Professional Culture and Climate: Addressing Unconscious Bias

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* The views presented here do not necessarily represent those of the National Science Foundation
“If you asked me to name the greatest discoveries of the past 50 years, alongside things like the internet and the Higgs particle, I would include the discovery of unconscious biases, and the extent to which stereotypes about gender, race, sexual orientation, socioeconomic status, and age deprive people of equal opportunity in the workplace and equal justice in society.”

-Prof. Nancy Hopkins
MIT Professor of Biology
Boston University Graduation
May 18, 2014
“Unconscious bias” is also known as “implicit bias” or “implicit social cognition.” It affects:

- The way people interact with you
- The way you interact with others

➢ It’s critical to consider both as you move along your career path!

Maintain “Constant Vigilance”
Unconscious Bias

- Expectations or stereotypes influence our judgments of others (regardless of our own group).

- Gender:
  - Men judging women; women judging women
  - Men and women BOTH downplay the contributions of women

- Race/ethnicity
  - Whites judging minorities; minorities judging minorities
  - Whites and minorities BOTH downplay the minorities

- Unconscious bias is
  - NOT discrimination
  - NOT prejudice
Schemas are expectations or hypotheses about the characteristics of a person based on their group membership; they

- influence group members’ expectations about how they will be judged.

- allow efficient, if sometimes inaccurate, processing of information.

- often conflict with consciously held or “explicit” attitudes.

- change based on experience/exposure.


Schemas are applied more often under circumstances of:

- Lack of critical mass
- Time pressure
- Stress from competing tasks
- Ambiguity (including lack of information)

A well-dressed businessman draws a knife on a vagrant.

The onlookers may (and often do) "remember" the vagrant pulling the knife.

Results of these studies are starting to question the reliability of eye witnesses.

From Wikipedia, the free encyclopedia
A recent study found that there are widespread disparities in the administration of corporal punishment by race, gender and disability status. For example:

- In Alabama and Mississippi, African American children are at least 51 percent more likely to be corporally punished than white children in over half of school districts.

- In eight states, boys are five times as likely to receive corporal punishment as girls are in at least 20 percent of school districts.

- Children with disabilities are more than 50 percent more likely to be corporally punished than their nondisabled peers in many southeastern states. Disability status is defined as students who qualified as having a disability (physical, cognitive, or emotional) under the Individuals with Disabilities Education Act.

Teams of male and female university psychology professors (search committees) evaluate candidates for an open position (assistant professor of psychology).

Application packages for Karen and Brian are identical except for name.

Search committees preferred 2:1 to hire Brian over Karen.

When evaluating a more experienced record (tenure), reservations expressed 4 times more often for Karen than for Brian.

Unconscious Bias: Race

- Lakisha had to send 15 resumes to get a callback, compared to 10 needed by Emily.

- Lakisha needed 8 more years of experience to get as many callbacks as Emily.

- The higher the resume quality, the larger the gap between callbacks for Emily and Lakisha.

Women are 9% of scientific plenary speakers; 17% of all plenary speakers; appear to be no other underrepresented minorities
Planetary Science Prizes and Awards

- Eberhart Award: 25% men, ~16% women
- Sagan Medal: ~18% men, ~22% women
- Masursky Award: ~22% men
- Urey Prize: ~16% men
- Kuiper Prize: 3% men

Legend:
- Yellow: Number of Men
- Red: Number of Women
Women in Astronomy and Planetary Science

Rathbun et al. 2015, DPS; see poster 332.01 additional information
Women Scientists in Spacecraft Teams

Rathbun et al. 2015, DPS; see poster 332.01 additional information
Women Scientists on Spacecraft Science Teams

Rathbun et al. 2016, DPS, poster 332.01
Underrepresented Minorities: Faculty

Underrepresented Minorities: Bachelor Degrees

**Table 2**

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*All Geosciences includes: Atmospheric Sciences, Earth Sciences and Ocean Sciences
**Ocean Sciences is calculated using a 2-year average

[www.aip.org/statistics](http://www.aip.org/statistics)
When Do Schemas Affect Evaluation Outcomes?

- Resumes
- Job credentials
- Fellowships
- Hiring
- Awards
- Promotion
- Proposal Reviews

Death by a thousand cuts.
What Can We Do about Unconscious Bias?

- Awareness
- Policies
- Practices
- Accountability
Ways to Mitigate Bias

- Increase awareness of how implicit biases might affect evaluations
- Decrease time pressure and distractions in evaluation process
- Rate on explicit criteria rather than global judgments
- Point to specific evidence supporting judgments

We Can All Help Shatter the Glass Ceiling!
The Planetary Science Workforce of the Future

Thank You!

Special thanks to
- Joan Schmelz (Arecibo Observatory)
- Abigail Stewart (Univ. of Mich.)

Excellence has no gender or race or sexual orientation
Think unconscious bias = conscious prejudice?

Think you don’t have unconscious biases?

Try taking the Harvard Implicit Association Test: https://implicit.harvard.edu/implicit/