Diversity in CS at PSU

Danielle Beyer, Sarah Haskew
Summer 2020

A note about our research:

While our intent is to examine statistics about diversity in Computer Science, we are limited by the data currently available.

Some limitations include:

- breakouts by only “Male” and “Female” labels
- limited availability of race/ethnicity data

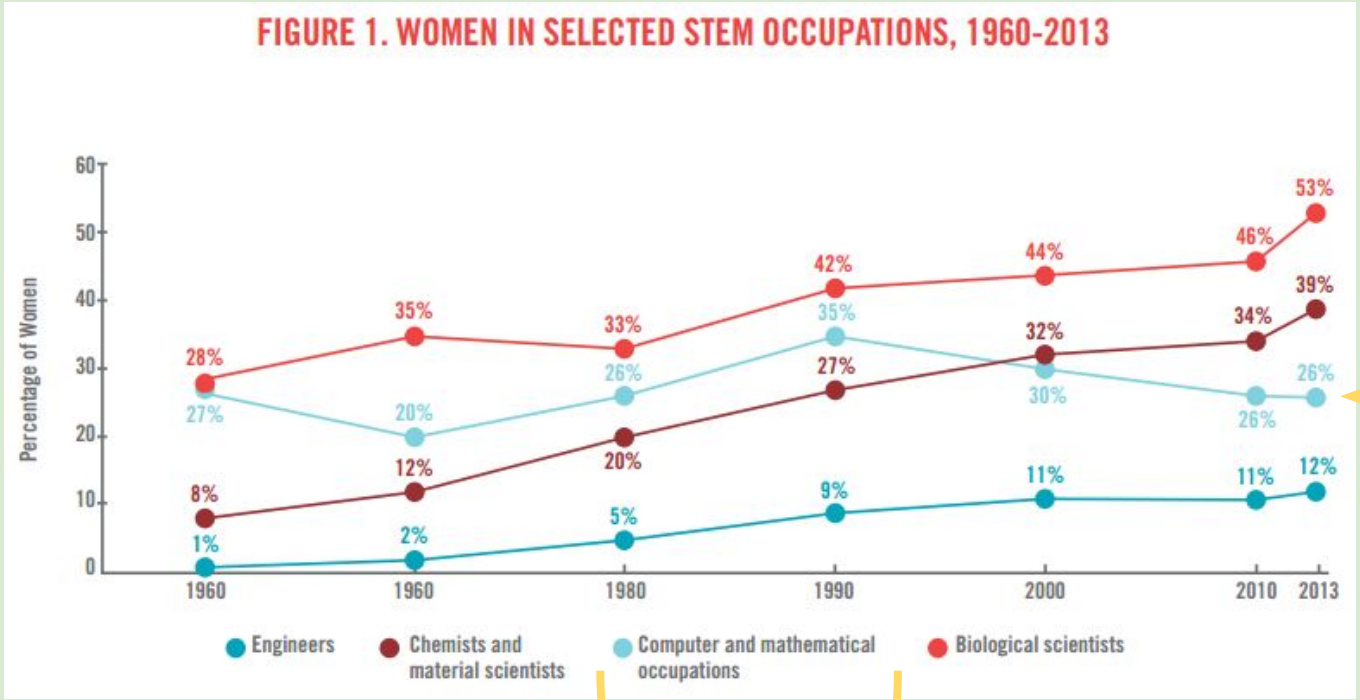
Statistics in Technology Workforce[4]

