

<https://youtu.be/aC7lbdD1hq0>

# Implicit bias: the real inequity in the 21st Century

It is tempting to believe that discrimination against certain groups is a thing of the past or is only practiced by a small set of uninformed people.

*Research shows that we **all** – regardless of the social groups we belong to – perceive and treat people differently based on their social groups (race/ethnicity, gender, sexual orientation, disability, etc.).*



### Doll Test

5,932,973 views • Feb 8, 2012

👍 55K 💬 8.8K ➦ SHARE 📌 SAVE ...

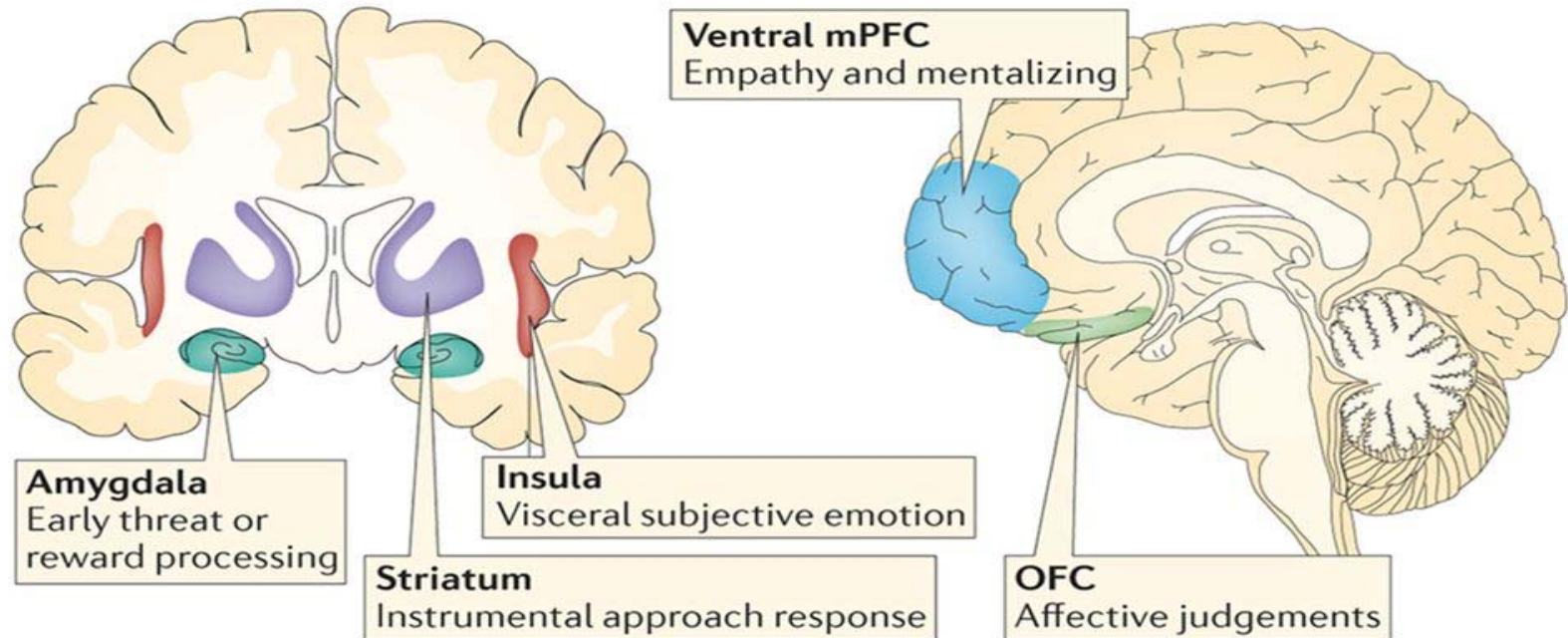
<https://youtu.be/tkpUyB2xgTM>

# The Neuroscience of prejudice and stereotyping

- Prejudice is a fundamental component of human social behaviour that represents the complex interplay between neural processes and situational factors.
- Prejudice is an evaluation of, or an emotional response towards, a social group based on preconceptions.
- Prejudiced responses range from the rapid detection of threat or coalition and subjective visceral responses to deliberate evaluations and dehumanization
- These cognitive processes are supported most directly by the amygdala, orbital frontal cortex, insula, striatum and medial prefrontal cortex.

# The Neuroscience of prejudice and stereotyping

## Prejudice Network



Amodio, 2014

# The amygdala and its role in prejudice

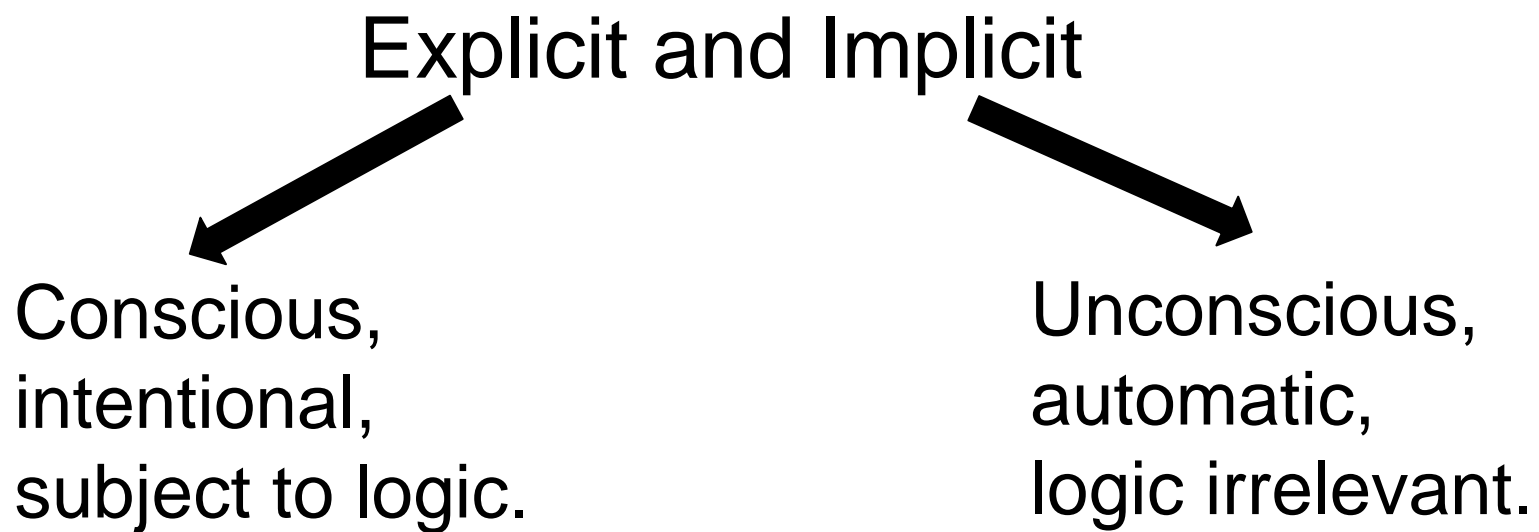


**Fig. 1** Example of experimental stimuli presented to participants during the functional scan (i.e. dark-skinned Black ...

- When they viewed black faces, it resulted in greater amygdala activity than when they viewed white faces.
- Amygdala activation was equal for light and dark black faces, but dark-skinned white people had greater activation than those with lighter skin tone.
- So far, research suggests that amygdala activity in response to out-group members is not innate and develops later in adolescence. Also, studies support the notion that childhood exposure to diversity can reduce the salience of race in adulthood.

