

Girls and Information Technology

Many girls use computers.

- ◆ Girls are as likely as boys to use the Internet. Thirty-one percent of girls and young women 3-17 years of age use the Internet at home compared with 30% of boys and young men.¹³ (See Figure 1) It is predicted that in the year 2004, girls and boys 12 years and older will spend approximately 187 hours per year on the Internet.¹²
- ◆ More girls than boys 9-17 years of age report using the Internet for education, schoolwork, and communication with family and/or friends while twice as many boys as girls in the same age group report using the Internet to play games.⁵ (See Figure 2)
- ◆ A study conducted by the American Association of University Women found that girls are not attracted to video/computer games at the same rate as boys; the authors suggest that fewer girls than boys may be introduced to computers at an early age.¹
- ◆ According to a Kaiser Family Foundation study, children and young adults 8-18 years of age spend approximately 35 minutes per day on the computer. Boys average 10 more minutes on the computer than girls, due in large part to time more boys than girls spend playing computer games (55% vs. 23%).⁹
- ◆ Among those 8-18 years of age who visit Internet websites, girls are more likely than boys to visit popular entertainment websites (64% vs. 44%) while boys are more likely than girls to visit sports websites (33% vs. 12%).⁹
- ◆ When asked to select the most important invention of the 20th century from a list of five options, 32% of young adults chose the personal computer, followed by the pacemaker (26%), wireless communications (18%), water purification (13%), and television (10%). Girls split their choices for the top invention between the pacemaker (26%), the personal computer (26%), and wireless communications (24%).⁴
- ◆ According to the U.S. Census Bureau, 51% of U.S. households have one or more computers and 94 million people use the Internet at home.¹³

Figure 1. Percentage of girls and boys who use the Internet at home, by sex and age group, 2001.¹³

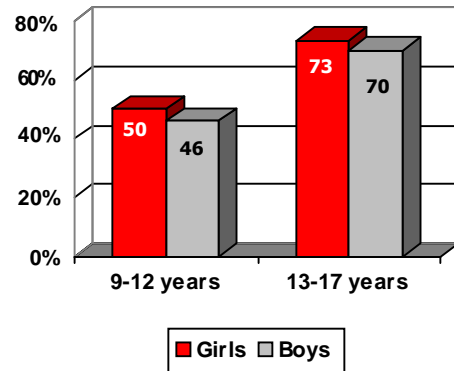
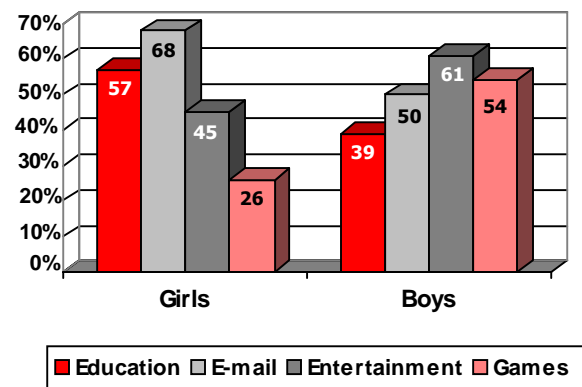


Figure 2. Main uses for the Internet, percentage by sex, 2003.⁵



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- ◆ In 2001, 18 million children and young adults 3-17 years of age used the Internet and 65% of these lived in a household with a computer. Among children and young adults 3-17 years of age, 72% of Asian/Pacific Islander, 43% of Black, 37% of Hispanic, and 77% of White young people have computer and Internet access at home.¹³

Girls and young women are a small proportion of those preparing for careers in computer science.

- ◆ Fewer girls than boys take computer programming classes; the reason girls most often cite is classes are dull and too technically focused.¹
- ◆ Overall, just over one-fifth of college bound students intending to major in computer science are young women. Black, and Asian/Pacific Islander young women are more likely to plan to study computer science than are White, Hispanic, and American Indian young women.³ (See Figure 3)
- ◆ In 2002, 16% of young people who took advanced placement exams for Computer Science A were girls (84% boys); 10% of Computer Science AB takers were girls (90% boys).¹⁰
- ◆ Among those taking the Scholastic Aptitude Test (SAT), more young women than young men had no computer coursework or experience in high school (60% and 40% respectively). Additionally, more than three-fourths of the SAT takers intending to major in computer science in college were young men.¹¹

Women are underrepresented in the computer sciences at the college level.