57 Percent of professional occupations in the 2019 U.S. workforce held by women[4]

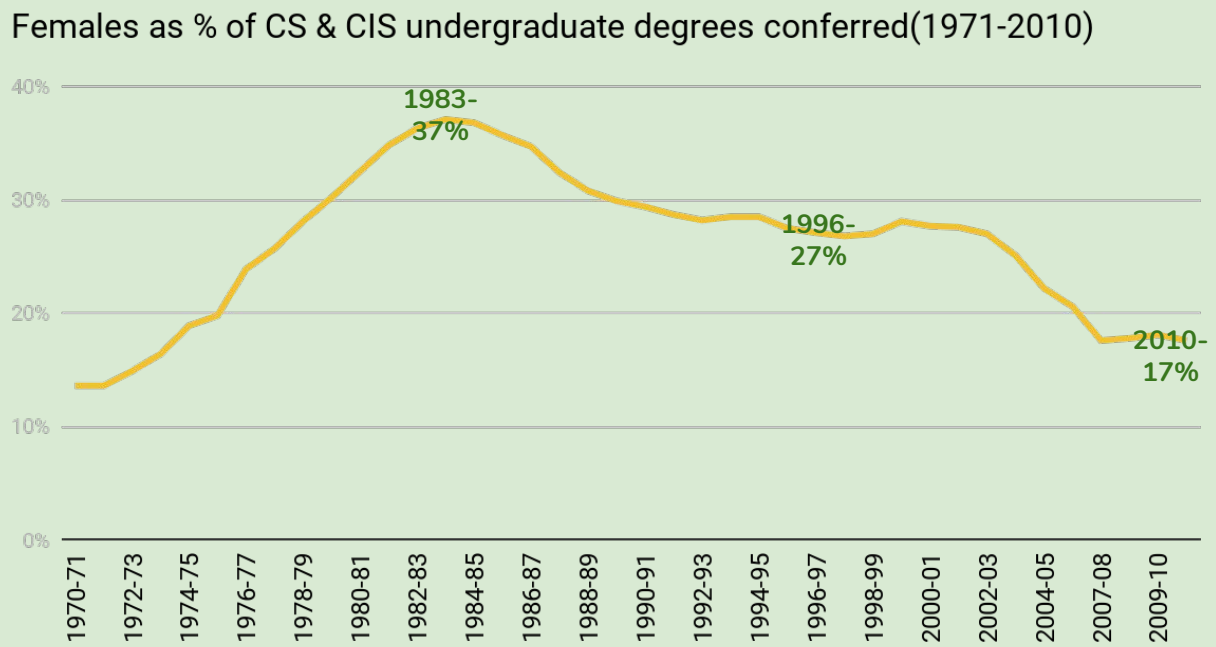
26 Percent of professional computing occupations in the 2019 U.S. workforce held by women[4]

18 Percent of Chief Information Officer (CIO) positions in Top 1000 Companies held by women in 2019[1]

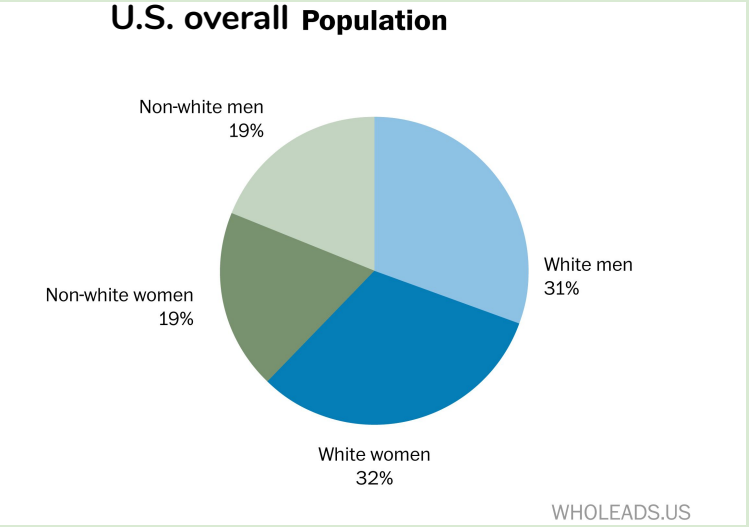
Statistics in Technology Workforce[4]