# Stereotypes

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Overt Bias and discrimination have decreased globally, but  
**UNCONSCIOUS BIAS** is still a major challenge

# mPFC and prejudice

- The mPFC is the seat of empathy in the brain. It forms impressions about other people and helps us consider other perspectives.
- A lack of mPFC activity is associated with prejudice marked by dehumanization and objectification of others.
  - Men with highly sexist attitudes have less mPFC activity when viewing sexual images of female bodies.
    - These men also believed sexualized women have “less control over their own lives.”

# Schemas (expectations or stereotypes )are...

- **Widely culturally shared**
  - Both men and women hold them about gender.
  - Both whites and people of color hold them about race/ethnicity.
  - People are often not aware of them.
- **Applied more** under circumstances of:
  - Ambiguity (including lack of information)
  - Stress from competing tasks
  - Time pressure
  - Lack of critical mass (minority status)

Fiske (2002). *Current Directions in Psychological Science*, 11, 123-128.

Steele (1997) *American Psychologist*, 52 (6):613-629

# Defining implicit bias

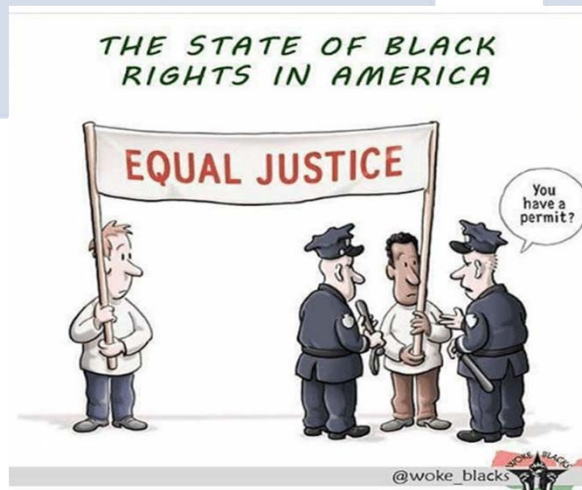
- Implicit bias refers to unconscious stereotypes toward a group of people that affect our understanding, actions and decisions.
- Implicit biases can be positive or negative and they affect us without our CONSCIOUS awareness or control.
- For example: A person can unknowingly prefer one racial group to another without being a vocally and consciously racist individual.

## Explicit Bias

- Expressed directly
- Aware of bias
- Operates consciously
- Systemic prejudice and /or discrimination
- Example: “I like whites more than Latinos”

## Implicit Bias

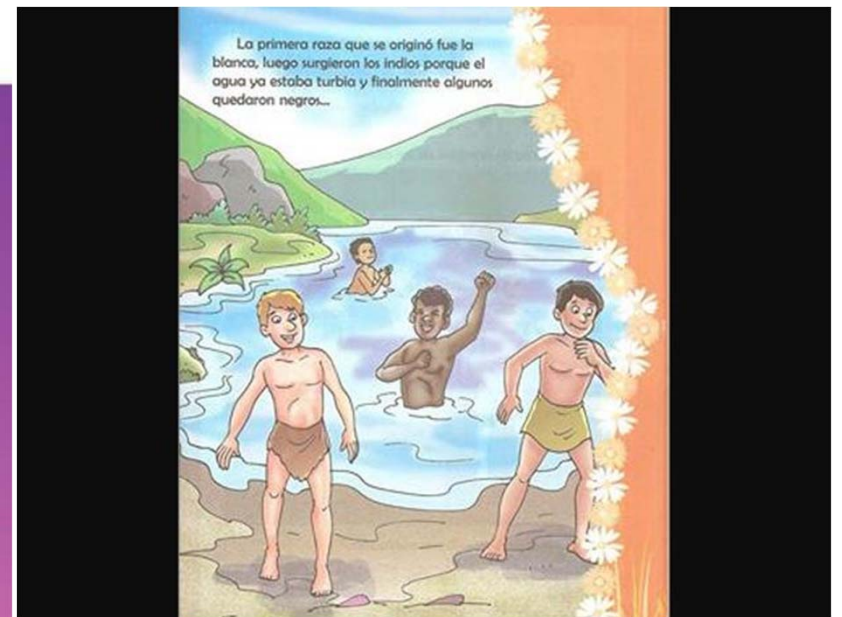
- Expressed indirectly
- Unaware of bias
- Operates sub-consciously
- “Micro-aggressions”
- Example: sitting further away from a Latino than a white individual



not up for debate

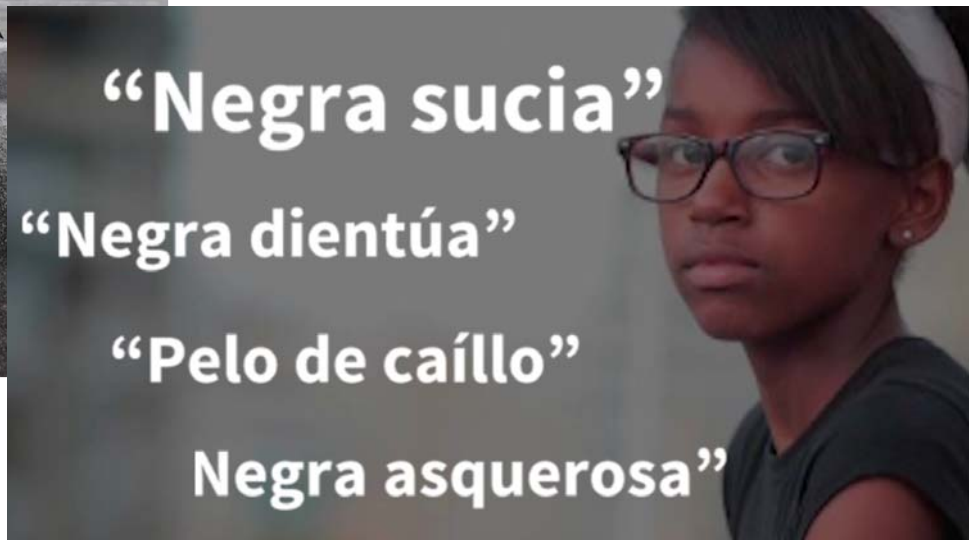


Publicidad



Examples of implicit and explicit bias in Puerto Rico

# Alma Yariela



# POLICE BRUTALITY

Enough is Enough.

HANDS UP



DON'T SHOOT



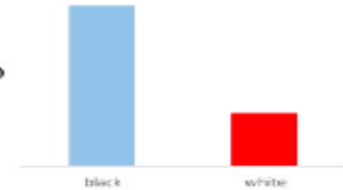
Nearly 1 in 3 black people killed by police in 2015 were identified as unarmed.



People In Tens

At least 194 black people have been killed by the police in 2016.

Black people are 3 times more likely to be killed by police than white people.



Black men constitute for 6% of the nation's population, but account for 40% of unarmed people who had been fatally shot by the police in 2015.



