

ASSOCIATION FOR GENDER INCLUSION IN COMPUTING

November, 2021

# DIVERSITY IN COMPUTER SCIENCE

what's wrong and what we can do about it

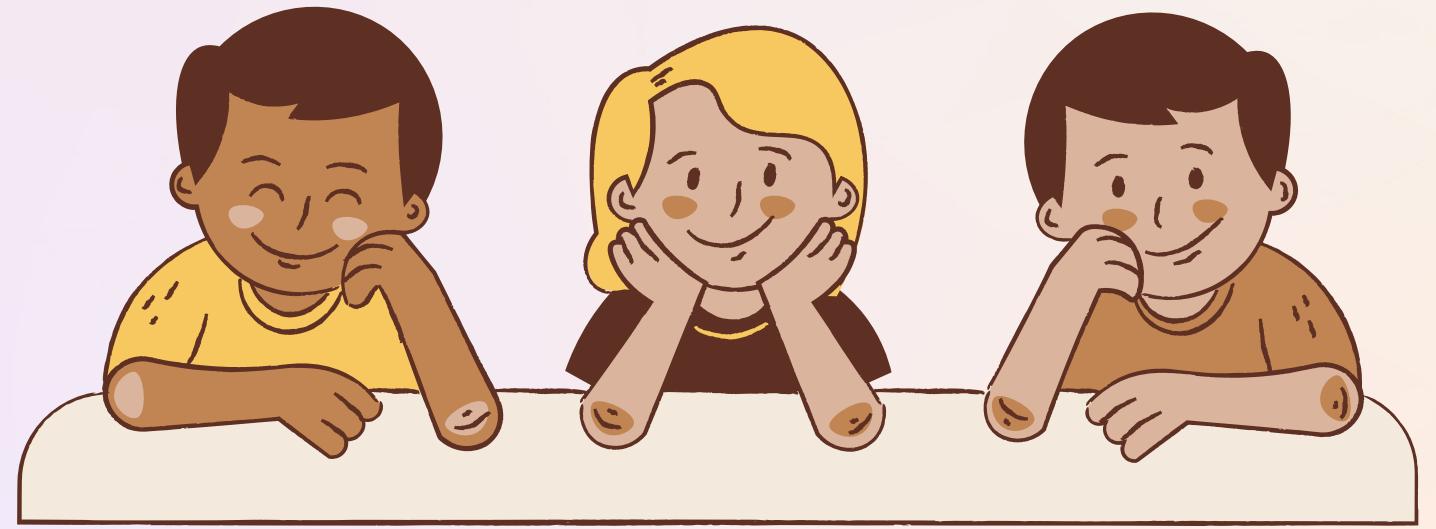
WWU AGIC

# WHERE DOES IT START?

The problem begins way before college.

# K-12 ACCESS AND REPRESENTATION

The data shows that experiences in K-12 directly impact students' future in computer science. (code.org)



When asked to draw a scientist, only 28% of kids (boys and girls) drew a female scientist. Boys almost always drew men, and girls were twice as likely to draw men as they were to draw women. (Berwik, 2019)

This difference gets worse with age - 70% of 6 year old girls drew a woman, whereas only 25% of 16 year old girls did (Terada, 2019)

# K-12 ACCESS AND REPRESENTATION

AP TESTING

Young women make up 54% of all AP test takers, and **those who try AP Computer Science in high school are 10 times more likely to major in computer science**