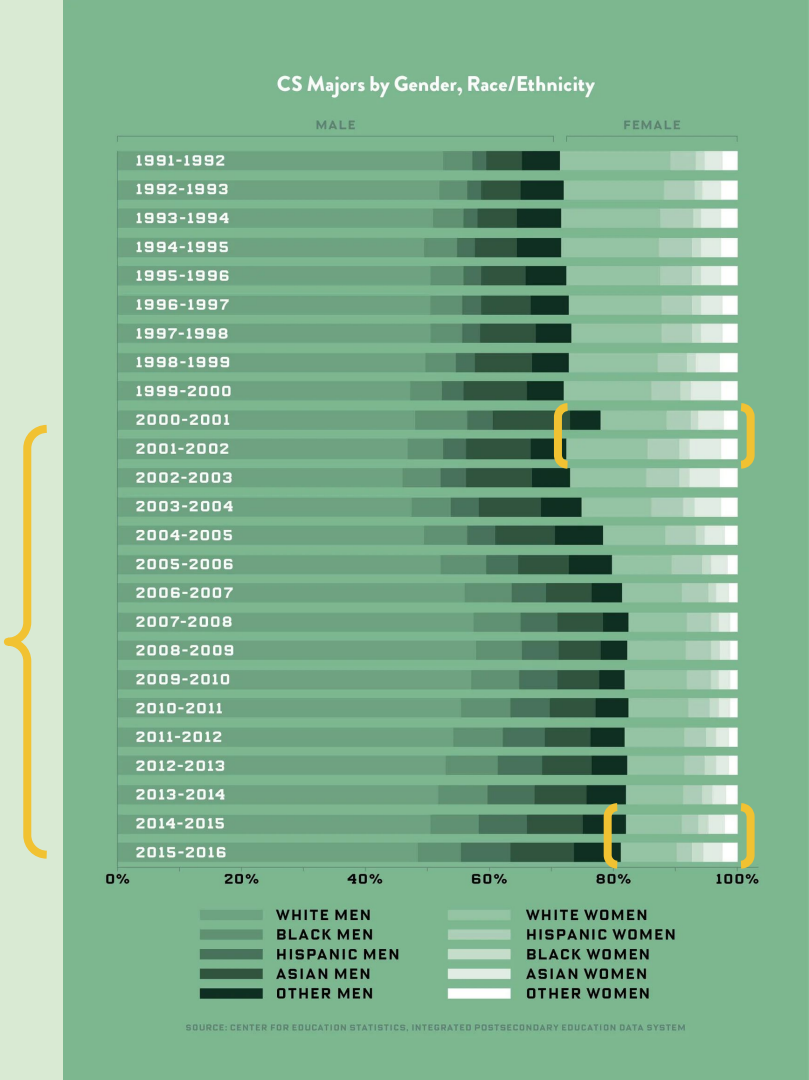
CS Undergraduate Degrees awarded to Females (1970-2010)[8]



CS Majors by Gender, Race/Ethnicity (1992-2016)[3]



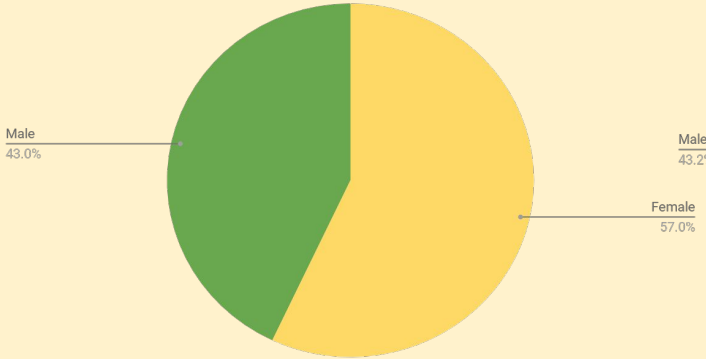
Since 2001, the percentage of Women in CS Majors across the US has decreased.



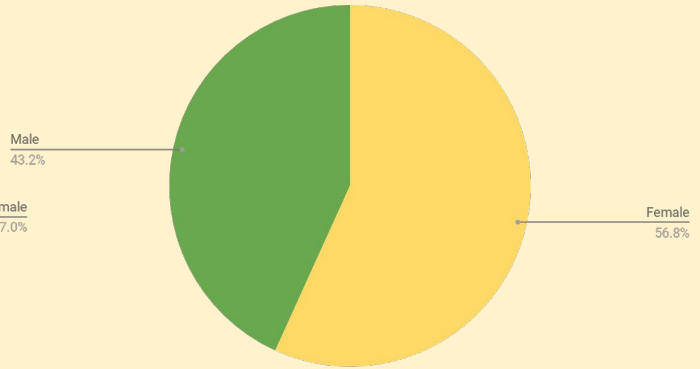
It is important to note here that this is a graph showing percentage. So, while it may appear that less white males are getting CS degrees, that is definitely not the case.