■ black men ■ everyone else

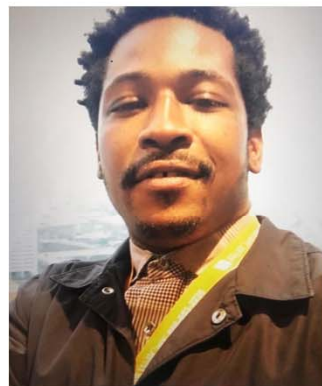


■ black men ■ other unarmed civilians

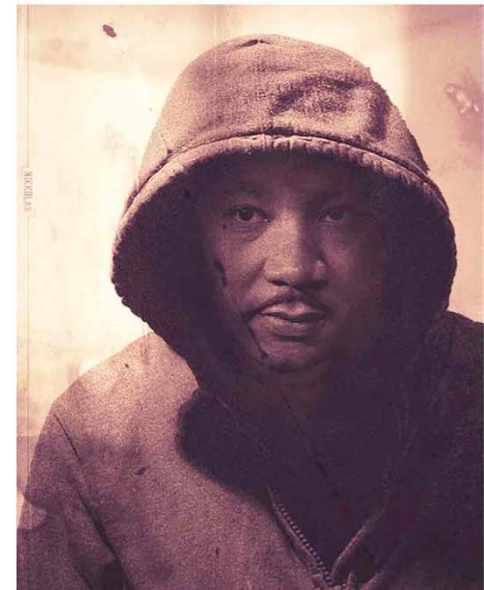
## KILLED BY POLICE



George Floyd



Rayshard Brooks



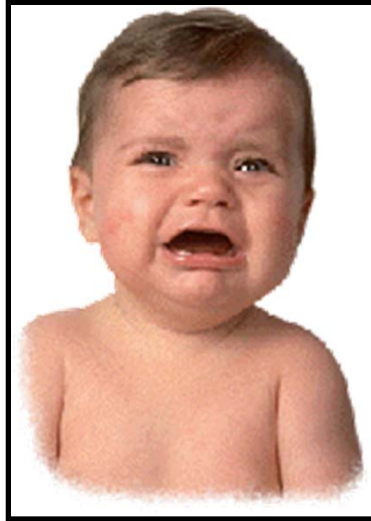
# Explicit or Implicit bias?



- Example: Department head/supervisor making a homophobic or sexist joke?
- Example: Supervising medical staff making negative comments about African American and/or black patients?
- Example: Differential treatment recommendations for pain medication for people of color?
- Example: Predominantly male committee unconsciously using different subjective measures to evaluate promotion/tenure for females?
- Example: White physician retaining more distance from patients of color?
- Example: Ignoring the sexual orientation and family status of your lesbian, gay, bisexual, transgender, queer, questioning, and/or intersex (LGBTQQI) colleague so as not to be “rude”?
- Example: Physician not taking full sexual history for married man and ignoring the potential he may be a man having sex with other men?

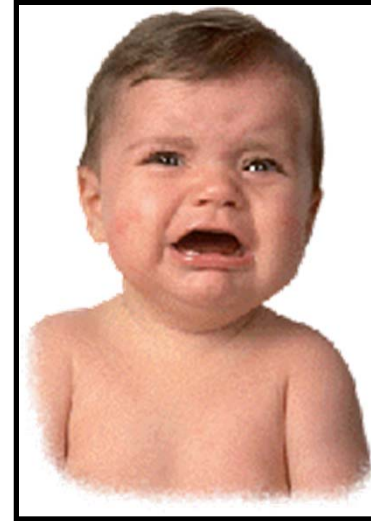
# Feelings

**Debbie**



**“Afraid”**

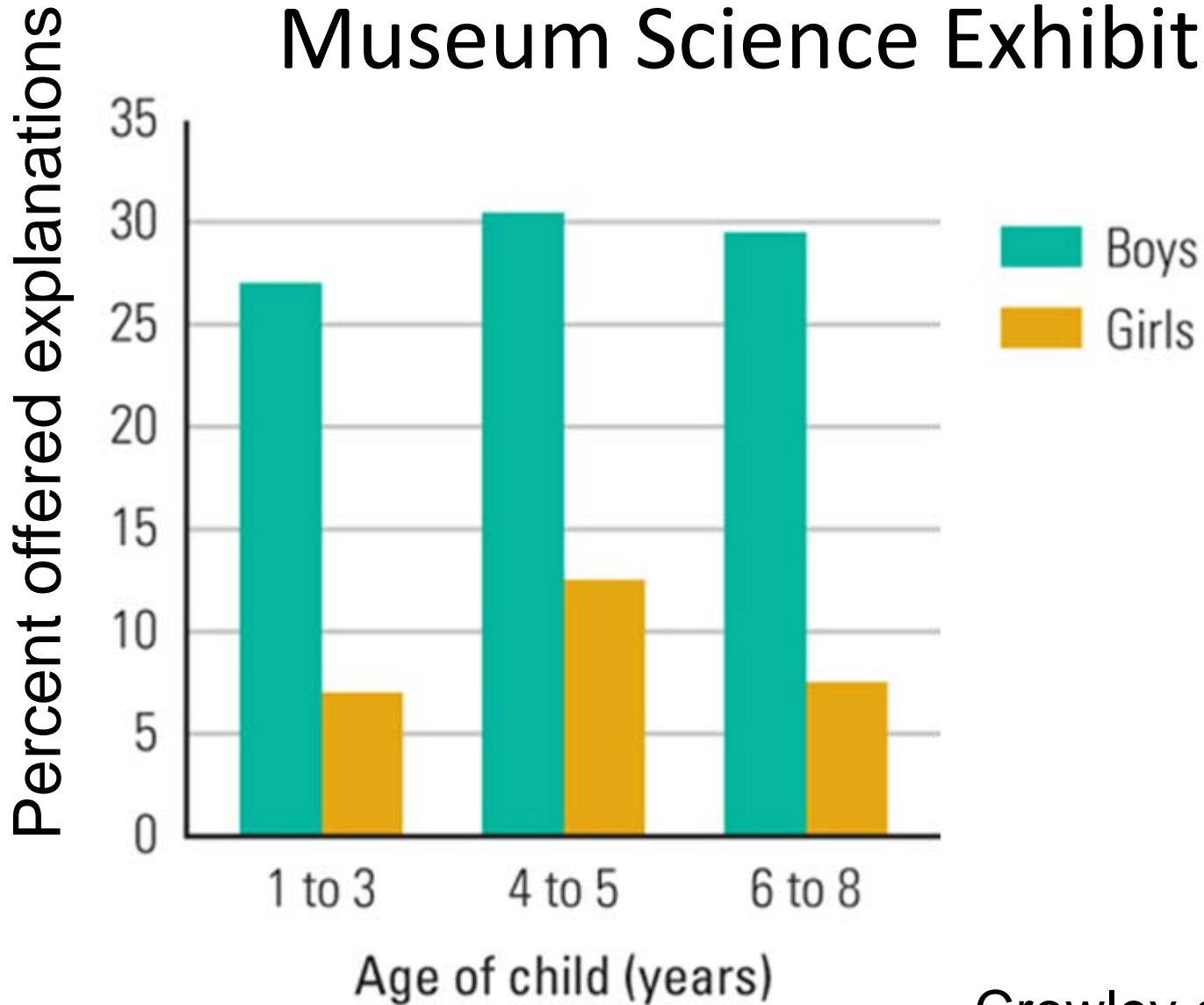
**Danny**



**“Angry”**

Condry & Condry, 1976

# Parents' explanations of Museum Science Exhibits



Crowley et al., 2001



# Project Implicit®

## PROJECT IMPLICIT SOCIAL ATTITUDES

Log in or register to find out your implicit associations about race, gender, sexual orientation, and other topics!

