

Girls and Information Technology

Many girls use computers for numerous purposes.

- ◆ Many girls ages 6 and under use computers on a daily basis. However, a higher percentage of boys than of girls in this age group use computers every day (19% and 13% respectively).¹⁰
- ◆ Girls and boys ages 8 to 18 spend similar amounts of time using the computer. Girls tend to spend more time using e-mail, visiting Web sites, and instant messaging while boys spend more time playing computer games.⁹
- ◆ More than half of all teens ages 12-17 have their own laptop or desktop computers, including 64% of girls and 55% of boys in this age group.¹
- ◆ In 2007, a research study on teens, technology, and writing found that approximately 94% of teens ages 12-17 reported using the Internet or e-mail. Of these teens, 91% of girls and 86% of boys were accessing the Internet or e-mail from home, with boys slightly more likely than girls to use the Internet at school or at a library.¹ (See Figure 1.)
- ◆ In 2006, 93% of young people ages 12-17 reported using the Internet at least once. While the top activities were the same for girls and boys, girls were more likely than boys were to report almost all Internet activities, including creating Web pages for themselves and for others, emailing friends daily, reviewing health topics, and finding college information. Boys were more likely than girls were to play online games and to post video files.¹¹ (See Figure 2.)
- ◆ Teen women ages 15-17 were more likely to report having used social networking sites such as MySpace and Facebook in 2008 than were teen men (86% and 69% respectively). These figures represent an increase of 23% for teen women and 28% for teen men in one year (70% and 54% respectively in 2007).¹¹
- ◆ Almost all teen girls (96%) and boys (92%) report using the Internet to do research for school assignments.¹¹

Figure 1: Where teens use the Internet, 2007.¹

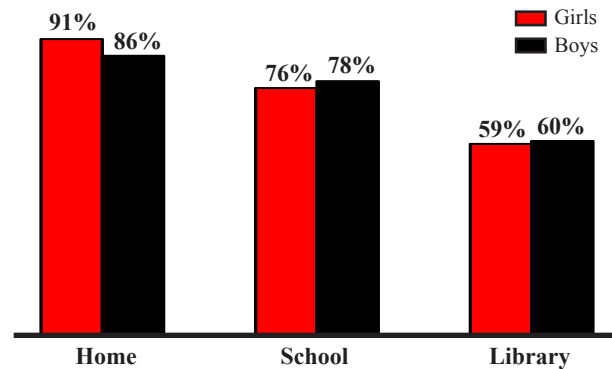
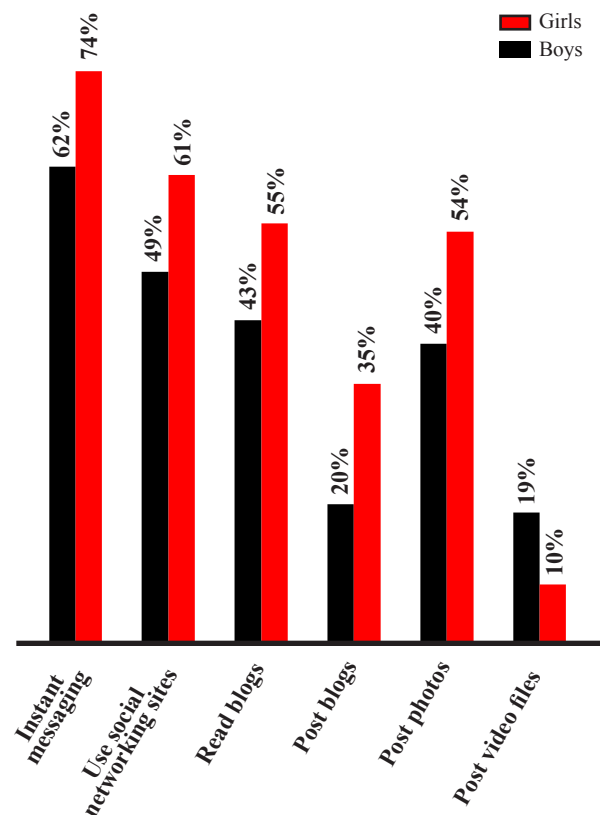


Figure 2: Online activities of girls and boys ages 12-17, 2006.¹¹



However, girls and young women are a small proportion of those preparing for careers requiring computer science skills.

