions, while males have typically predominated in higher paying fields, such as computer science and engineering. While some of these disparities persist, many changes have occurred since 1970. Certain fields in which men received the majority of degrees in 1970, such as social sciences and history, psychology, biological sciences/life sciences, and business management and administrative services, attained relative gender parity or were disproportionately female by 2001 (figure K and *indicator 29*). And while other fields, such as computer and information sciences, physical sciences and science technologies, and engineering, continue to have a larger proportion of males, the percentages of females majoring in these areas have risen since 1970.

### *Females have made substantial progress at the graduate level overall, but still earn fewer than half of the degrees in many fields.*

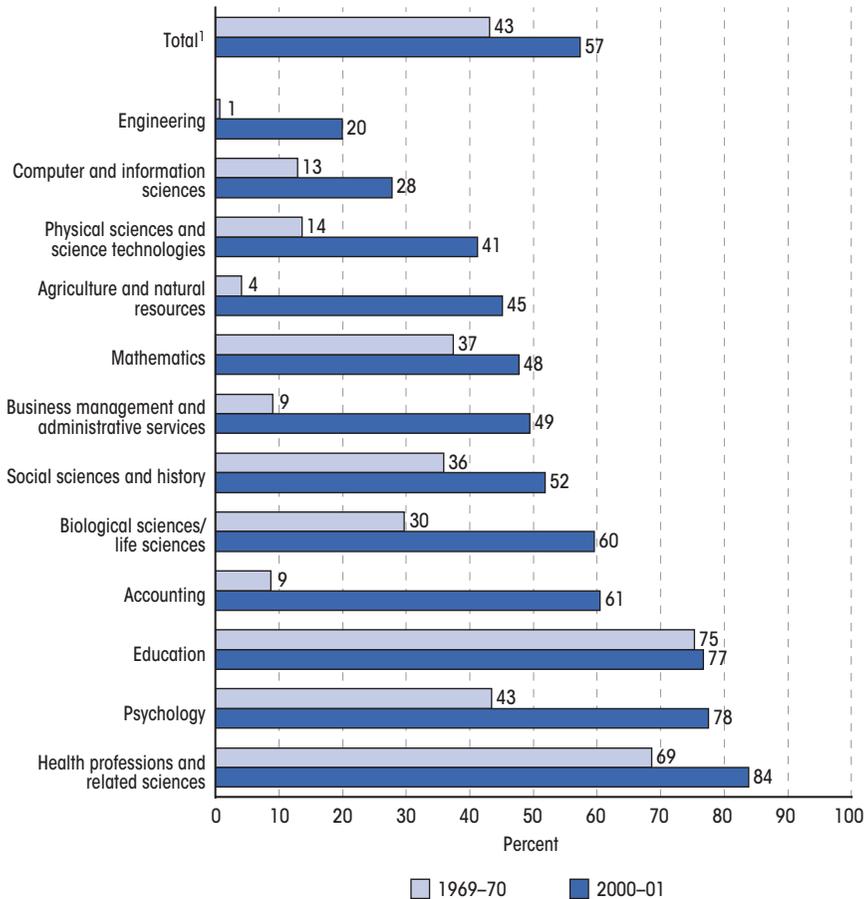
Between 1970 and 2001, the percentages of master's, doctor's, and first-professional degrees earned by females increased substantially in many fields (*indicator 31*). However, advanced degrees conferred still tend to follow traditional patterns, with women accounting for the majority of master's and doctor's degree recipients in education and health, and men accounting for the majority of recipients in computer and information sciences and engineering.

Women's progress toward earning an equal share of first-professional degrees has been notable. In 1970, 5 percent of law degrees, 8 percent of medical degrees, and 1 percent of dentistry degrees were awarded to females; in 2001, the corresponding percentages were 47 percent, 43 percent, and 39 percent.

### *Gender differences in participation rates in collegiate sports have narrowed.*

One final measure of gender equity at the college level is participation in National Collegiate Athletic Association (NCAA)-sponsored sports. Males still outnumber females in collegiate sports participation, but the gap has narrowed. Between 1981–82 (when detailed statistics on females' sports first became available) and 2001–02, the

**Figure K. Percent of bachelor's degrees conferred to females, by selected fields of study: 1969-70 and 2000-01**



<sup>1</sup>Includes other fields of study not shown separately.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Degrees and Other Formal Awards Conferred Survey," and Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:01), 2000-01.

number of females participating in Division I sports increased 150 percent, compared with 15 percent for males (*indicator 26*).

Female athletes are more likely than male athletes to graduate in a timely fashion. Among female athletes who entered college in 1995, 69 percent graduated by 2001, compared with 54 percent of men.

## Outcomes

An examination of equity in education requires considering the benefits that males and females receive at the end of schooling. Higher levels of educational attainment are associated with certain labor market outcomes, such as higher labor force participation rates, higher rates of employment, and higher earnings. Labor market outcomes are not the only important outcomes of participation in formal education, but they are

the most readily measured with available national and international data.