- ◆ Understanding young women’s engagement with computer science is the first step toward narrowing the gender gap that exists at the college level. In 1995, Carnegie Mellon University launched a gender and computer science project intended to change the culture of the university’s computer science department, encouraging women’s participation. When the project began women comprised 8% of the undergraduates in computer science; by 2000 women comprised 42% of the undergraduates in computer science.²
- ◆ Of all computer science bachelor’s degrees awarded to women in 2000, 0.6% were to American Indian women, 17% to Asian/Pacific Islander women, 16% to Black women, 6% to Hispanic women, and 48% to White women.⁶ The proportion of Black and Asian/Pacific Islander women who were awarded bachelor’s degrees in computer science in 2000 suggests an increase in diversity since 1991. (See Figure 4)

Figure 3. Percentage of young women college freshman intending to major in computer science, by race/ethnicity, 2000.³

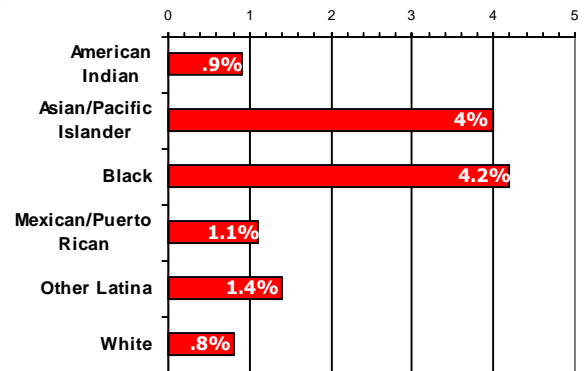
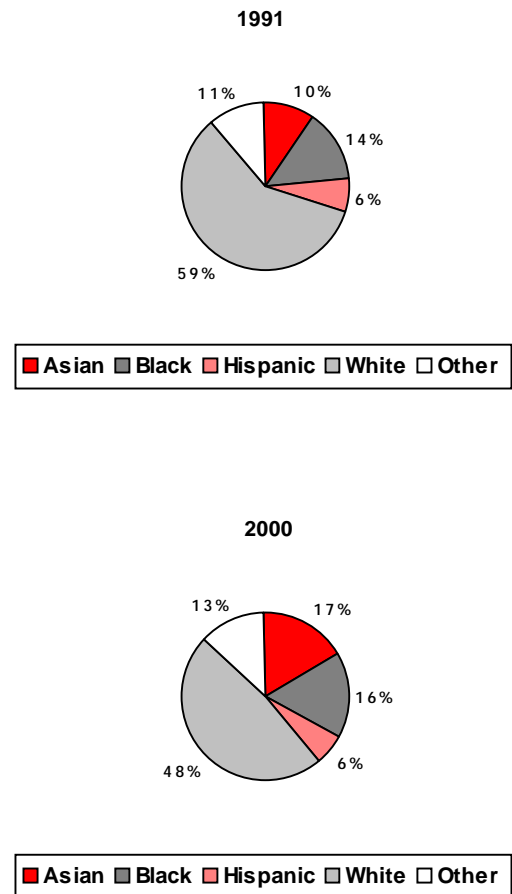


Figure 4. Computer science bachelor’s degrees awarded to women in 1991 and 2000 by percentage and race/ethnicity, 2002.⁶



Note: American Indian women accounted for less than 1% of computer science bachelor’s degrees awarded to women in both 1991 (.4%) and 2000 (.8%).



- ◆ In 2001, women earned 28% of all bachelor's degrees in computer science, 34% of all master's degrees, and 18% of all doctoral degrees.¹⁴ (See Figure 5)
- ◆ In 2002, 87 PhDs in computer science were awarded to women: 26 to Asian women, 7 to Black women, 2 to Hispanic women, and 59 to White women. There were no American Indian women PhD recipients in computer science in 2002.⁸

The low representation of women in computer science fields suggests that there are too few role models/mentors for girls and young women who may be interested in pursuing information technology careers.

- ◆ Women comprise just over 20% of the technology workforce. Women constitute a larger portion of the computer science workforce in private/nonprofit organizations (45%) than in the federal government (26%), private/for-profit organizations (25%), or among the self-employed (17%).¹⁷ (See Figure 6)
- ◆ In a recent study conducted on women faculty in the top 50 science and engineering departments in the U.S., women were underrepresented in the computer science departments studied. Women were more likely to hold faculty positions (assistant, associate, and full professors) in psychology (34%) and sociology (36%) than in computer science (11%). Women comprised just 11% of assistant professors in computer science, 14% of associate professors, and 8% of full professors.⁸
- ◆ The top five fastest growing occupations between 1998 and 2008 are information technology occupations, which require advanced computer skills; fewer women than men currently occupy these positions.¹⁷ The U.S. Department of Labor predicts that by 2010 the information technology workforce will employ 36% more computer analysts, computer scientists, and database administrators.¹⁶

- ◆ Women working as full-time computer systems analysts, systems researchers, and computer programmers have high median weekly earnings, averaging \$868 per week. Women's earnings in these professions average 81% of men's earnings.¹⁵ (See Figure 7)

Figure 5. Young women as a percentage of earned degrees in computer science, by degree and selected field, 2001.¹⁴

