



Female Computing Students' Perceptions of Academia: The Relationship Between Female Students' Perceptions of Their Female Professors and Their Career Aspirations

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Despite positive interactions with female faculty members and an overall positive view of the field of computing academia, female undergraduates remain largely uninterested in pursuing careers as computer science professors.

Abstract

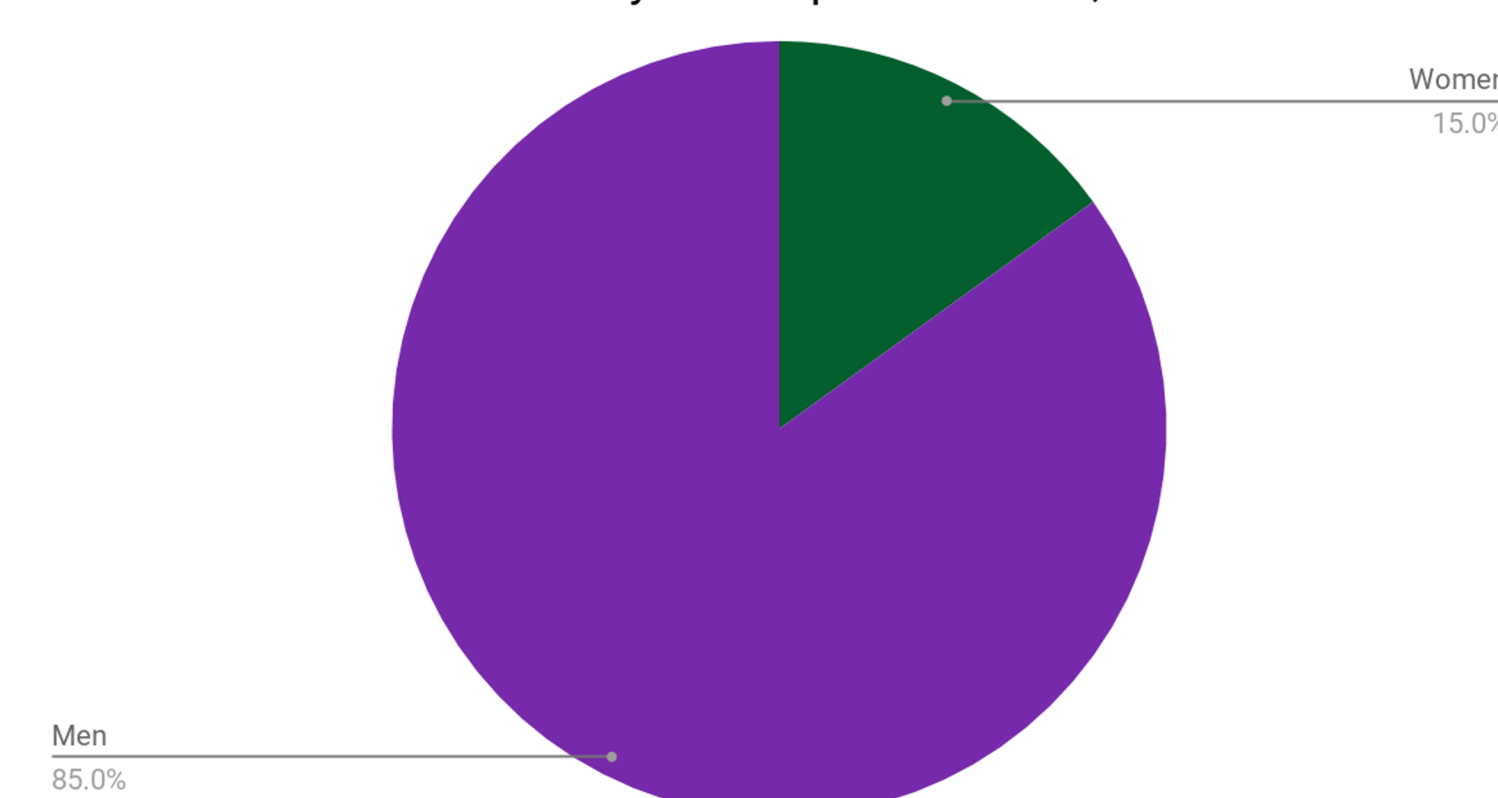
This research study surveyed female undergraduate students who have taken a minimum of three classes in their schools' computer science (CS) departments. The goal of this research is to determine whether and how female undergraduate students' observations and perceptions of the experiences of female tenure-track faculty members affect their likelihood of pursuing CS academia relative to other computer-science related career paths. This study found that most female undergraduate CS students do not plan to pursue a career in academia. However, students also reported that their experiences with female tenure-track faculty were positive in both formal and informal settings and that students held overall positive views of the computer science academia as a career option.