Undergraduate Degrees Awarded (2016-17)

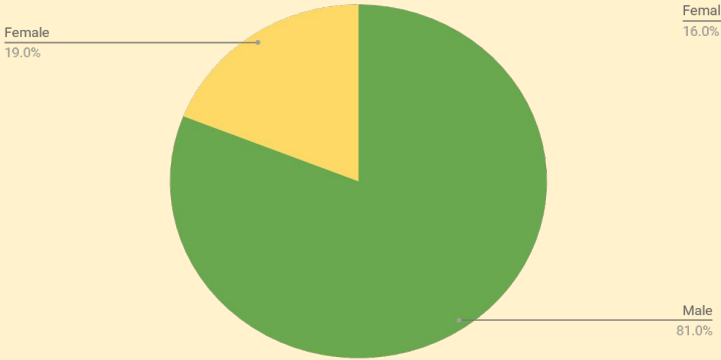
Undergraduate degrees nationally



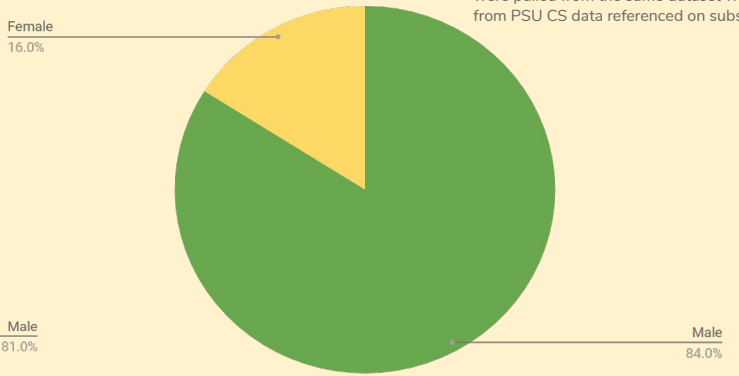
PSU Undergraduate degrees[1]