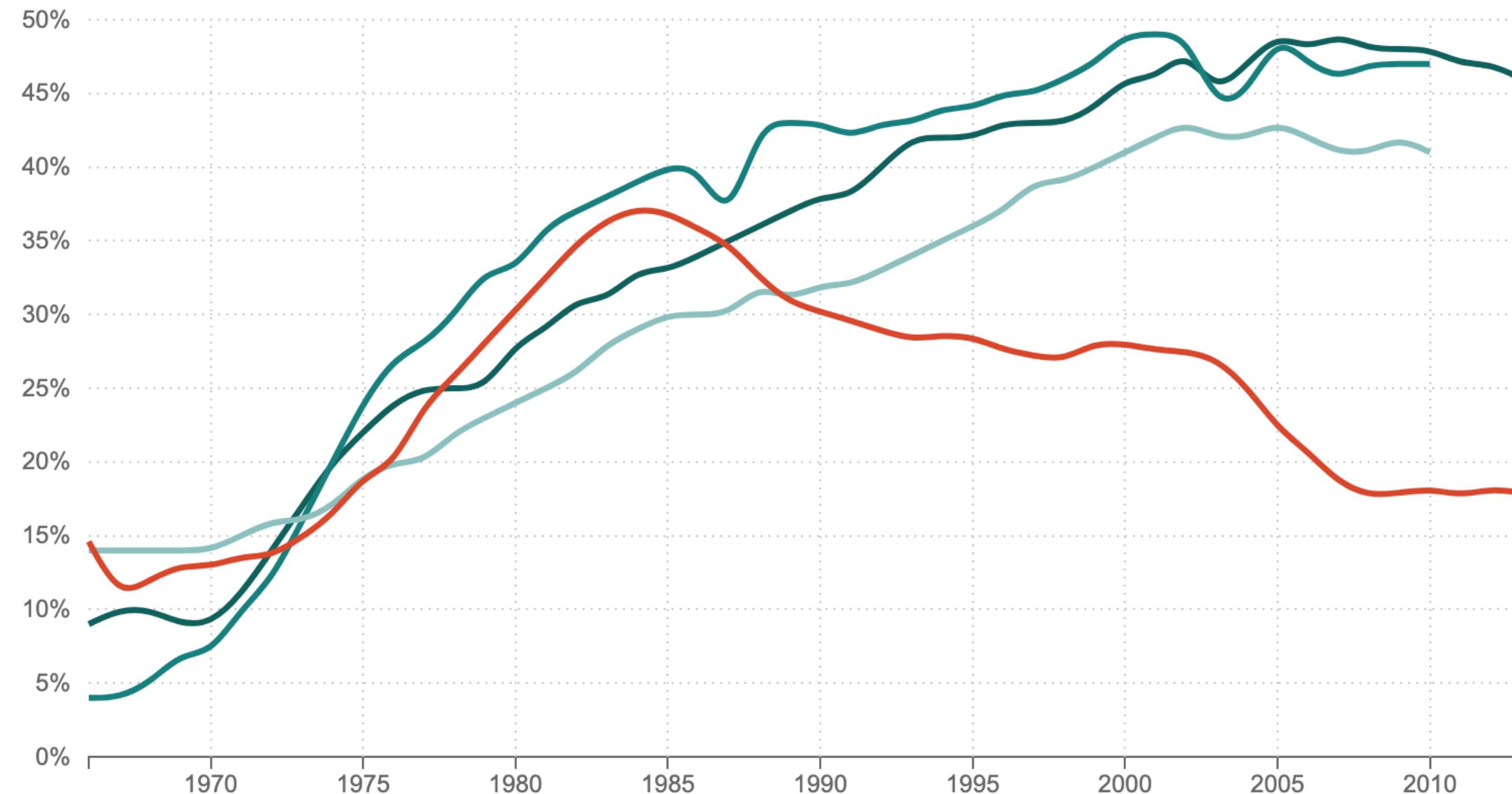
Black and Hispanic/Latinx students who try AP Computer Science in high school are 7-8 times more likely to major in computer science(code.org)

