

Systemic Investments in Equity Talent and Tech, Part 3

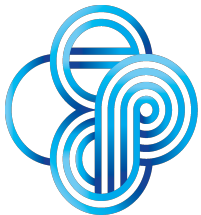
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Equity in STEM Education is a structural matter

Performance disparities in mathematics and science were evident among different demographic groups at all grade levels.

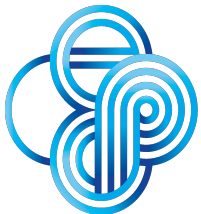
- Average scores on 2015 NAEP mathematics and science assessments for fourth, eighth, and twelfth grade students who were **eligible for free or reduced-price lunch were 23 to 29 points lower than the scores of their peers who were not eligible** for the program.
- Performance gaps between white students and black and Hispanic students showed similar patterns across all NAEP assessments and grade levels, with average scores of **white students at least 18 points higher than those of Hispanic students and at least 24 points higher than those of black students.**
- Score differences between students eligible for free or reduced-price lunch and those who were not persisted within racial or ethnic groups. For example, the **gaps between eligible and non-eligible students in grade 4 mathematics were 18 points among white students, 17 points among Hispanic students, and 16 points among black students.** Similar gaps held among eighth and twelfth grade students and across all grade levels in science.

Poverty

Race

Poverty &
Race

[2018 National Science Foundation Science and Engineering Indicators](#)



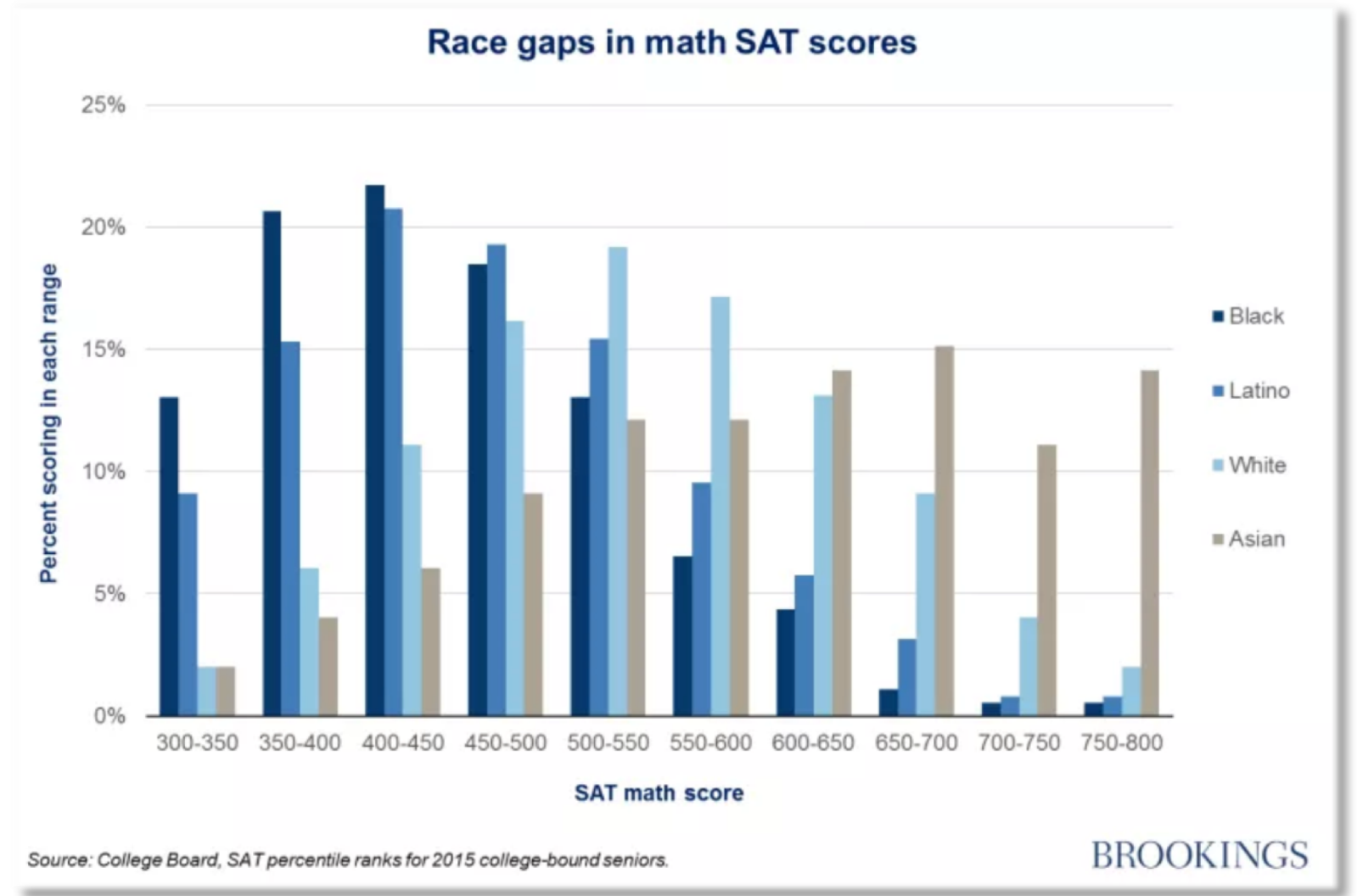
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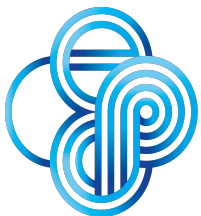
Mathematics

