

Gender Differences in Computer Science and Applied Information Technology

Summary of Study

Previous research has found that girls and women are less likely to choose computing careers based on aptitudes, interest, and experience regarding computers and also because of cultural stereotypes and perceptions that computing is mostly a masculine activity. This study hypothesizes that applied IT disciplines are more woman-friendly in part because they incorporate practical applications of theories and because they may be more oriented toward human relationships. Given that enrollment figures confirm that women are more likely to be attracted to applied IT disciplines than to computer science, what is it about the applied IT units that make them more attractive to women? Further, are these fields more women-friendly than Computer Science? The study considered the characteristics, attitudes and experiences of women and men in the applied IT units and asked how they compare with those of students in computer science. These questions were explored through a web-based survey of undergraduate and graduate students at five research one institutions in several IT disciplines. Questions related to mentoring, stress and burnout, and work-life balance were also asked in the survey of 1516 students in 2004. Analysis of responses was made through a comparison of computer science students with students in all other IT disciplines.

Results

- Men and women in both groups equally satisfied with major.
- Women in both CS and Applied IT have less confidence working with computers than did the men.
- Men in both groups began using computers and learning to program at younger ages and on their own than the women did.
- In adolescence, women in CS used computers for communicating and men for games
- Applied IT students tended to be older than students in computer science.
- Women in the applied IT disciplines said that helping others was important in their choice of major.
- Overall, this study supports the findings of previous studies for women in both C.S. and Applied IT disciplines.

Christine Ogan
Jean C. Robinson
Manju Ahuja
Susan C. Herring

Take Home Findings

- We need to challenge the disciplinary boundaries of computer science so that the skills required to succeed are not perceived to be appropriate only for males.
- We need to challenge the assumptions in applied IT field that women will be naturally attracted to study in those units and no special efforts are needed—in fact special attention to hiring women faculty and recruiting women students must be made.
- Applied fields as well as Computer Science need to be more pro-active in developing recruitment methods, support programs, and other mechanisms.