**However, 2019 data shows that only 29% of those taking the AP Computer Science test are female.**

# WHAT HAPPENS WHEN WE GET TO COLLEGE?

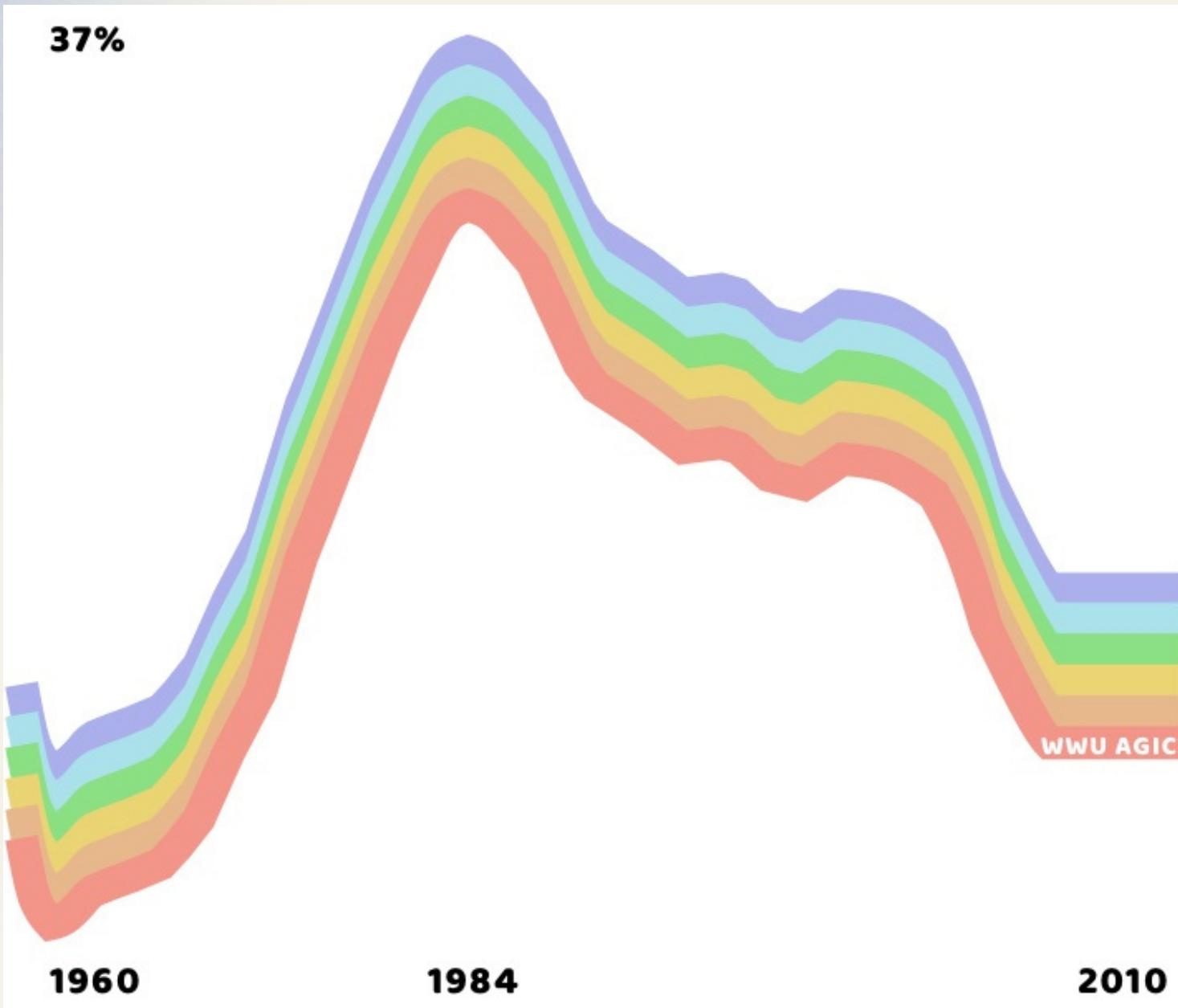
(Spoiler alert, it doesn't get better)