Undergraduate CS degrees nationally**



PSU Undergraduate CS degrees**

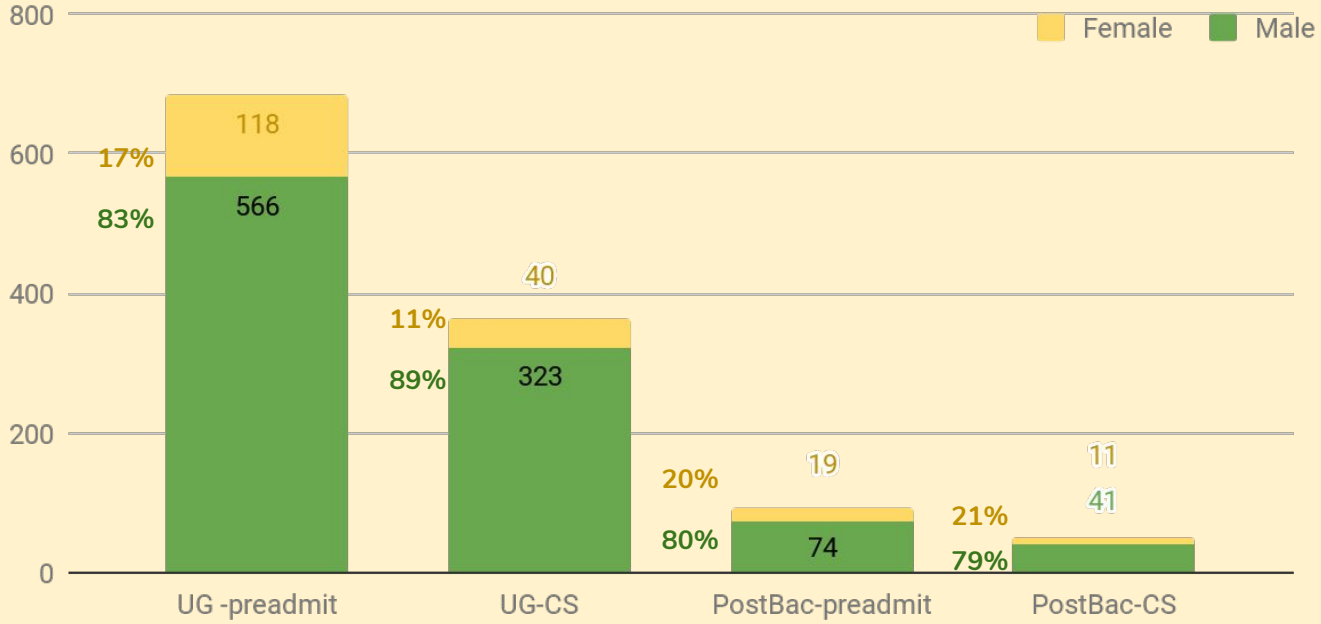


On this slide, CS degree data for PSU and national were pulled from the same dataset which differs from PSU CS data referenced on subsequent slides.

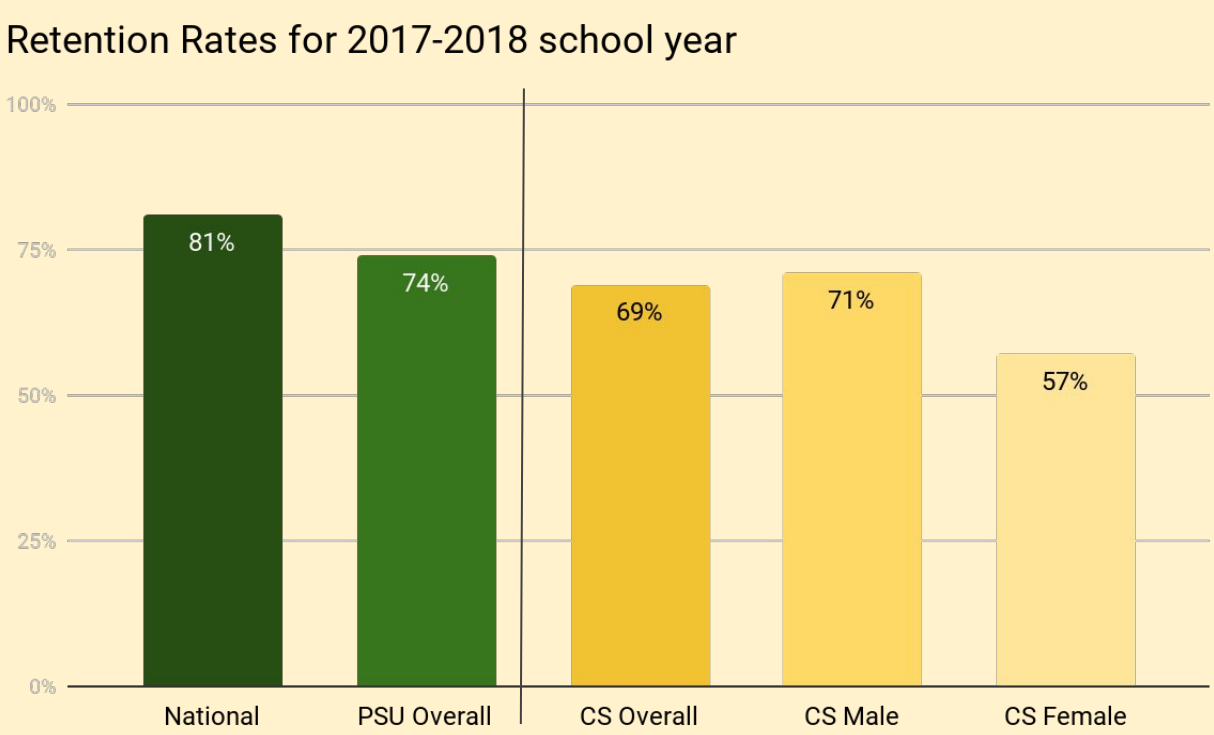
**In 2016-17, for colleges that awarded at least 50 CS bachelor's degrees[2].