In a perfectly equal distribution, the racial breakdown of scores at every point in the distribution would mirror the composition of test-takers as whole i.e. 51 percent white, 21 percent Latino, 14 percent black, and 14 percent Asian. But in fact, among top scorers— those scoring between a 750 and 800—60 percent are Asian and 33 percent are white, compared to 5 percent Latino and 2 percent black.

Meanwhile, among those scoring between 300 and 350, 37 percent are Latino, 35 percent are black, 21 percent are white, and 6 percent are Asian



[Brookings: Race Gaps in Math SAT Scores](#)



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In fall 2017, about 50.7 million students will attend public elementary and secondary schools. Of these, 35.6 million will be in prekindergarten through grade 8 and **15.1 million will be in grades 9 through 12**. An additional 5.2 million students are expected to attend private elementary and secondary schools. The fall 2017 public school enrollment is expected to be slightly higher than the 50.6 million enrolled in fall 2016

[National Center for Education Statistics, 2017 Fast Facts](#)



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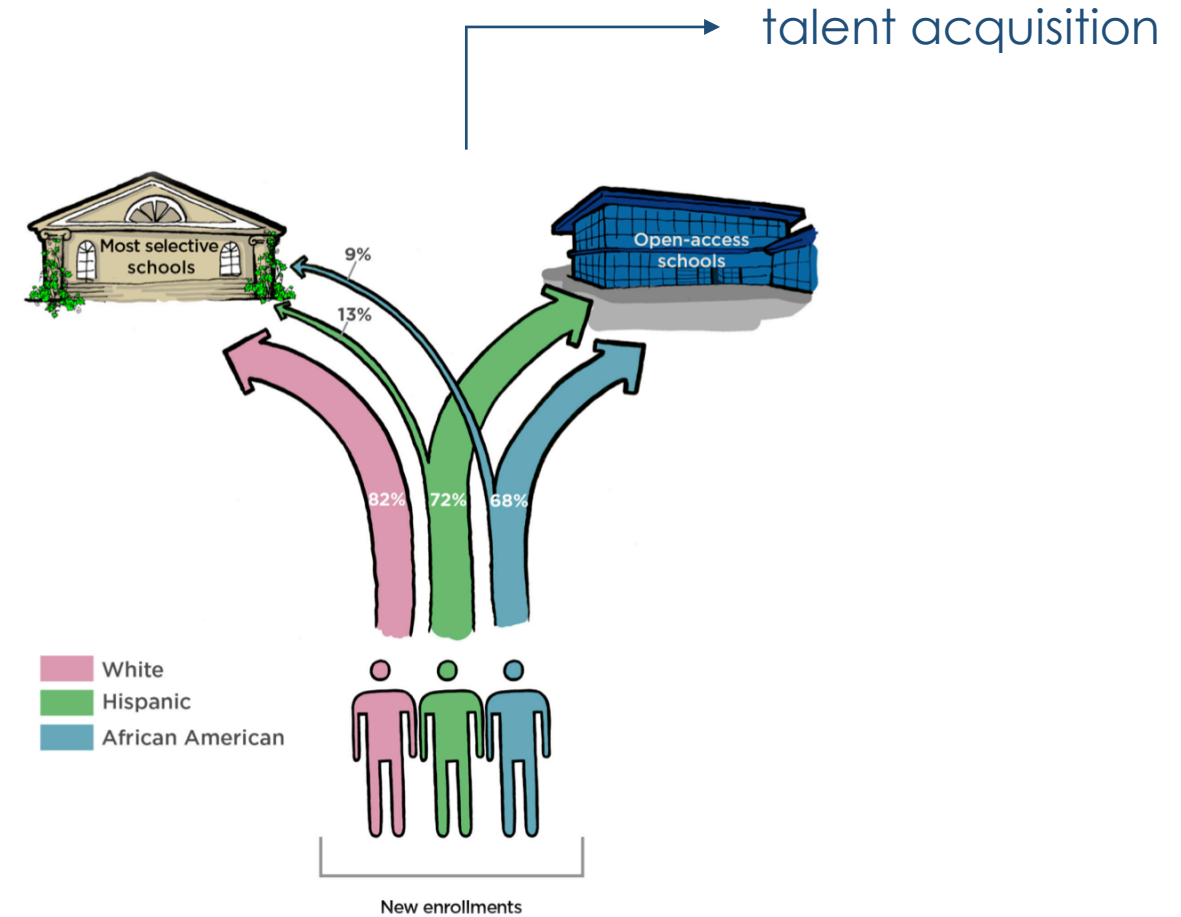
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- **S&E bachelor's degrees has risen steadily in the United States over the past 15 years, peaking at more than 650,000 in 2015.**
- Women have earned about 57% of all bachelor's degrees and about half of all S&E bachelor's degrees since the late 1990s.
- **Men earn the majority of bachelor's degrees in engineering, computer sciences, mathematics and statistics, and physics**
- Between 2000 and 2015, the share of **bachelor's degrees awarded to Hispanics increased from 7% to 13%, in S&E**. In the same period, the share of **bachelor's degrees awarded to blacks remained stable at 9% in S&E fields**

[National Science Board Science and Engineering Indicators, 2018](#)