Introduction

Many prior studies have sought to identify barriers to diversifying computing, including gender (American Society for Engineering Education, 2017; Hamrick, 2019). While it is common knowledge that women are underrepresented in the CS field, they are even more underrepresented in academia. Female computer science students considering academia as a viable and desirable career choice is essential to creating gender equity in CS academia (Falkner, et al., 2015). However, prior studies have yet to examine the concept of students' perceptions of their professors' experiences, and particularly their female professors' experiences, in relation to their own views of careers in CS academia. This study hopes to contribute to our understanding of how to achieve gender equality in computer science academia by identifying a possible correlation between a student's perceptions of her female faculty members' experiences and her likelihood to pursue a career in academia.

This goal is not only important in and of itself; it also affects the current cycle of underrepresentation of women in CS academia, creating a lack of role models for young women in those CS departments.

Female Tenure Track Faculty in Computer Science, 2016



Methods

- ▢ **Mixed methods study** of female-identifying undergraduate students who have enrolled in at least 3 CS courses
- ▢ **Survey: n = 40**
 - ▢ Disseminated through (1) key stakeholders in Los Angeles universities and colleges with designated CS departments (including a variety of institution types – public/private, large/small) and via (2) online forums and bulletins targeted to female undergraduate computing students.
 - ▢ Contained mostly quantitative questions but allowed for students to elaborate on certain responses in narrative format

Results

Quantitative

28.9% of respondents did not feel that their female CS professors were respected by their students.

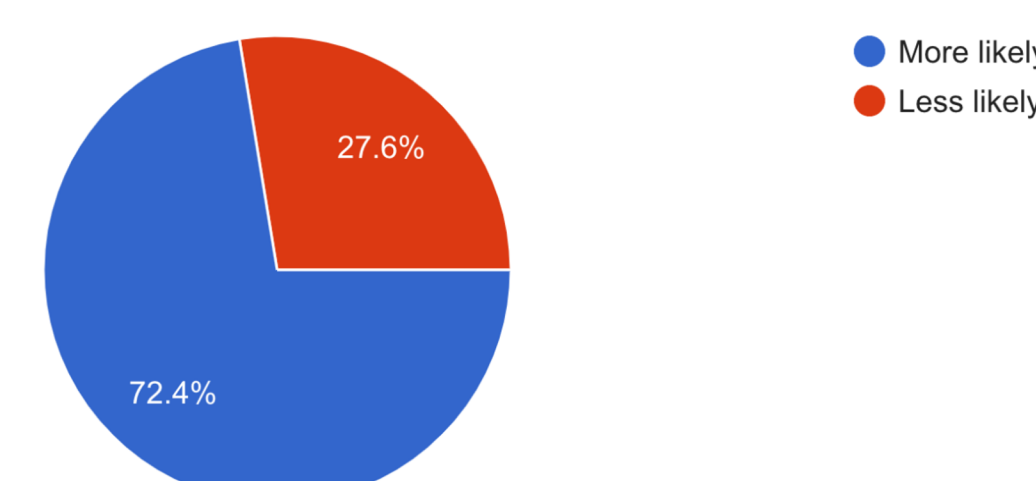
97.1% did not perceive differences in the professional success of female professors who choose to have children vs. those who do not.

All respondents felt that their faculty members feel supported by the school in their family choices. However, they lacked knowledge about specific supports for faculty members when choosing to start a family.

97.2% felt that academia was a viable career choice for women generally; however, 80% reported not being interested in pursuing an academic job in CS as a professor.

88.2% felt that their interactions with female professors made them more likely to want to pursue a career in the CS field. **72.4% reported that overall their interactions with female professors made them more likely to want to become a CS professor.**

Have interactions with your female professors made you more or less likely to want to become a computer science professor?
29 responses



Qualitative

Comments from students who felt that their female CS professors were disrespected for simply being more “unlikeable” than their male peers, often for what were described as generally insignificant reasons.

- *“The one female CS professor that I’ve had is also the most disliked.”*
- *“I think sometimes they are less respected than the male professors/more people complain about them over petty things.”*
- *“I do think they are respected, but it is important to recognize that they are not always as well liked as their male colleagues.”*
- *“I had a professor who was very good, she just wasn’t warm and fuzzy. People said she was cold and bitchy, but they never would have said that if she had been a male. I learned so much in that class and it always bothers me that she doesn’t have a good reputation.”*

Students also described disrespect coming specifically from male students.

- *“Usually male students try to show off their knowledge to professors and other female students. They somewhat believe female professors are not as accomplished.”*

Discussion

Respondents overwhelmingly felt that academia was a viable career option for women. Additionally, nearly 3/4 felt that their interactions female faculty in their CS department had made them more likely to pursue academia in CS. Yet, these young women still were not interested in pursuing a graduate education in CS nor going on to pursue an academic job within CS, suggesting that there is still quite a bit of work to be done to make academia a desirable career option for women in computing. The respondents in this study were almost completely unaware of maternity leave policies for their professors, and many felt that women were less respected by their students in general than their male counterparts, all of which affect women's views of potential career paths.



References

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