*Employment rates for females have increased across all levels of educational attainment since the 1970s.*

The gap between male and female employment rates has narrowed since the 1970s. Both the decline in employment rates of males who did not attend college and the increase in the employment rate of females across all education levels contributed to the overall narrowing of the gap. In 2002, the gender gaps in employment rates were smaller among people with higher levels of education compared to those with a high school diploma or less. However, males continued to have higher employment rates across all levels of education (*indicator 35*).

*Females with bachelor's degrees tend to earn less than males with the same level of educational attainment, but the gap is narrowing.*

Among young people ages 25–34, the median annual earnings for full-time, year-round workers are lower for females than for their male counterparts with the same level of educational attainment. However, over the last 30 years, women have begun to narrow the earnings gap with men. In 1970, young women with a bachelor's degree had a median annual salary that was equivalent to 71 percent of what their male peers earned; in 2000, it was 78 percent (*indicator 36*). The male-female difference in annual earnings for full-time, year-round workers may be attributable at least in part to different occupations and job tenure.

*Females ages 25–64 have lower labor force participation rates than males, regardless of education, but participation increases with education.*

In 2001, females ages 25–64 had lower labor force participation rates than males at all levels of education in the United States. This difference was also evident in other selected large, industrialized countries, such as Canada, France, Germany, Italy, and the United Kingdom (*indicator 37*). However, the percentage of females participating in the labor force increased in all six countries between 1995 and 2001, while the percentage of males stayed the same or decreased. Female labor

force participation rates also generally increased with educational attainment.

*Females are more likely than males to participate in adult education.*

Women not only have made important progress in terms of their formal educational attainment, but also have been actively involved in adult education activities. In 2001, the overall participation rate of females in adult education activities was higher than that of their male peers (53 percent vs. 46 percent; *indicator 32*). However, when examined by type of activity, the only significant gender difference was in participation in personal development activities. The percentages of males and females who participated in basic skills and work-related adult education were similar.

## Conclusion

Various indicators have been presented here to examine the extent to which males and females have access to similar educational opportunities, take advantage of those opportunities, and have similar educational outcomes. By most of these measures, females are doing at least as well as males.

Males and females begin school with similar preschool experiences, although females may have an advantage in early literacy participation experiences. Females outperform males on reading and writing assessments at fourth-, eighth-, and twelfth-grades. Throughout their elementary and secondary education, females are less likely than males to repeat grades and seem to have fewer problems that put them at risk.

While females' performance in mathematics is often perceived to be lower than that of males, NAEP results have shown few consistent gender differences over the years, particularly among younger students. Twelfth-grade NAEP assessments in mathematics and science show no significant gender differences in achievement scores. However, females were less likely to report liking math or science. This is true despite the fact that young women take equally or more challenging mathematics and science coursework than their male peers in high school (with the exception of physics, which females are slightly less likely than males to take).

Since the early 1970s, women have made gains in postsecondary education in terms of enrollment and attainment. Female high school seniors tend to have higher educational aspirations than their male peers and are more likely to enroll in college immediately after graduating from high school. Females also account for the majority of undergraduate enrollment and the majority of bachelor's degree recipients.

Gender differences in college majors persist, however, with females still predominant in somewhat lower paying fields like education, and males more likely to earn degrees in engineering, physics, and computer science. Females are also still underrepresented in first-professional programs, although they have made substantial progress toward parity in the past 30 years.

In terms of labor market outcomes, the findings are mixed and depend somewhat on factors beyond the scope of the education system. Females ages 25–34 are less likely than their male counterparts to be employed, but it is unknown to what extent this is by choice. The gap between males and females in employment rates has narrowed over time, and females with higher levels of educational attainment are employed at rates more similar to those of males than are females with lower levels of attainment. Females tend to earn less than males with similar educational attainment, but this may be partly a reflection of different patterns of labor market participation and job choice.

### Technical Note

Unless otherwise noted, all statements cited in the text about differences between two or more groups or changes over time were tested for statistical significance and substantive difference using equivalency tests. All statements were tested for statistical significance at the .05 level. Several test procedures were used, depending on the type of data interpreted and the nature of the statement tested. The most commonly used test procedures were *t* tests, linear trend tests, regression analyses, and equivalence tests. *t* tests were not adjusted to compensate for multiple comparisons being made simultaneously. Trend tests were conducted by evaluating the significance of the slope of a simple regression of the annual data points, and a *t* test comparing the end points. Regression analyses to evaluate the relationship of multiple independent variables upon one dependent variable involved procedures that addressed the impact of complex sample designs upon the statistical tests. Equivalence tests were used to determine whether two statistics are substantively equivalent or substantively different. This is accomplished by using a hypothesis test to determine whether the confidence interval of the difference between sample estimates is significantly greater or less than a pre-set delta. The delta value is the magnitude of the difference required for the estimates to be judged substantively different. In most cases involving percentages, a delta, or difference, of 3.0 was used to determine substantive equivalence or difference. In some indicators involving only very small percentages, a lower delta was used. In contrast, for other indicators involving only relatively large values a larger delta was used, such as a delta of \$1,000 used in the case of annual salaries.