[LOGIN](#)[REGISTER](#)

Or, continue as a guest by selecting a country below:

[GO!](#)

## PROJECT IMPLICIT MENTAL HEALTH

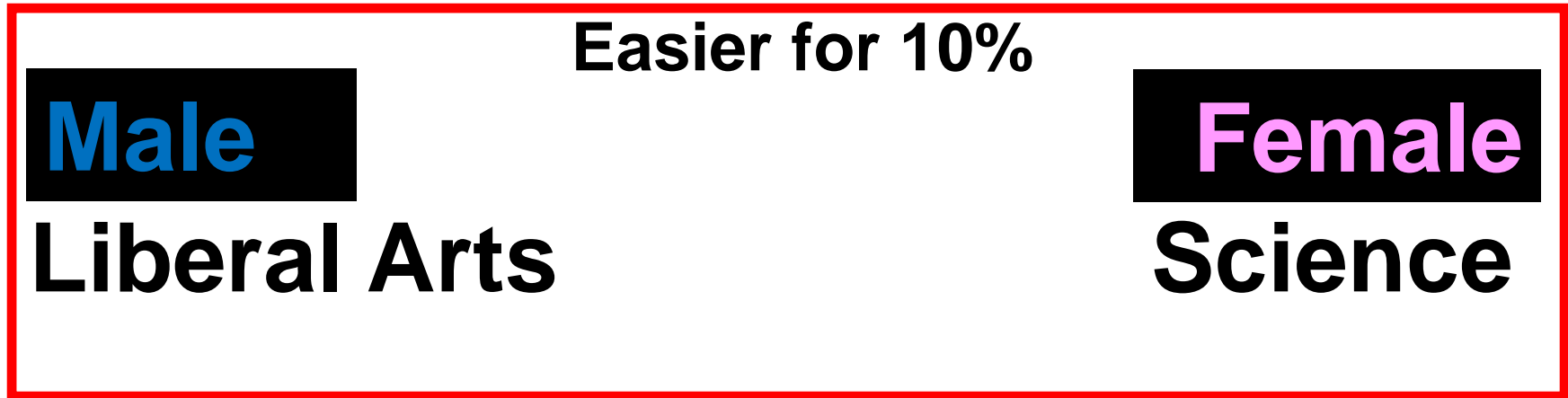
Find out your implicit associations about self-esteem, anxiety, alcohol, and other topics! [GO!](#)

## PROJECT IMPLICIT FEATURED TASK

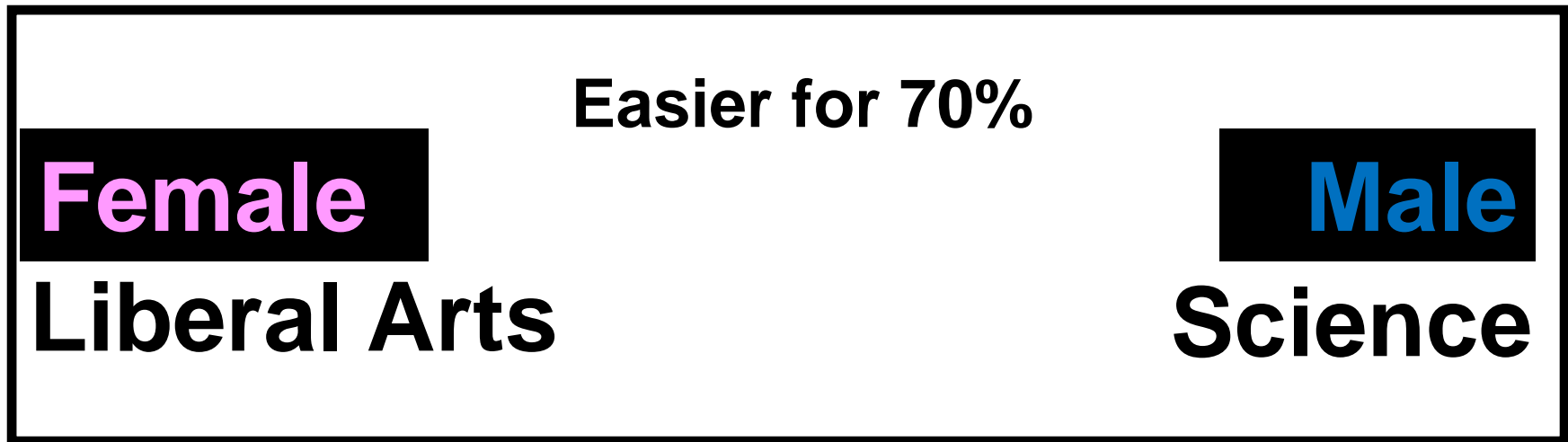
Measure your implicit race evaluations! Whom do you implicitly prefer among Whites, Blacks, Asians, and Hispanics? [GO!](#)

[implicit.harvard.edu/implicit/](https://implicit.harvard.edu/implicit/)