PSU CS Undergraduate Gender by Program Level

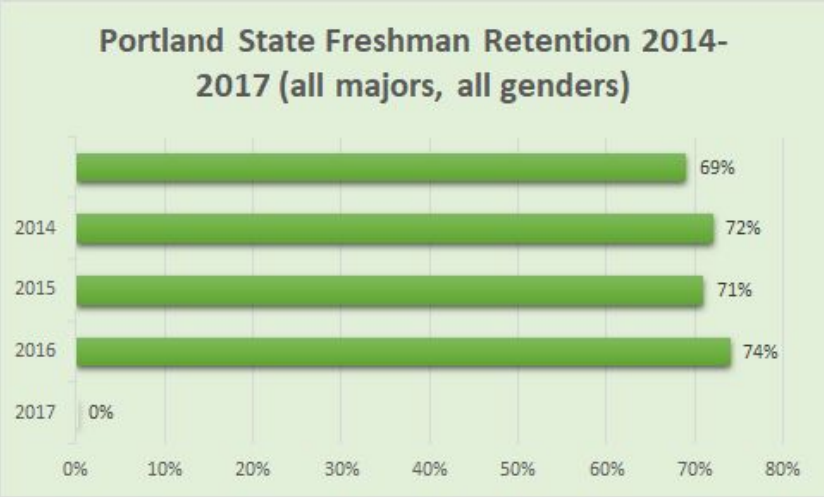
Student Body by Gender & Program Level (2017-2018)[7]

