

davies-camp.html

Volume 18, Number 1

The CPSR Newsletter (../index.html)

Winter 2000

Where Have Women Gone and Will They Be Returning

Predictions of Female Involvement in Computing

The Incredible Shrinking Pipeline (Camp 1997) describes a serious problem for computer science (CS) professionals everywhere. CS continually loses women at all stages of the pipeline including elementary, middle, and high schools, college, graduate school and beyond. Thus, the computing industry has lost access to a large pool of potential computer professionals. As a result, ACM's Committee on Women in Computing [ACM-W: www.acm.org/women (<http://www.acm.org/women>)] donated the appropriate funds needed to acquire current graduation and undergraduate enrollment statistics, which will provide an updated view of the situation as well as a prediction of future trends.

In our quest to obtain up-to-date statistics, we chose to mimic the format of the Computing Research Association's Taulbee Survey, which is presented yearly in Computing Research News [www.cra.org/CRN/ (<http://www.cra.org/CRN/>)], by contacting only Ph.D. granting departments in CS, as determined by the CRA Forsythe list. Readers should also note that our survey differs slightly from the CRA Taulbee Survey in that computer engineering (CE) departments and institutions residing in Canada were not included due to a lack of resources. However, this lack of resources does not seem to have limited the accuracy of our results. To date, the percentage of women who earned bachelor's degrees in 1997-1998 from our study (16.36%) is comparable to the percentage of women who earned bachelor's degrees in the same school year according to the CRA Taulbee Survey (15.8%) [Kozen and Morris, 1999]. Our results have been obtained from 85 (62.5%) of the 136 Ph.D. granting departments in CS located within the United States, thanks in part to the efforts of a few volunteers from Systems [www.systers.org (<http://www.systers.org>)].

In addition to the 1997-1998 graduation rates of women in CS departments, each of the 136 institutions that offer a PhD in CS within the United States have been asked to provide us with the following data:

1. Graduation rates (bachelor's level only) for both men and women during the 1998-1999 academic school year.
2. A gender breakdown of freshmen, sophomores, and juniors in CS departments last year (1998-1999).

We use these enrollment rates to predict graduation rates for both men and women in the next three years.

Our preliminary results suggest that we will see a minimal increase in the number of women graduating with CS degrees in the next few years with a drastic decline between 2001 and 2002. Specifically, our results show that women earned approximately 16.70% of all bachelor 's degrees in CS last year (1998-1999), a slight increase from 1997-1998. Similarly, we

by Vanessa Davies
and Tracy Camp

What's inside...

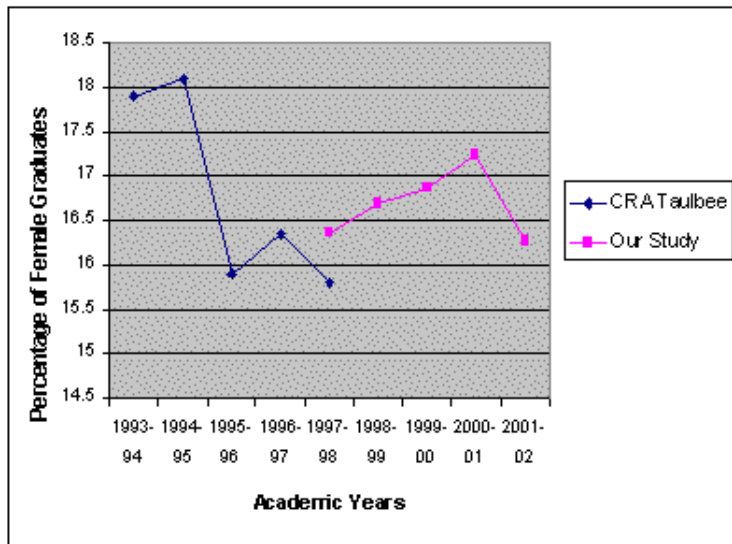
- [Introduction: Gender in the Internet Age \(\[../index.html\]\(http://../index.html\) \)](http://../index.html)
- [Gender Differences in CMC: Findings and Implications \(\[../herring.html\]\(http://../herring.html\) \)](http://../herring.html)
- [Paradigms and Perversions: A Women's Place in Cyberspace \(\[../eubanks.html\]\(http://../eubanks.html\) \)](http://../eubanks.html)
- [Gender Issues in Online Communities \(\[../king.html\]\(http://../king.html\) \)](http://../king.html)
- [Strangers In the "Myst" of Video Gaming: Ethics and Representation \(\[../buchanan.html\]\(http://../buchanan.html\) \)](http://../buchanan.html)
- [Gender and Computer Ethics in the Internet Age \(\[../adam.html\]\(http://../adam.html\) \)](http://../adam.html)
- [Forbidden Technology \(\[../coyle.html\]\(http://../coyle.html\) \)](http://../coyle.html)
- [Where Have Women Gone and Will They Be Returning](#)
- [The Digital Life Style for Women \(\[../spender.html\]\(http://../spender.html\) \)](http://../spender.html)
- [Wit Helps Women in Computer Science Combat Ignorance \(\[../spertus.html\]\(http://../spertus.html\) \)](http://../spertus.html)
- [Working Group & Chapter Reports \(\[../wgroups.html\]\(http://../wgroups.html\) \)](http://../wgroups.html)

© Computer Professionals
for Social Responsibility

predict women to earn 16.86% in 1999-2000, and 17.23% in 2000-2001. Again, we see slight increases in the percentages from the previous year. However, in 2001-2002, our results indicate that only 16.27% of all bachelor's degrees awarded in CS will be awarded to women, which is a huge decrease from the 17.23% in the previous year. Figure 1 shows past trends computed by the CRA Taulbee Survey as well as current and future trends obtained by our study.

P.O. Box 717
 Palo Alto, CA 94302-0717
 Tel. (415) 322-3778
 Fax (415) 322-3798
webmaster@cpsr.org (
<mailto:webmaster@cpsr.org>
)

Figure 1 Percentage of Bachelor's Degrees Awarded to Women



These results clearly demonstrate that the CS community must begin to actively recruit young girls as well as women. A large pool of competent CS professionals will be lost if we simply ignore the problem and hope that current and past trends reverse themselves in future years. Hopefully, statistics such as those mentioned in this article will catch the attention of all computing professionals who in turn can begin creating solutions to patch the holes found in the pipeline.

References

Camp, T. 1997. The Incredible Shrinking Pipeline. Communications of the ACM, vol. 40, no. 10, pp. 103-110, Oct. 1997.

Kozen, D. and Morris, J. 1999. 1997-98 CRA Taulbee Survey. Computing Research News, vol. 11, no. 2, pp. 4-9, March 1999.

● [[top \(../davies-camp.html#top \)](#)] [Newsletter Index \(../index.html \)](#)