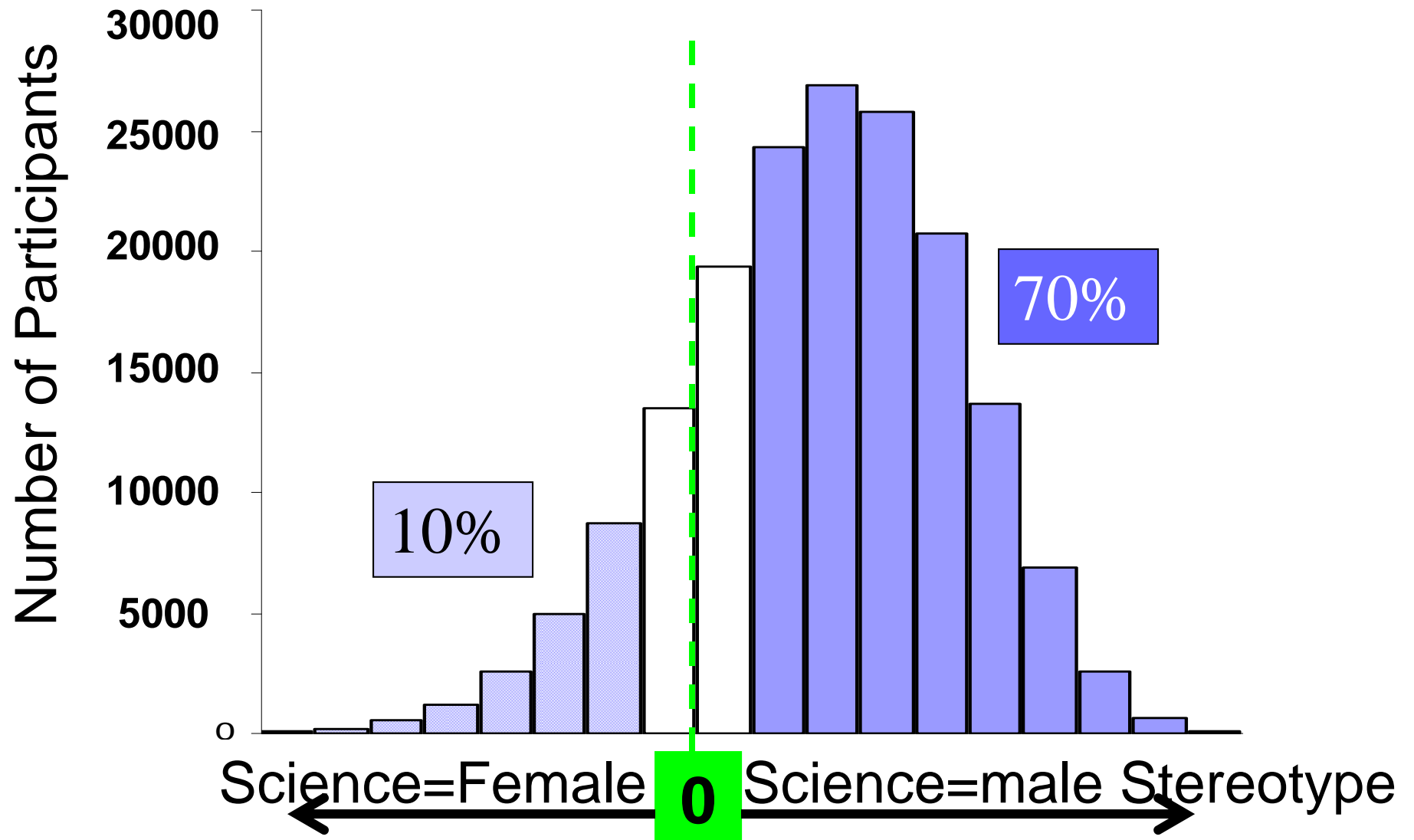
# Gender-Science on Project Implicit

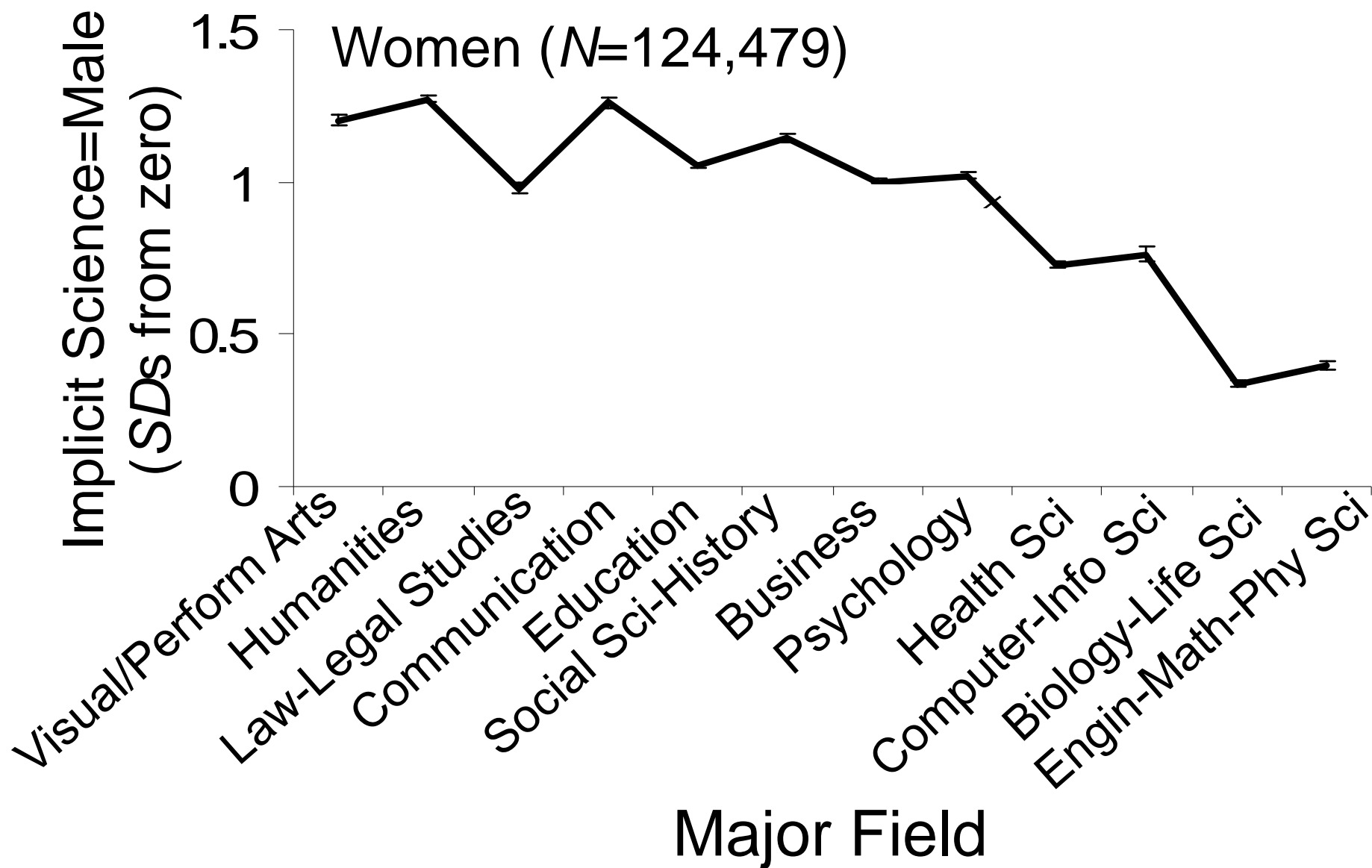


No Difference for 20%  
**PERCEPTIONS MATTER!**

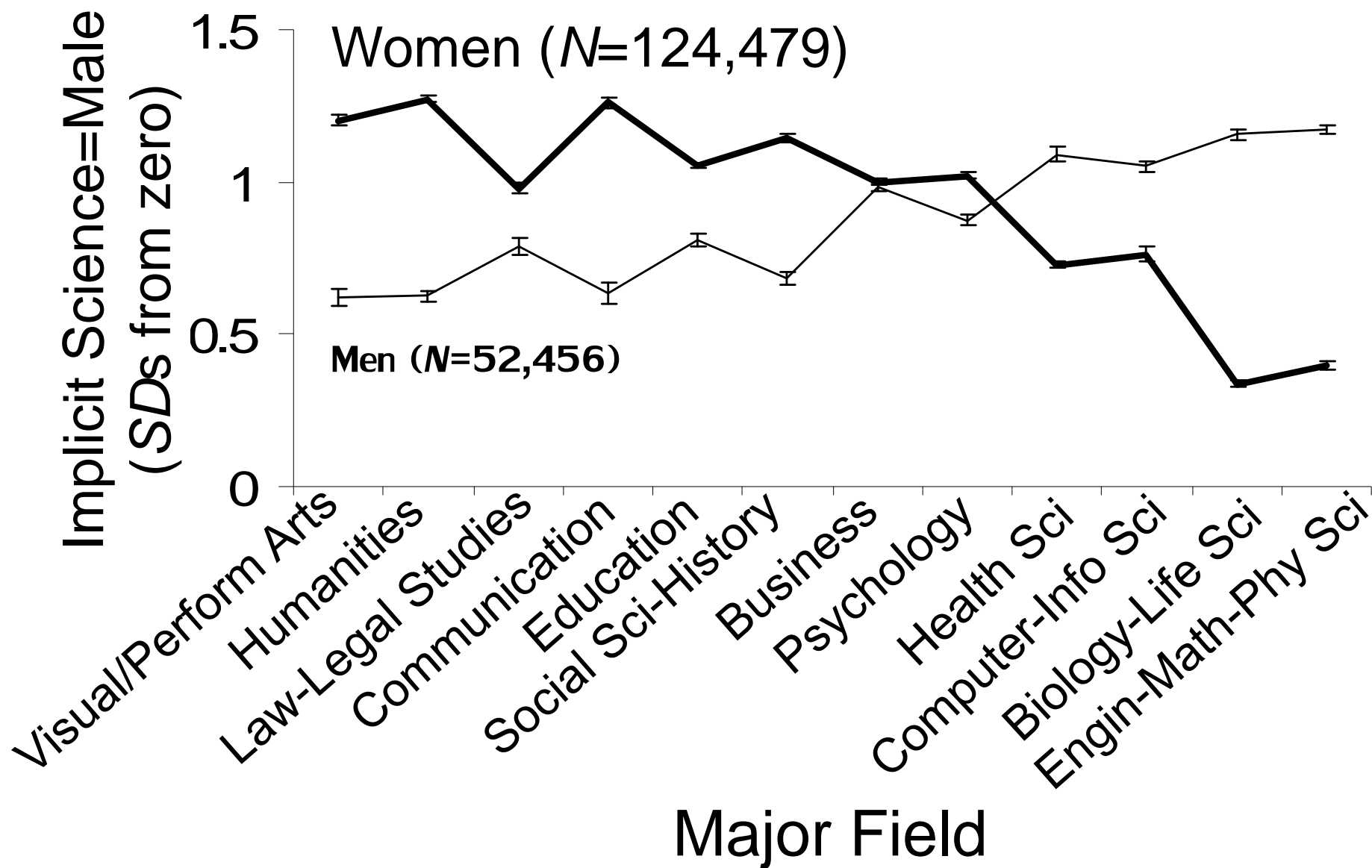


# Gender-Science on Project Implicit





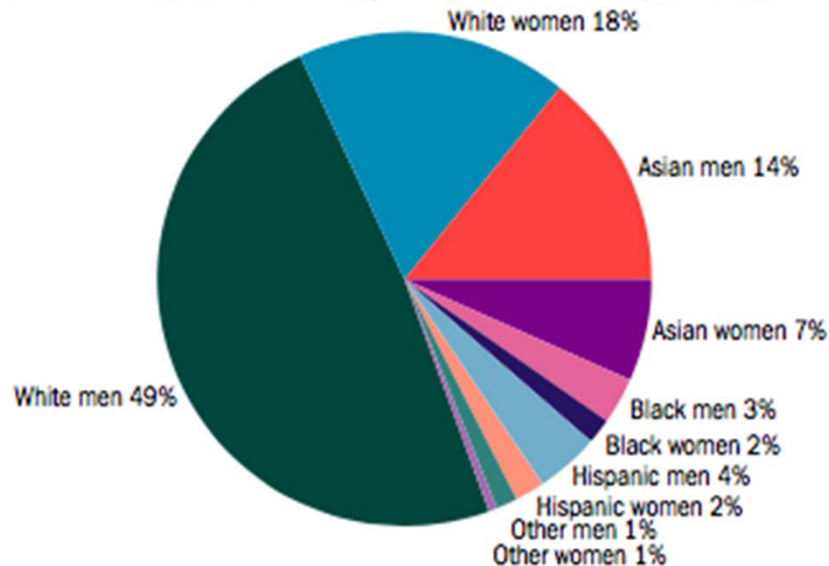
Smyth, 2013



Smyth, 2013

# NSF-stats for women, URM's 2015

Scientists and engineers working in science and engineering occupations  