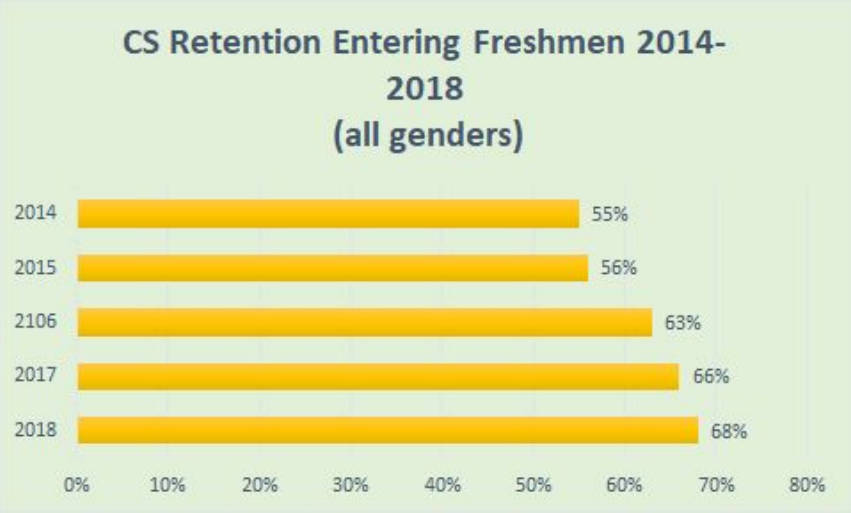


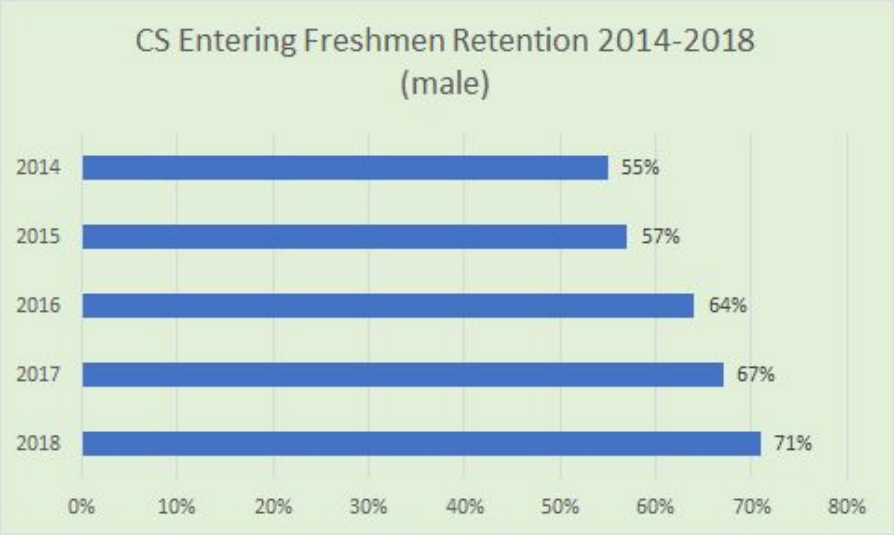
Undergraduate Retention

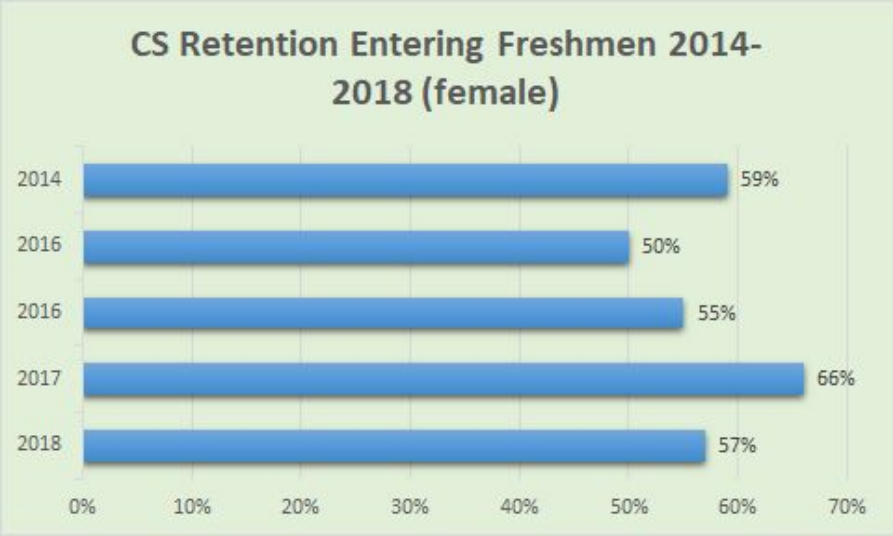


[5] PSU retention rate
[6] National retention rate
[7] CS Overall, CS Male, CS Female


Portland State Freshman Retention 2014-2017 (all majors, all genders)
2014
2015
2016
2017
69%
72%
71%
74%
0%
0%
10%
20%
30%
40%
50%
60%
70%
80%


CS Retention Entering Freshmen 2014-2018 (all genders)
2014
2015
2106
2017
2018
55%
56%
63%
66%
68%
0%
10%
20%
30%
40%
50%
60%
70%
80%


CS Entering Freshmen Retention 2014-2018 (male)
2014
2015
2016
2017
2018
55%
57%
64%
67%
71%
0%
10%
20%
30%
40%
50%
60%
70%
80%