Medical School Law School Physical Sciences Computer science



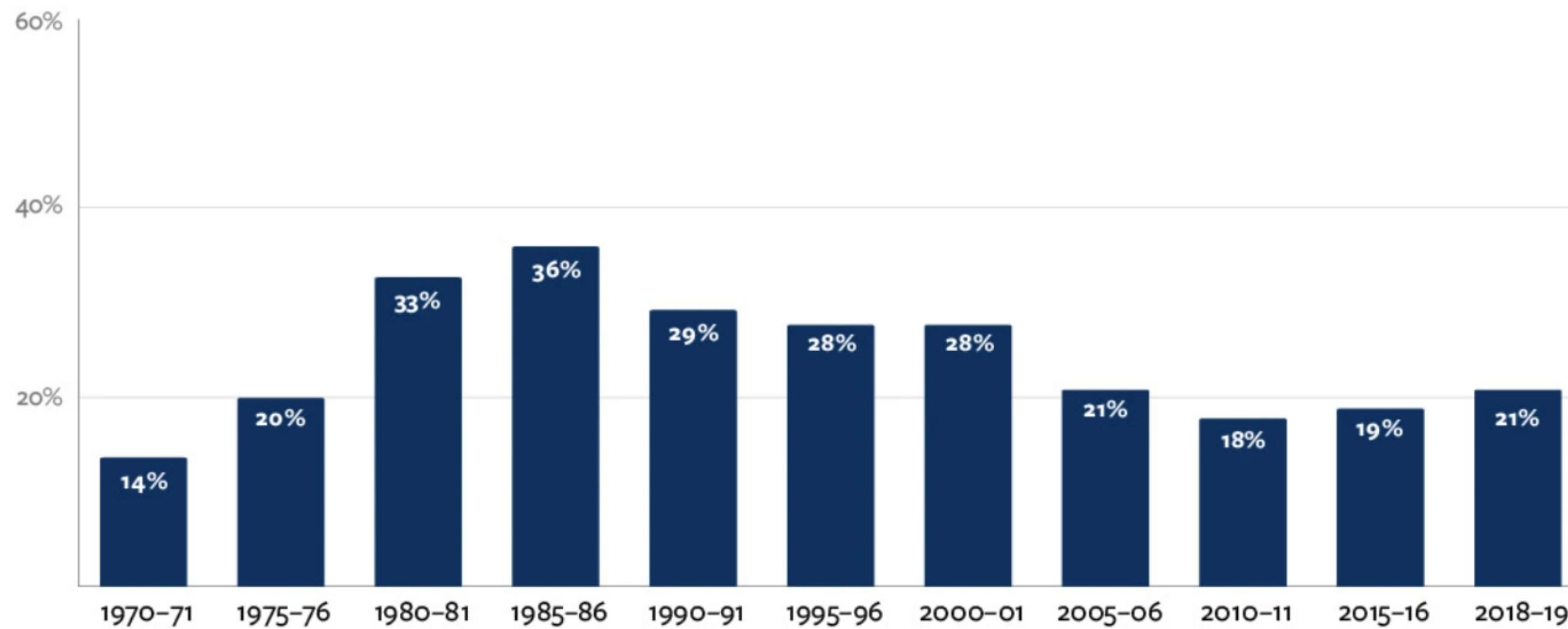
Source: National Science Foundation, American Bar Association, American Association of Medical Colleges