2015

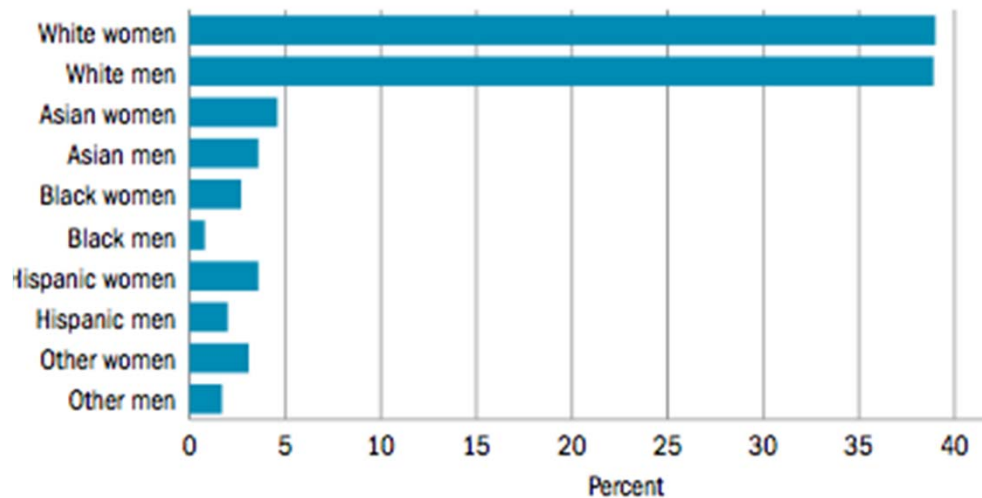


NOTES: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Pacific Islander, and multiple race.

- *Women, Minorities, and Persons with Disabilities in Science and Engineering, NSF, 2017*

# Doctorates URM's, 2014

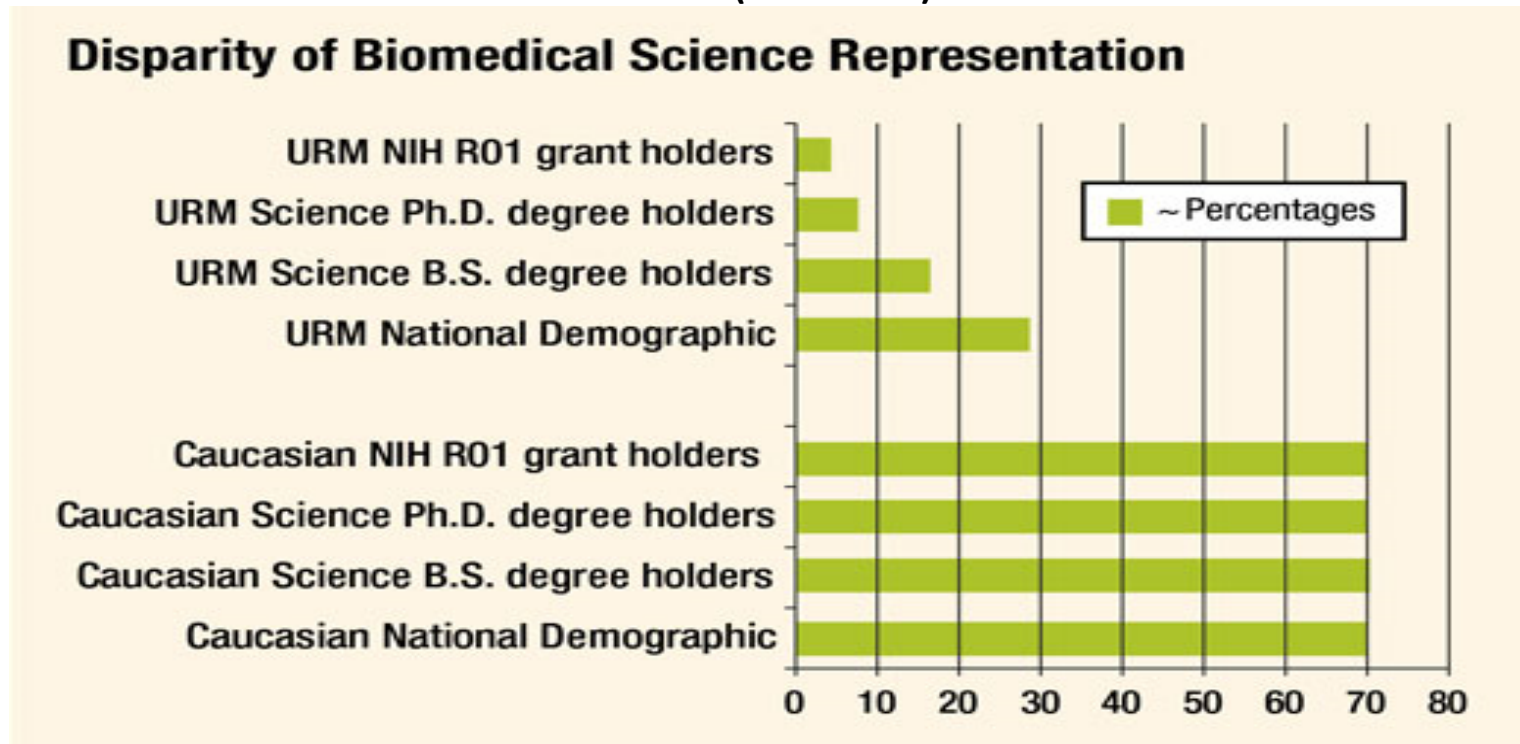
**Race, ethnicity, and sex of early career doctorate holders with a science or engineering degree: 2014**