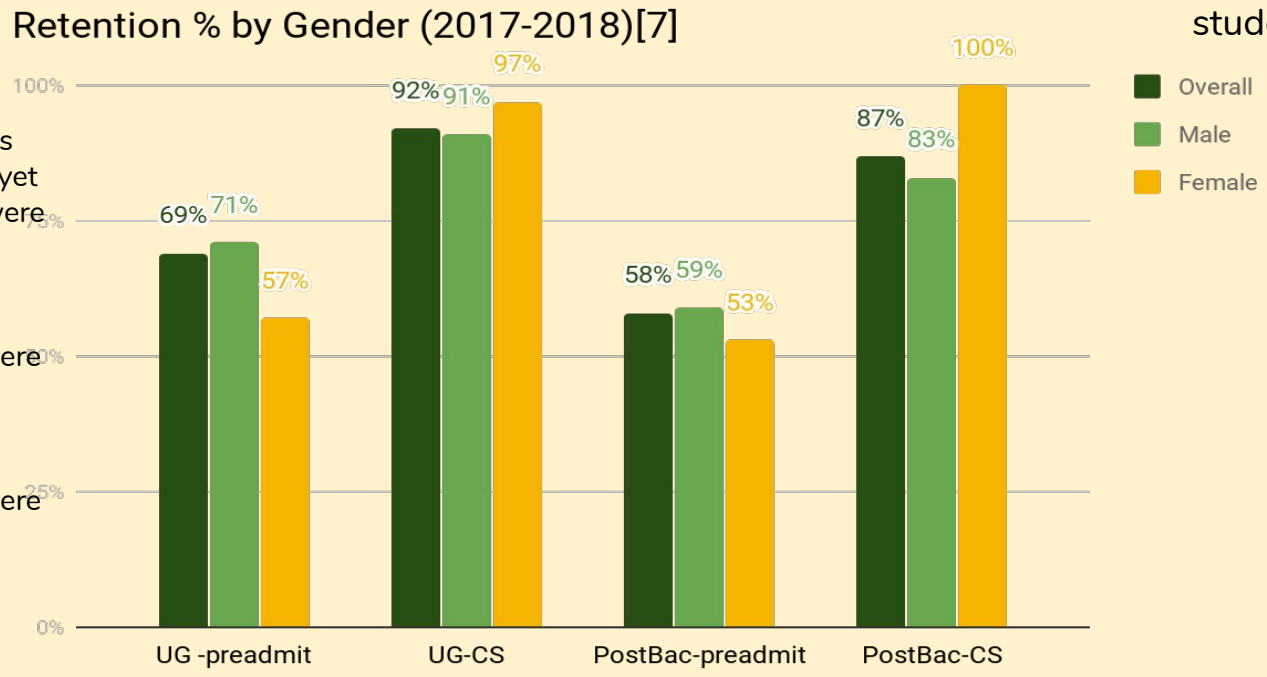

CS Retention Entering Freshmen 2014-2018 (female)
2014
2016
2016
2017
2018
59%
50%
55%
66%
57%
0%
10%
20%
30%
40%
50%
60%
70%

Retention throughout the CS Program of Study

Of all CS students enrolled and not yet admitted, 69% were retained.

Of all Male CS students, 71% were retained.

Of all Female CS students, 57% were retained.

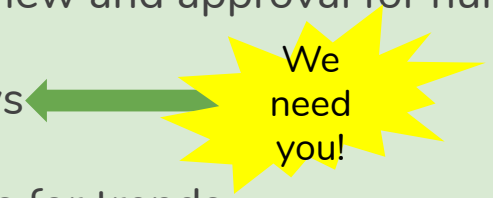


Students admitted to CS have a higher retention level than pre-admit students.

Process

Requesting raw data (*pending*)

IRB* approval (review and approval for human study protocol) (*in process*)

Conduct Interviews 

Analyze interviews for trends

Summarize interview findings & data analysis

NOTE: Likely ongoing into future quarters

*Institutional Review Board

Learn More

The Shortage of Female Computer Science Faculty at Stanford University

The STEM Gap: Women and Girls in Science, Technology, Engineering and Math

5 Ways to Welcome Women to Computer Science

Women and Information Technology By The Numbers

Cracking the Code: Why Aren’t More Women Majoring in Computer Science

Sources

[1] https://datausa.io/profile/university/portland-state-university#graduates

[2] https://www.chronicle.com/article/Which-Colleges-Are-Best-and/245758

[3] https://www.wired.com/story/computer-science-graduates-diversity/

[4] https://www.ncwit.org/ncwit-fact-sheet

[5] https://www.pdx.edu/president/sites/www.pdx.edu.president/files/PresidentsFactBook_Web_Final.pdf

[6] https://nces.ed.gov/programs/digest/d19/tables/dt19_326.30.asp

[7] dataset provided by Jim Hook, Associate Dean, MCECS

[8] https://nces.ed.gov/programs/digest/d12/tables/dt12_349.asp