- ◆ Even among college-bound students, young women are more likely than young men to miss out on critical computer skills. Among students planning to enter college in 2007 who took the Scholastic Aptitude Test (SAT), young women constituted over half (54%) of the students who reported taking high school classes in computer literacy, but only 43% of those who reported coursework or experience in computer programming. Among students taking the SAT who reported no computer coursework or experience, 61% were young women.⁶
- ◆ Over the past 10 years, the proportions of students taking the Computer Science A and AB advanced placement exams who were young women have remained low. In 2007, young women constituted approximately 18% of students taking the Computer Science A exam and 12% of those taking the more rigorous AB exam, virtually the same proportions as in 1997 (20% and 12% respectively). Young women identifying themselves as Asian have been especially likely to take advanced placement exams in computer science, while young women of other racial and ethnic backgrounds have been underrepresented.^{4,5} (See Figure 3.)
- ◆ In 2008, girls represented 24% of the finalists in computer science at the Intel Science and Engineering Fair, a 50% increase from 16% in 2007.¹²

Women are underrepresented in computer science at the college level.

- ◆ In 2006, 21% of all bachelor's degrees in computer and information sciences in the United States were earned by women. The percentages of women earning advanced degrees in this field were only slightly higher, with women earning 27% of all master's degrees and 22% of all doctoral degrees in computer and information sciences.^{13,14,15} (See Figure 4.)
- ◆ The number of women who earned bachelor's degrees in 2006 in computer and information sciences and supportive services was 9,775 out of the total 47,452, an increase by 45% over the total number in 1996 (6,749). However, the percentage of women among these degree recipients decreased from 29% in 1990 to 21% in 2006. For women earning master's degrees in the same field, there was a 61% increase in the number of degrees granted to women in 2006 (4,585) compared to 1996 (2,850), but the percentage of degree recipients in this field who were women slipped from 30% in 1990 to 27% in 1996 and 2006.¹⁶ (See Figure 5a and 5b.)

Figure 3: Young women taking the Computer Science A and AB AP exams, 1997 and 2007, by race and ethnicity.^{4,5}

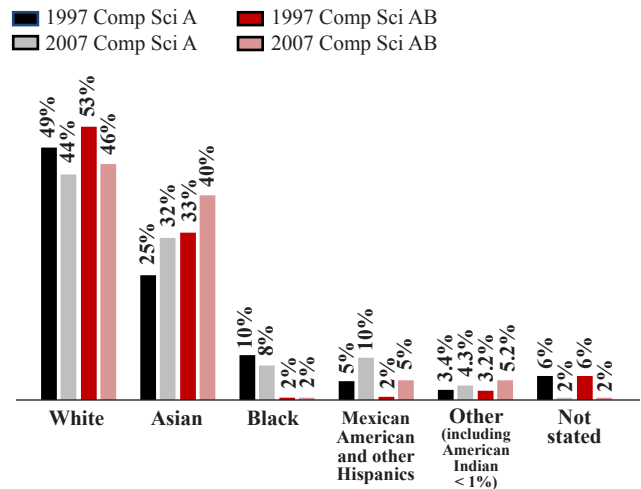


Figure 4: Computer and information sciences bachelor's, master's and doctoral degrees earned by women in 2006, by race and ethnicity.^{13,14,15}