NOTES: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and respondents who selected more than one race.

- *Women, Minorities, and Persons with Disabilities in Science and Engineering, NSF, 2017*

While URMNs represent approximately **29 percent of the U.S. demographic**, they represent only approximately **4 percent of the National Institutes of Health R01 biomedical research grant holders (2000-2006)**.



Sources: U.S. Census Bureau; NIH Office of the Director; National Science Foundation “Women, Minorities and Persons with Disabilities in Science and Engineering Report.”

## Targets of intervention in the pipeline that would result in the increase of URM in Neuroscience

***“We have effectively supplied the keys to the castle without acknowledging that the castle has a history and infrastructure that prohibits all who enter from thriving equally”.***

***Martinez-Acosta and Favero, 2018***



# Status Quo= First challenge URM groups face: Racism

**Racism is a system of power that structures opportunity and assigns value, and which can occur via acts of commission or acts of omission (such as inaction in the face of need)**

- Three levels:
  - Institutionalized racism
    - the “constellation of structures, policies, practices, norms, and values that taken together result in differential access to the goods, services, and opportunities of society by race.”
  - Personally mediated racism
    - “differential assumptions about the abilities, motives, and intents of others by race, and then differential actions based on those assumptions.”
  - Internalized racism
    - “acceptance by members of stigmatized races of negative messages about our own abilities and intrinsic worth . . . accepting limitations to [our] full humanity of the box into which [we have] been placed.”

*Camara Jones, M.D., M.P.H., Ph.D. Senior Fellow Satcher Health Leadership Institute Morehouse School of Medicine (2018)*

# Implicit Bias Can Affect Evaluation

- Blind auditions
- Evaluation of resumes
- Evaluation of CVs
- Evaluation of job credentials
- Evaluation of fellowship applications
- Letters of recommendation
- Critical Mass
- Language Describing Award/Job

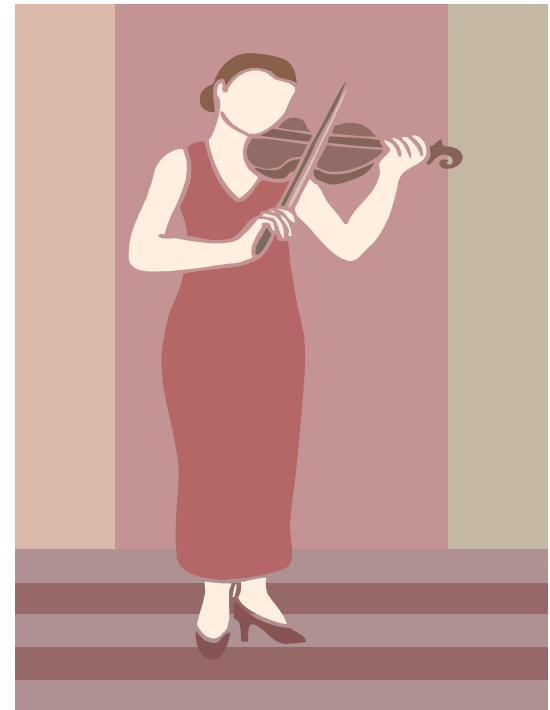
# Blind Auditions: Gender

Records from major US symphony orchestras from 1970-1996:

Audition data from 14,000 individuals show the use of a screen increases the probability that a woman will advance from preliminary rounds by 50%.

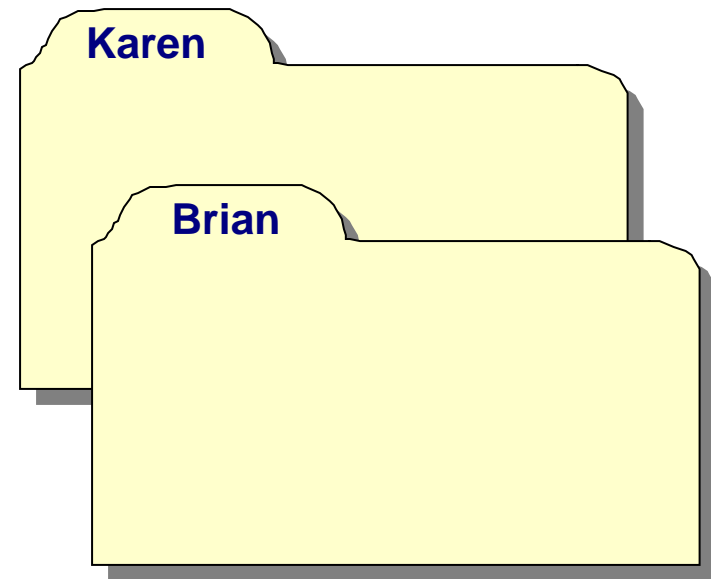
- Roster data from 11 major orchestras show the switch to blind auditions accounts for 30% of the increase in the proportion of women among new hires.