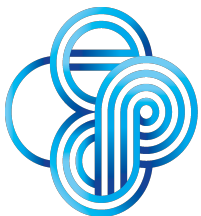
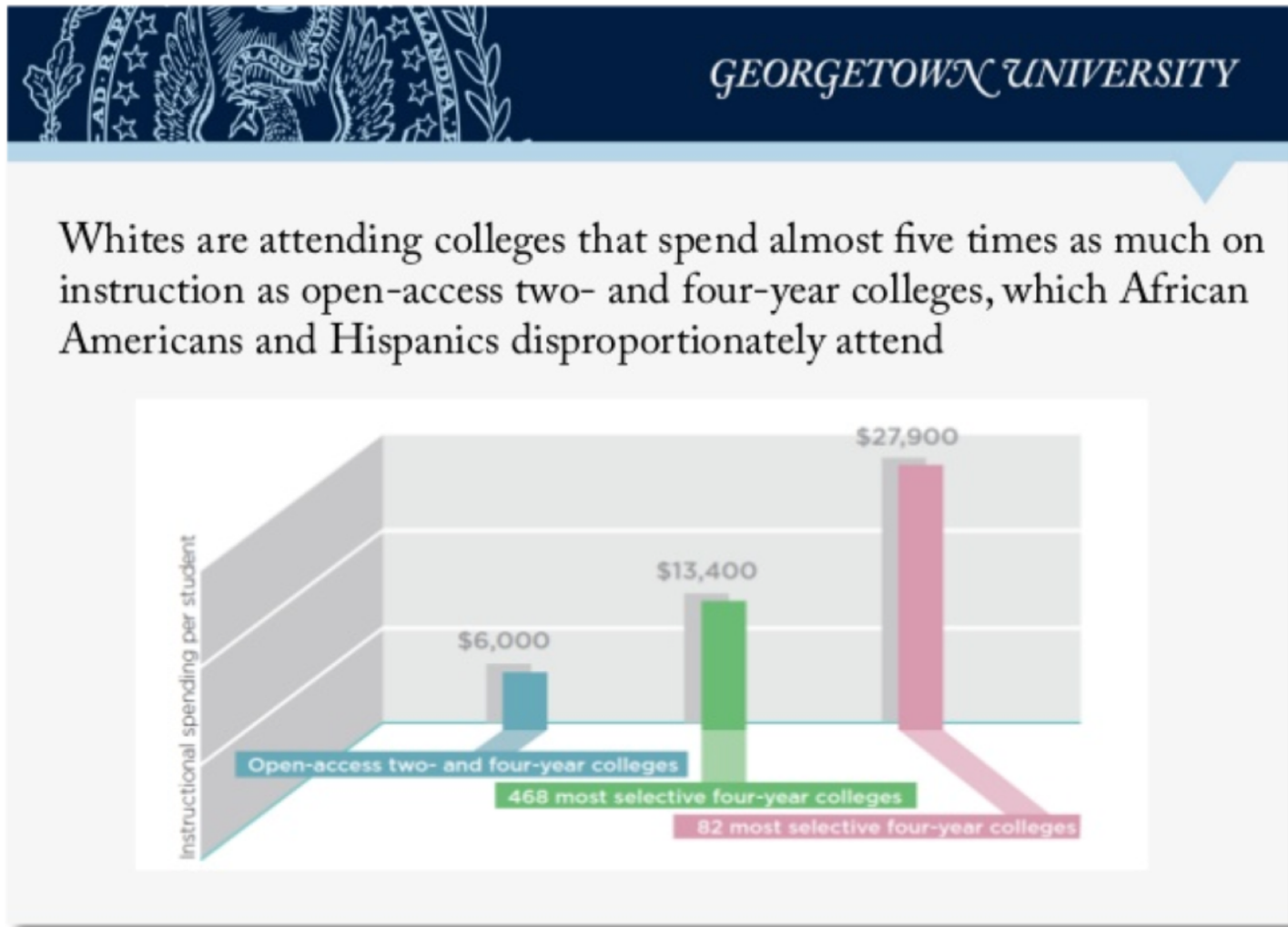
Between 1995 and 2009...

- 82 percent of new white freshman enrollments were at the 468 most selective four-year colleges, compared to 13 percent for Hispanics and 9 percent for African Americans
- 68 percent of new African-American freshman enrollments and 72 percent of new Hispanic freshman enrollments were at open-access two- and four-year colleges, compared to **no growth for whites.**