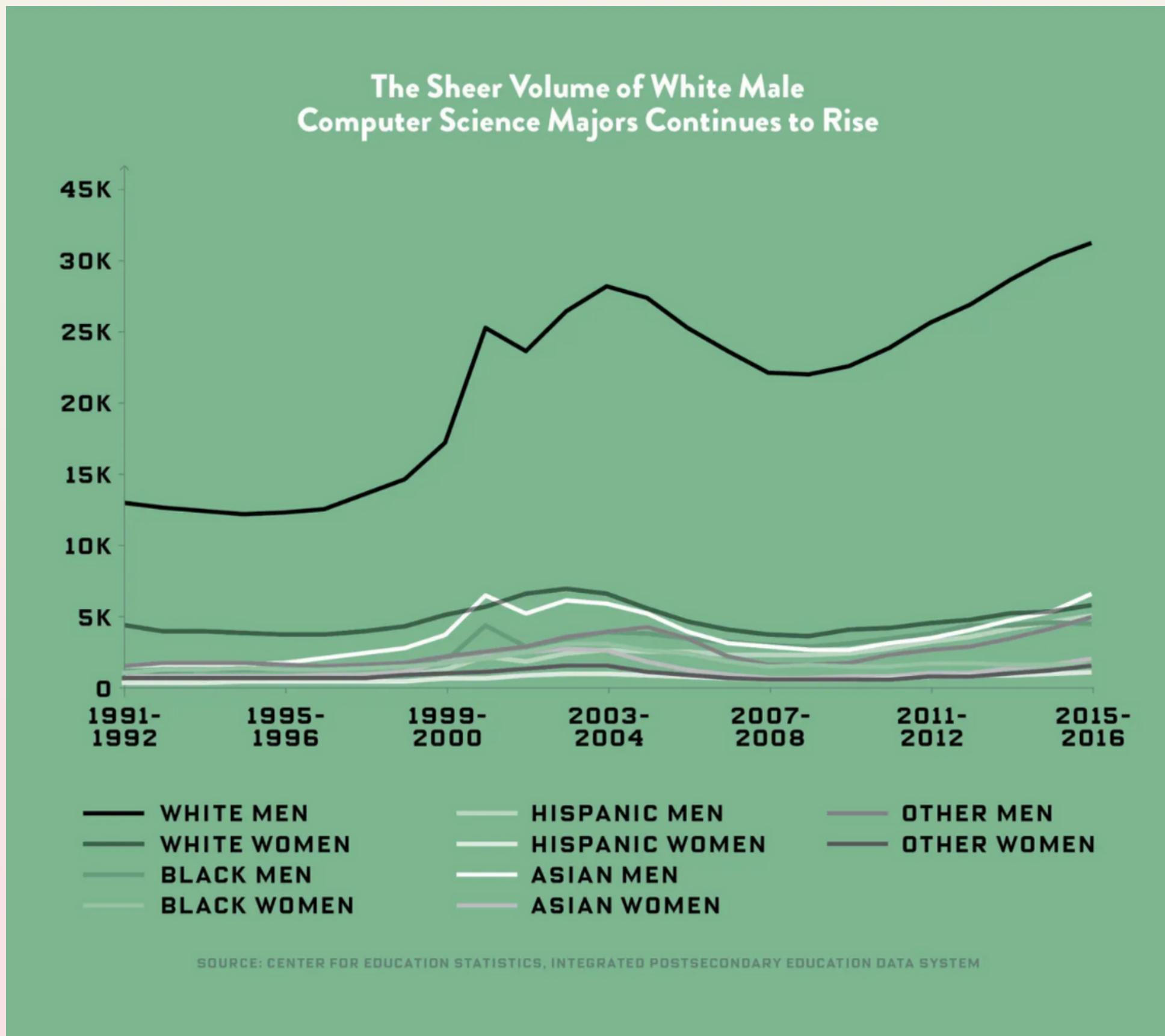
Credit: Quoctrung Bui/NPR



Look familiar?

## Percentage of Female Computer Science Degree Recipients, by Year





# FIRST YEAR

49.2% of women who originally intend to major  
In science and engineering as a first year  
switch to a non-STEM major, compared to  
32.5% of men (National Science Foundation  
National Center for Science and Engineering  
Statistics [NSF NCSES], 2017, 2019)

That is a 16.7% difference!