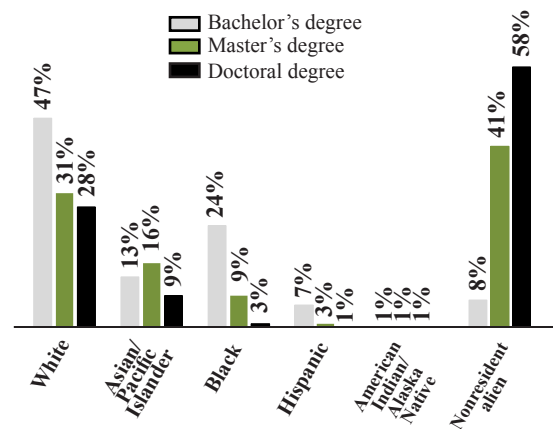
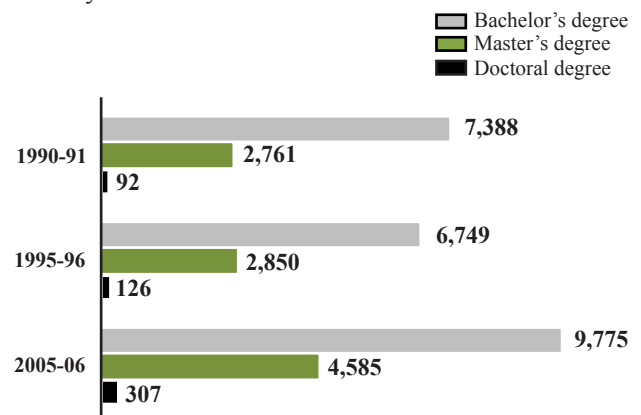


Figure 5a: Number of women who earned degrees in computer and information sciences and support services, select years.¹⁶



Women are underrepresented continued...

- ◆ More women are earning doctoral degrees in computer and information sciences and support services than was the case ten years previous (307 in 2006 compared to 126 in 1996). This represents a 143% increase in the number of women doctoral degree earners in this field since 1996 and a 234% increase compared to 1990. Even so, in 2006 women earned only 22% of the doctoral degrees in this field.¹⁶ (See Figures 5a and 5b.)
- ◆ Many women from other countries study computer science in the United States, especially at the graduate level. Of the women awarded degrees in computer science in 2006, 8% of those earning bachelor's degrees, 41% of those earning master's degrees, and 58% of those earning doctoral degrees were considered nonresident aliens.^{13,14,15} (See Figure 4.)

The representation of women working in computer science fields, although increasing, remains low and women have not yet achieved parity with men in status or salary.

- ◆ At Ph.D. granting universities in 2006-07, women made up approximately 15% of current faculty and 11% of current full faculty in the fields of computer science and computer engineering. However, in 2007, 23% of newly hired faculty in Ph.D. granting programs were female, compared to only 16% in 1997.^{7,8}
- ◆ In 2006, approximately 505,000 women and 1,465,000 men—almost three times as many—worked as full-time computer scientists, systems analysts, and computer programmers. Median weekly earnings for women in these professions averaged over \$1,000. However, these women's earnings averaged 85% of those of men in the same professions.¹⁸ (See Figure 6.)
- ◆ Of the top 30 fastest growing occupations, six involve information technology. The U.S. Department of Labor predicts that there will be demand for 55% more network systems and data communication analysts, 48% more computer software applications engineers, 43% more computer systems software engineers, 38% more network and computer systems administrators and database administrators, and 31% more computer systems analysts in 2014 than in 2004. However, fewer women than men currently occupy these positions.¹⁷ (See Figure 7.)
- ◆ In 2007, women comprised only 19% of corporate officers and 12% of board directors in the information industry. In the computer software industry in 2005, women comprised only 10% of corporate officers and board directors.^{2,3}

Figure 5b: Women as a percentage of degree earners in computer and information sciences and support services, select years.¹⁶

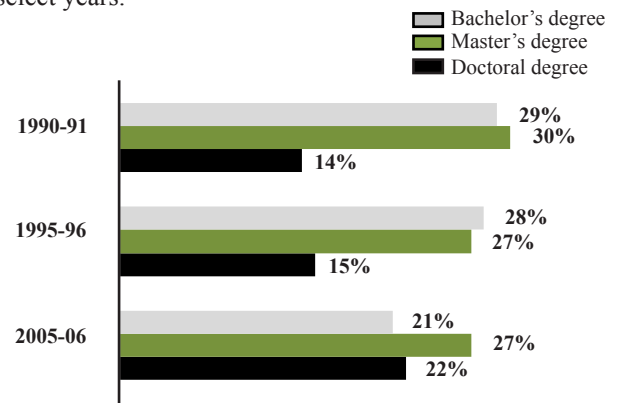


Figure 6: Median weekly earnings of full-time wage and salary workers in selected information technology fields, 2006, by gender.¹⁸