educational structure

Structural Advantages



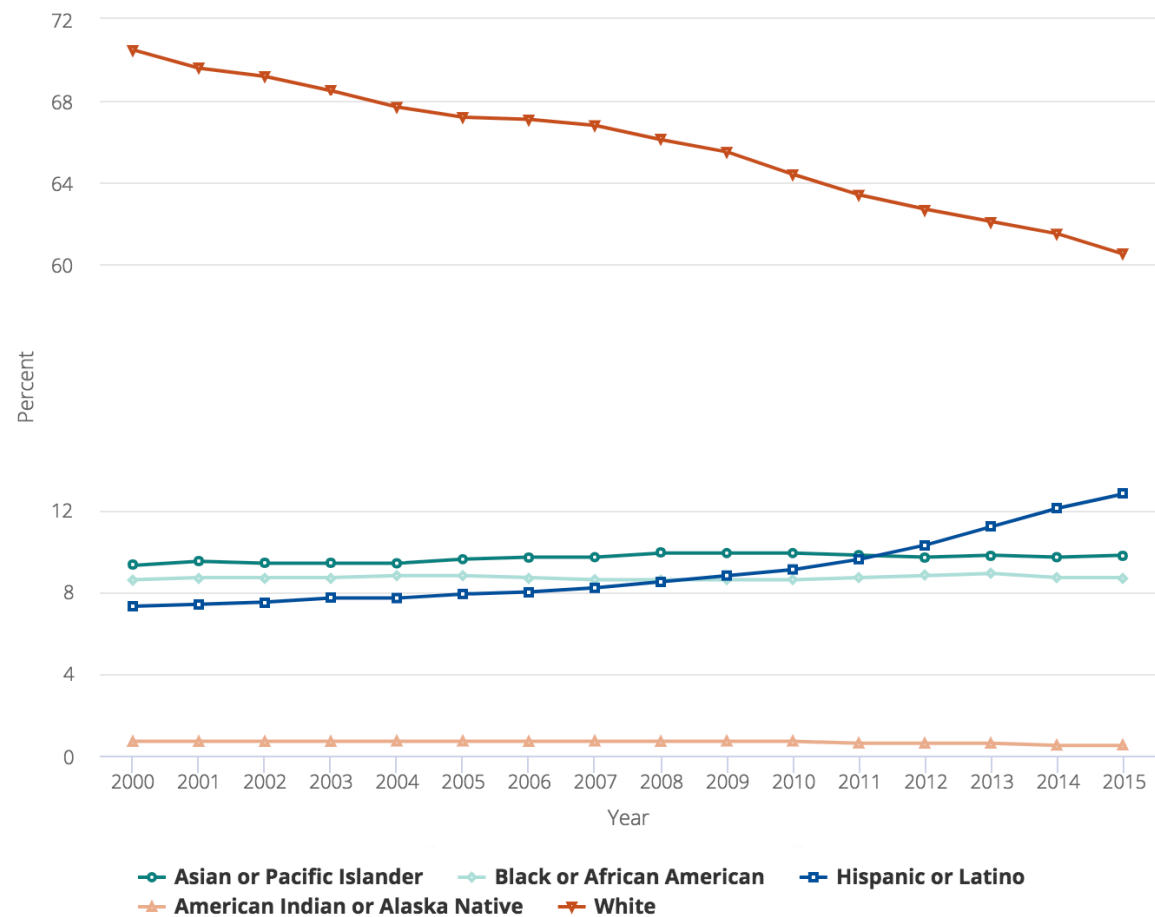
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Separate & Unequal. Georgetown Center for
Education and the Workforce

Trends relevant to
the elusive “needle”

Share of S&E bachelor's degrees among U.S. citizens and permanent residents, by race and ethnicity: 2000–15