# WHAT ABOUT INDUSTRY?\*

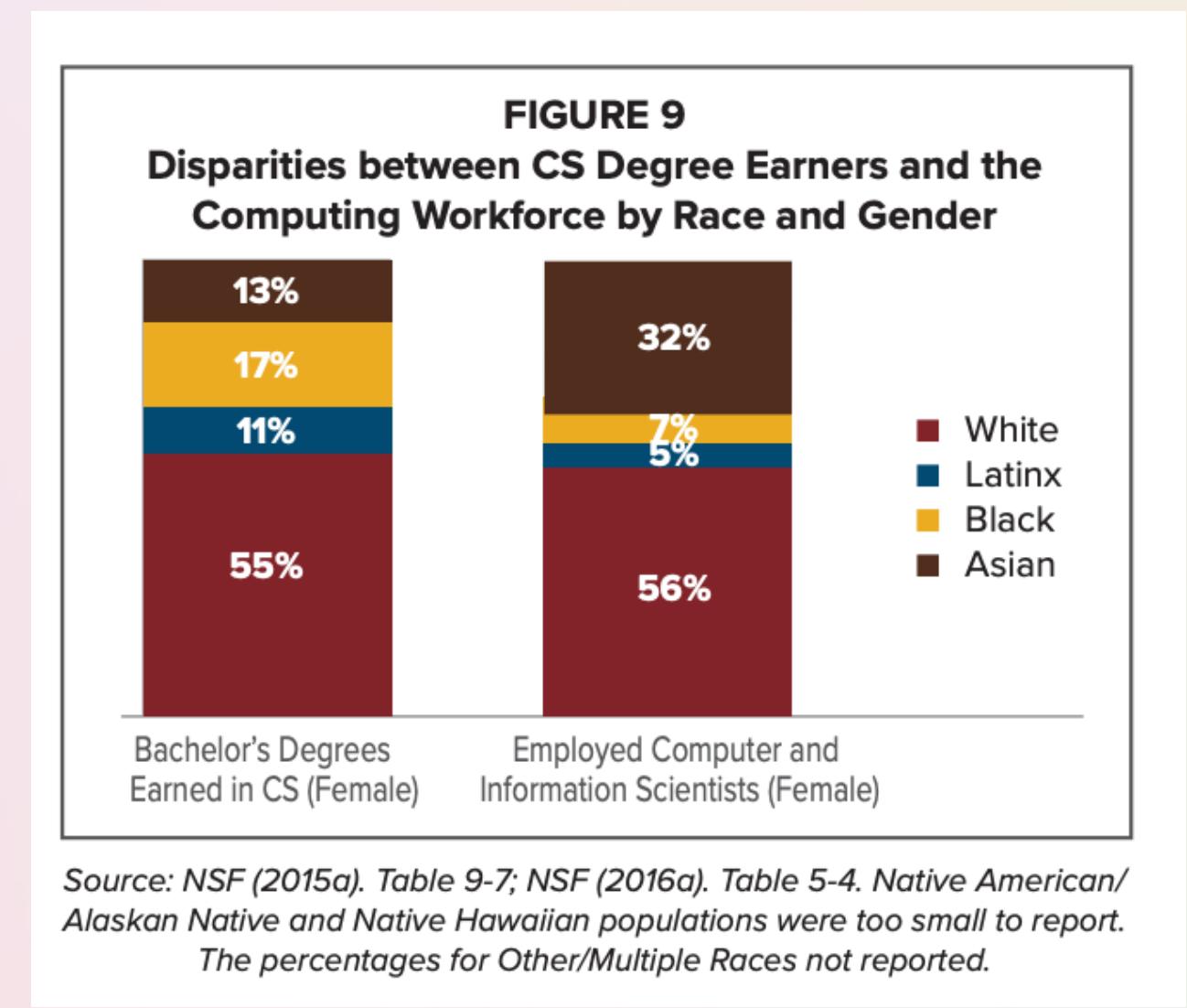
... I think you're sensing a trend by now, right?

# DIVERSITY IN INDUSTRY

## THE DATA

Current data is hard to find because the pandemic disproportionately affected women more than it did men. A loss in support systems caused 865,000 women to leave the workforce compared to 216,000 men. (Forbes)

However, according to previous data from NCWIT, In 2014 women only held 26% of computing occupations. That statistic even more alarming for women of color, who only hold 3% of those positions, and 1% of latinas holding those positions.