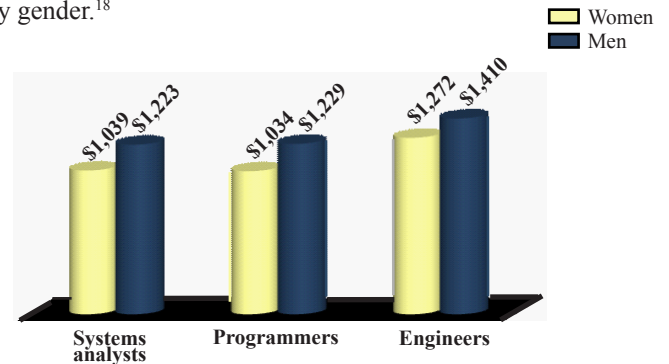
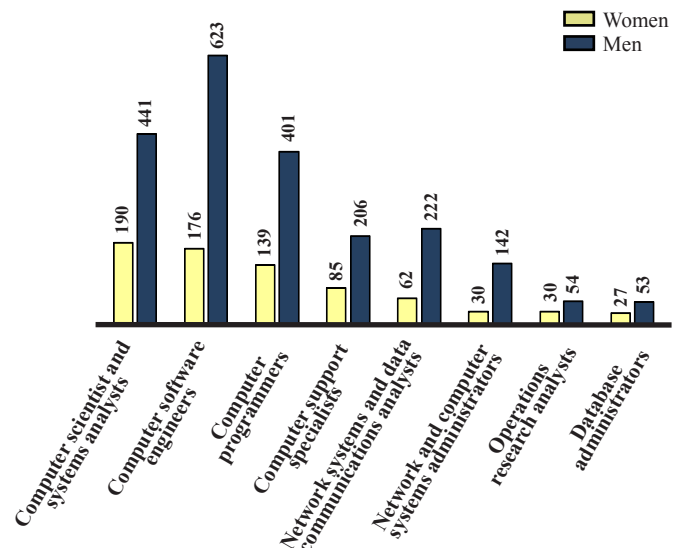


Figure 7: Number of workers in information technology fields (in thousands), 2006, by gender.¹⁷



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For information on girls and other issues, see these Girls Incorporated® Fact Sheets:

- ◆ **Girls and Science, Math, and Engineering**
- ◆ **Girls and Media Literacy**
- ◆ **Girls and Their Bodies**

Girls Inc. Operation SMART® builds girls' skills and interest in science, technology, engineering, and mathematics.

Girls Inc. Media Literacy® encourages girls to think critically about media messages and fosters their awareness of the power of the media and its effects on girls.

Girls Inc. is a nonprofit organization in the United States and Canada that inspires all girls to be strong, smart, and boldSM. With local roots dating to 1864 and national status in the U.S. since 1945, Girls Inc. has responded to the changing needs of girls and their communities through research-based programs and advocacy that empower girls to reach their full potential and to understand, value, and assert their rights.

Girls Inc. programs focus on science, math, and technology, health and sexuality, economic and financial literacy, sports skills, leadership and advocacy, and media literacy for girls ages 6 to 18 throughout the United States and in Canada. While our goal is to reach all girls, we recognize that girls in at-risk communities have an even greater need for our programs. Of those we serve, 70% are girls of color and 65% come from families earning \$25,000 or less; 48% are from single-parent households, most of which are headed by women.

Girls Inc. in 2007 reached over 900,000 girls through Girls Inc. affiliates, our website, and educational products. 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.

The 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. 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. Our leaders include Bridgette Heller, Chair of the National Board; Joyce M. Roché, President and CEO; and Donna Brace Ogilvie, Distinguished Chair.

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