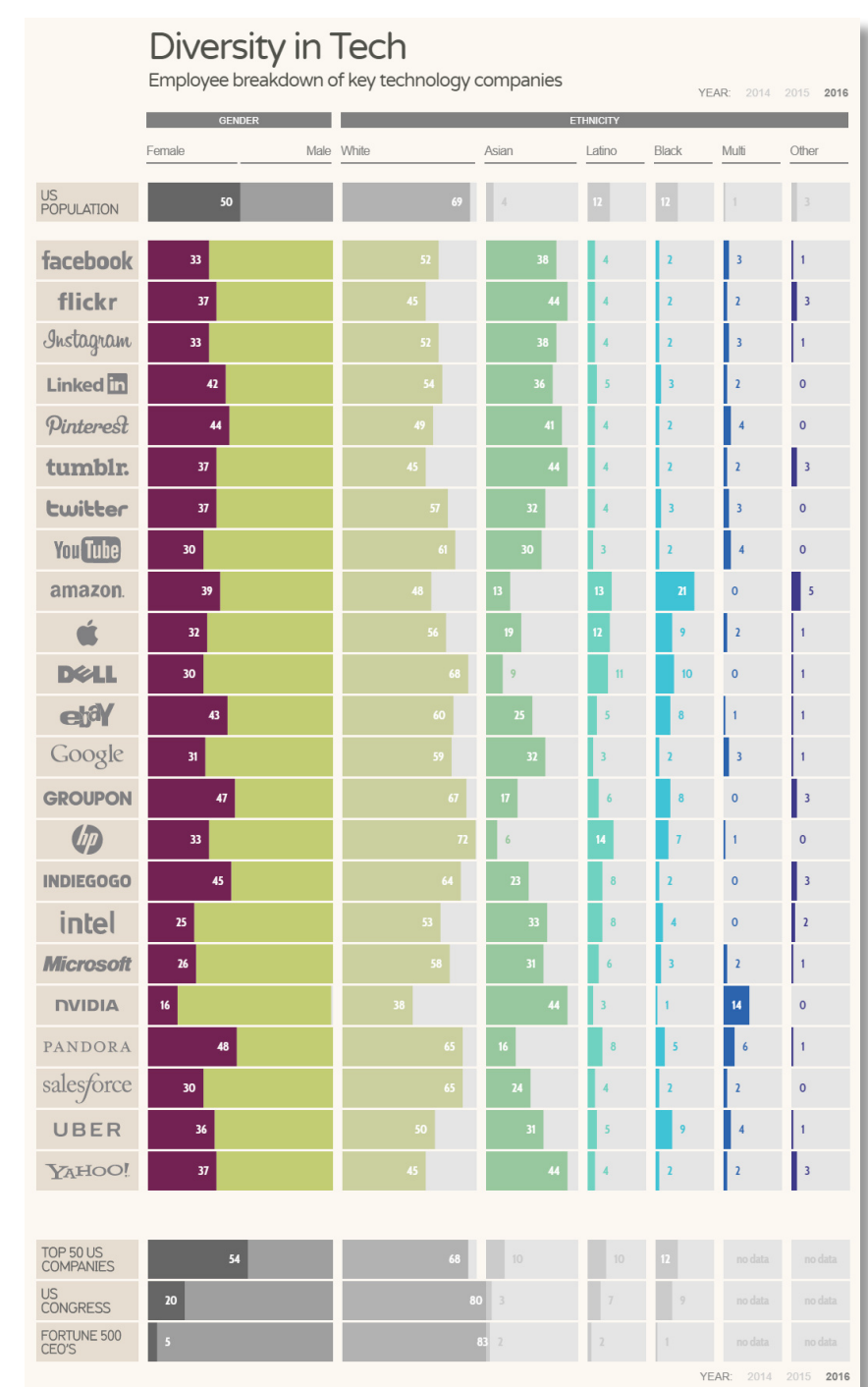
Diversity in tech

information is beautiful



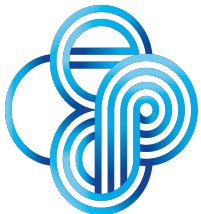
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Wisdom of the Community

- Engagement and exposure – what is the value proposition?
- Formal engagement – what is the corporate willingness for long term commitment?
- Talent acquisition – does external recruitment match internal assumptions?



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