# DIVERSITY IN INDUSTRY

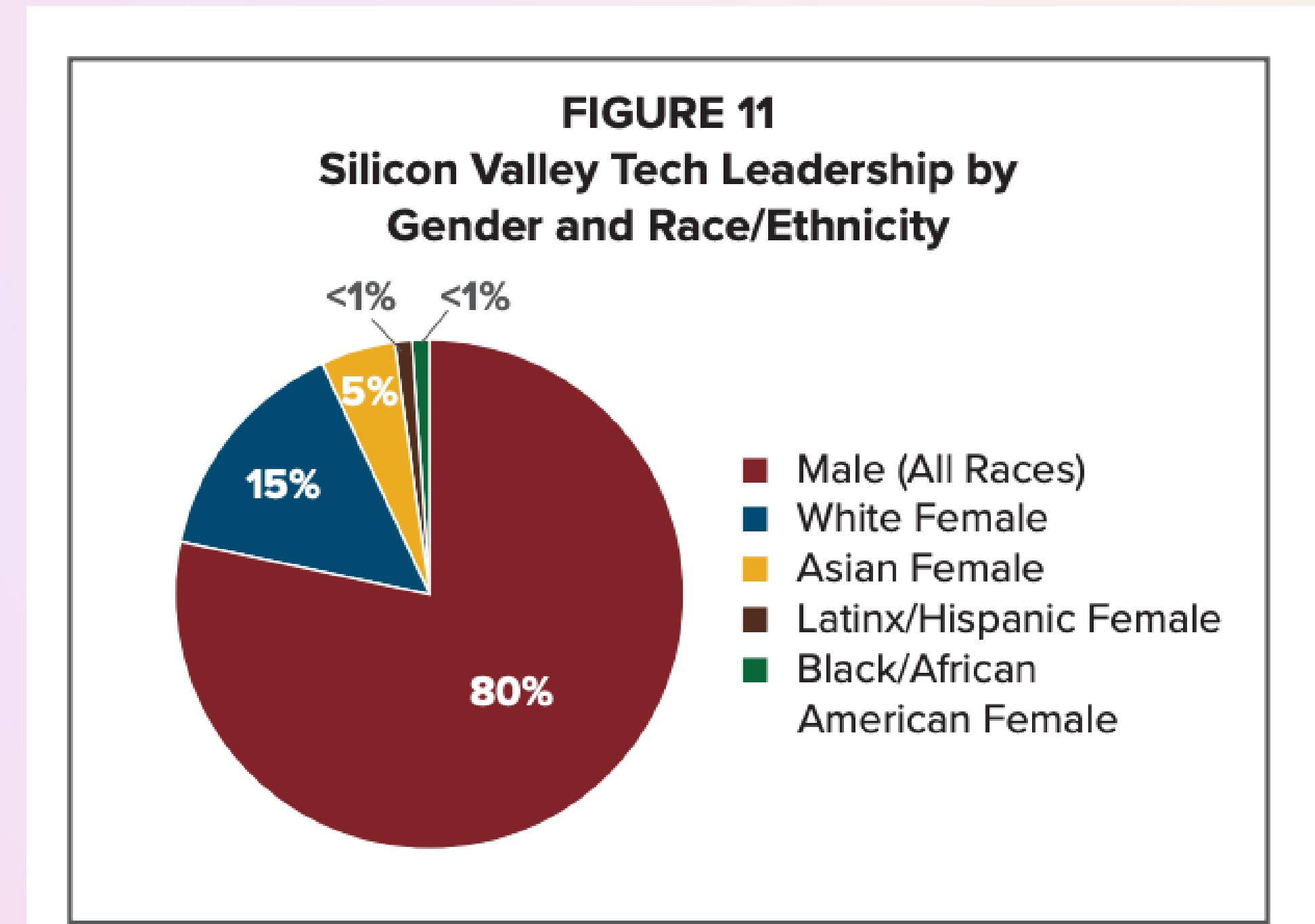
Staying in industry

A study led by Accenture and Girls who Code showed that 50% of women abandon technology careers by age 35, and that women are leaving tech roles at a 45% higher rate than men.

Only 21% of women in the study said that they believed the technology industry was a place they could thrive, and that number falls to 8% for women of color.

# DIVERSITY IN INDUSTRY

Leadership in industry



Source: EEOC, 2016; Hongsdusit & Rangarajan (2018); Includes EEOC category of "Executives, Senior Officials & Managers"; The figures for Native American/Alaskan Native/Native Hawaiian females in leadership positions are too small to report.

MICROAGGRESSIONS  
AND (TW) SEXUAL  
HARRASSMENT

Over 70% of women in STEM regularly reported experiencing the following microaggressions and biases related to their competence and merit:

- Had their judgement questioned in their area of expertise
- Had to work harder than others to prove themselves
- Have had to provide more evidence of competence than their peers
- Have had others explain things to them in their area of expertise
- Have been assumed to be more junior than they are
- Have had their accomplishments or ideas credited to someone else

(Russell & Metcalf, 2019)

**50% of women in STEM in academic institutions have experienced sexual harassment.**  
(National Academy of Sciences, Engineering, and Medicine, 2018)

**90% of women who report sexual misconduct experience retaliation.**

OKAY. THAT WAS  
DEPRESSING

But that's why the AGIC exists, and here's  
what we can do about it!

# WHAT WE CAN DO

a few things to think about and get started closing the gender gap

Educate yourself on how stereotypes about STEM fields impact young girls, and challenge your own beliefs on who can and should be in this field - when you think about a computer scientist, who do you see in your mind?

Research common microaggressions, and hold yourself, your peers, and your educators accountable

Support the communities of diverse humans in computer science- studies show that peer support is a huge indicator of success in academia when it comes to minorities