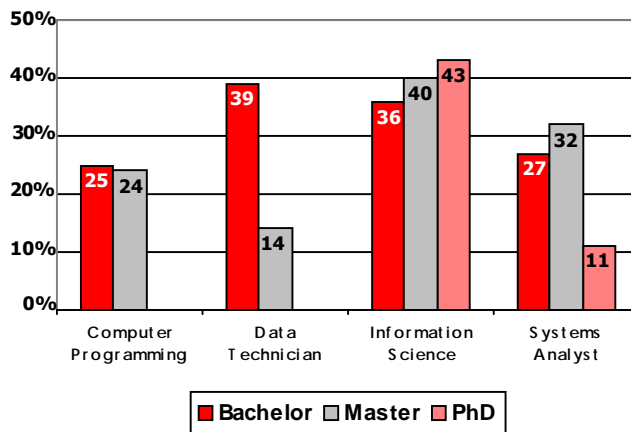
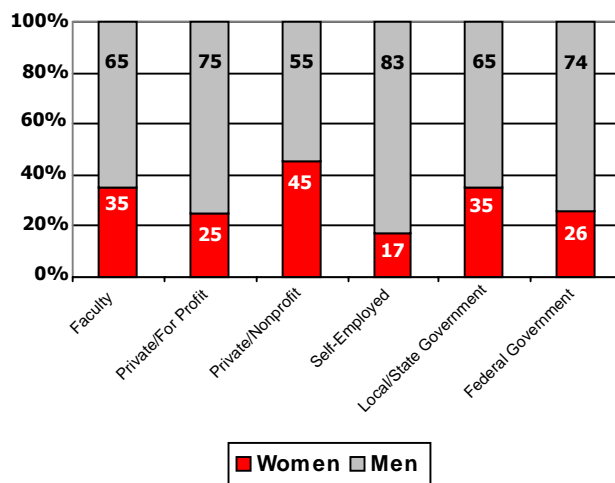
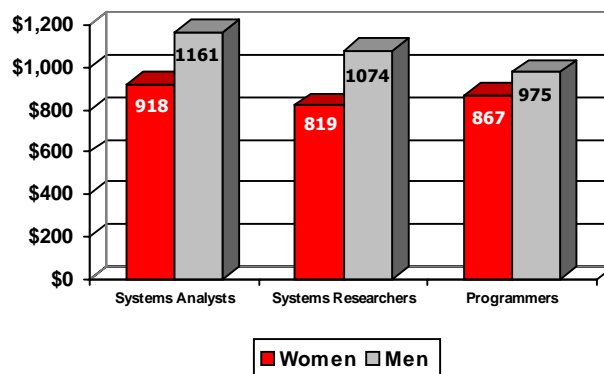


Figure 6. Employed computer scientists by sector of employment and percentage by sex, 1999⁷ *



*Most recent data available

Figure 7. Full-time median salaries for women and men in selected information technology fields, 2001.¹⁵



For more information on girls and technology, see these Girls Incorporated® Facts Sheets:

- ◆ **Girls and Science, Math, and Engineering**
- ◆ **Girls and Careers**

Girls Incorporated® covers this issue in its program Girls Inc. Operation SMARTSM, which helps girls build skills and interests in science, math, and relevant technology.

Girls Inc. is a national nonprofit youth organization dedicated to **inspiring all girls to be strong, smart and boldSM**. For over 50 years, Girls Incorporated has provided vital educational programs to millions of American girls, particularly those in high-risk, underserved areas. Today, innovative programs help girls confront subtle societal messages about their value and potential, and prepare them to lead successful, independent and fulfilling lives.

Girls Inc. reached 685,000 girls in 2002 through direct service, the website, and products and publications. In 2002, Girls Inc. programs were offered through a network of 1,500 program sites. Over 1,000 of these were in schools. In addition, girls received our strong, smart, and bold message over 90 million times through our public service announcements. Guided by our vision of empowered girls and an equitable society, Girls Inc. is committed to reaching millions more girls through its programs and public education efforts. Of the girls the organization serves, over 75% are girls of color; 77% come from families earning \$25,000 annually or less; and 54% percent live with one parent.

Girls Inc. develops research-based informal education programs that encourage girls to take risks and master physical, intellectual and emotional challenges. Major programs address science, math, and technology, health and sexuality, economic and financial literacy, sports skills, leadership and advocacy, violence prevention, and media literacy for girls ages 6-18 throughout the United States and Canada.

The Girls Incorporated National Resource Center (NRC) is the organization's research, program development, national services, and training site. Research and evaluation conducted by the NRC provide the foundation for Girls Inc. programs. The NRC also responds to requests for information on girls' issues and distributes Girls Inc. publications.

Girls Inc. informs policy makers about girls' needs locally and nationally. The organization educates the media about critical issues facing girls. In addition, the organization teaches girls how to advocate for themselves and their communities, using their voices to promote positive change.

Girls Inc. is a nonprofit organization which receives 77 % of its revenue from public support – corporations, foundations, government grants, and individuals. The remainder comes from affiliate dues, fees, interest, and dividends. More than three-quarters of the organization's functional expenses go directly to support program services for girls.

Girls Inc. national leadership focuses on developing innovative ways to leverage our most valuable asset – acknowledged expertise as the nation's premiere program provider and advocate for girls – to expand our reach to more than a million girls by the year 2002. Our leaders include Francis X. Burnes, III, Chair of the National Board; Joyce M. Roche, President and CEO; and Donna Brace Ogilvie, Honorary Chair.



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