[Goldin & Rouse \(2000\) \*The American Economic Review\*, 90, 4, 715-741.](#)

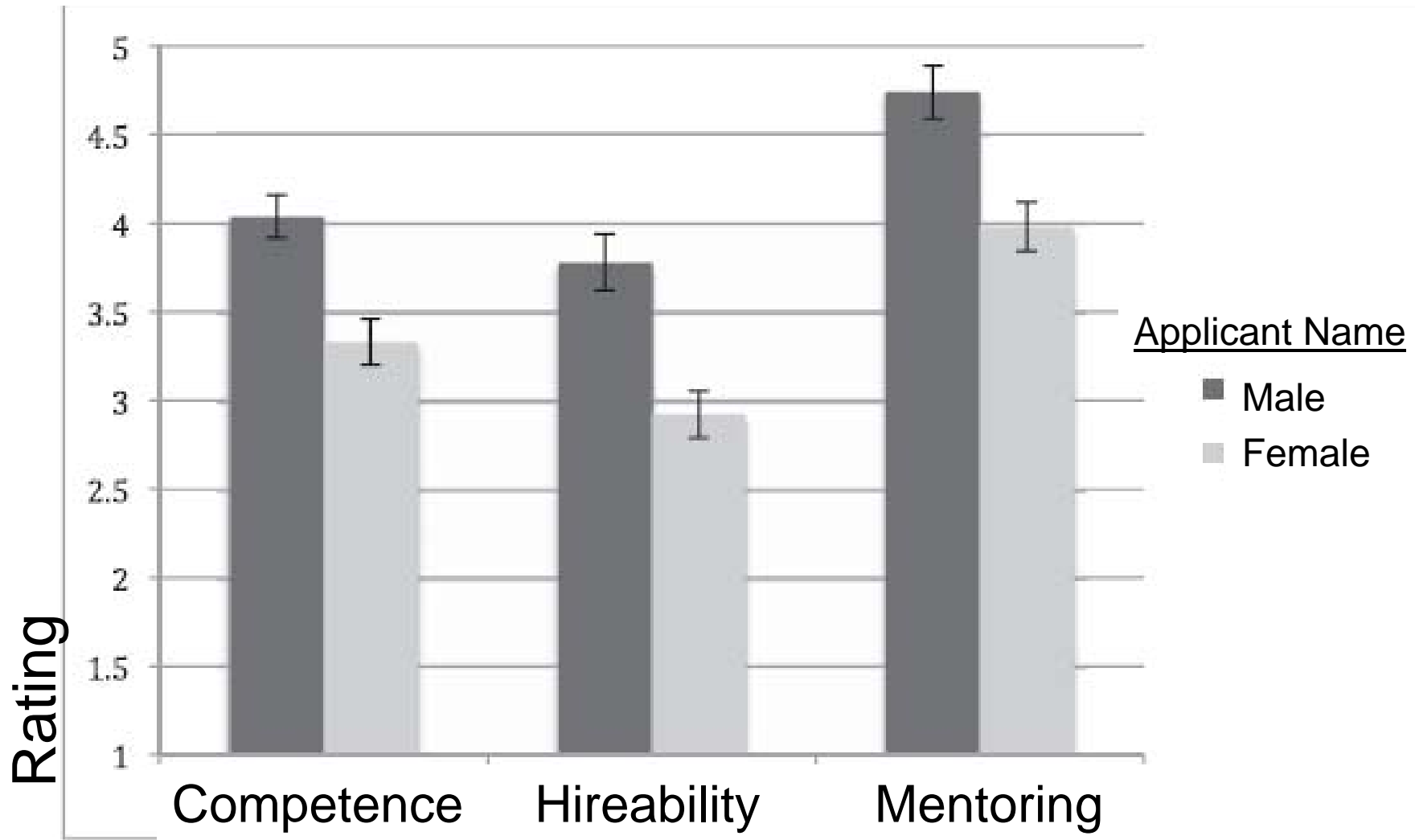


# Evaluation of Identical CVs: Gender

- When evaluating identical application packages, male and female University psychology professors preferred 2:1 to hire “Brian” over “Karen” as an assistant professor.
- When evaluating a more experienced record (at the point of promotion to tenure), reservations were expressed four times more often when the name was female.

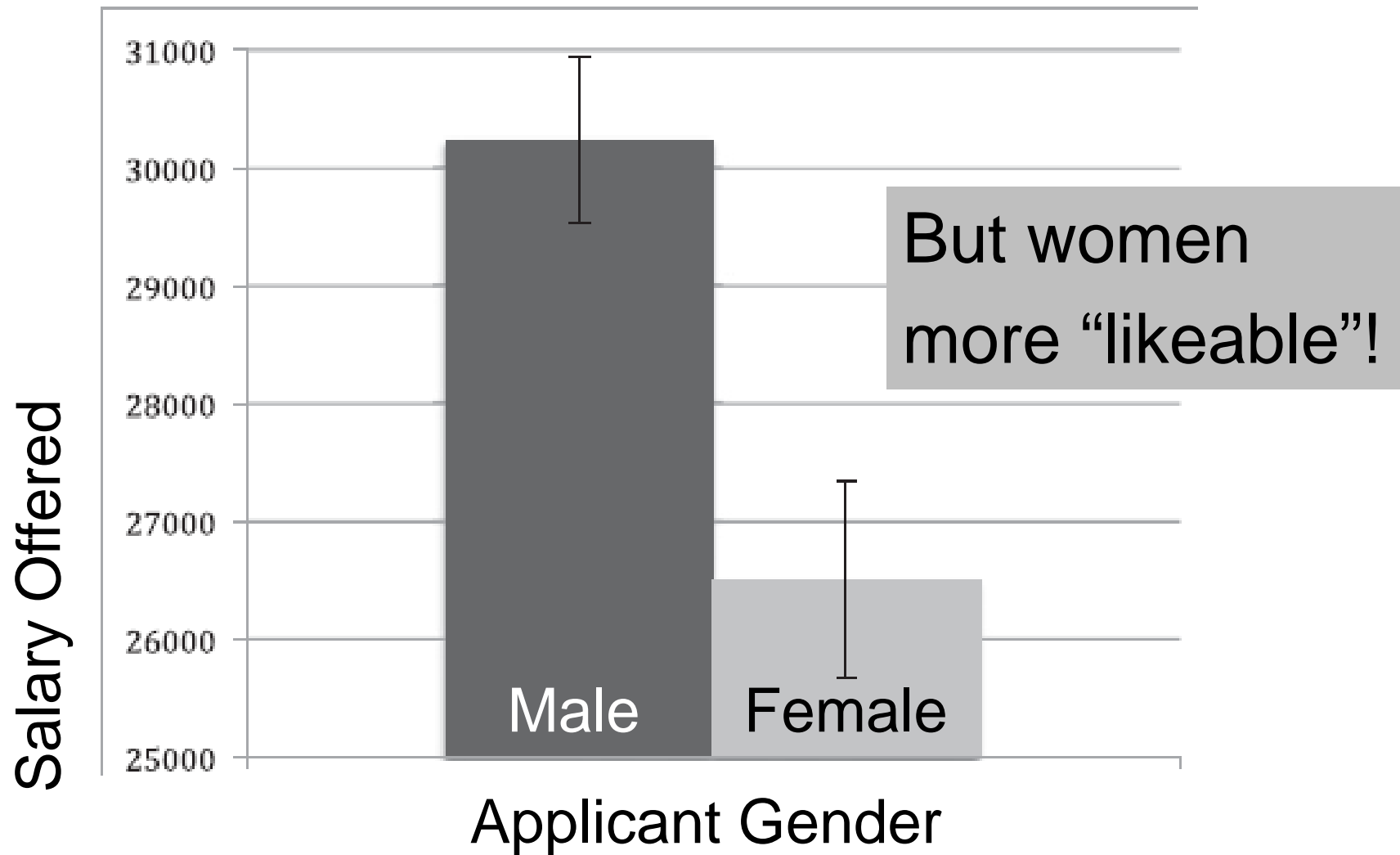


# STEM Faculty's judgments of lab manager applicant



Moss-Racusin et al., 2012

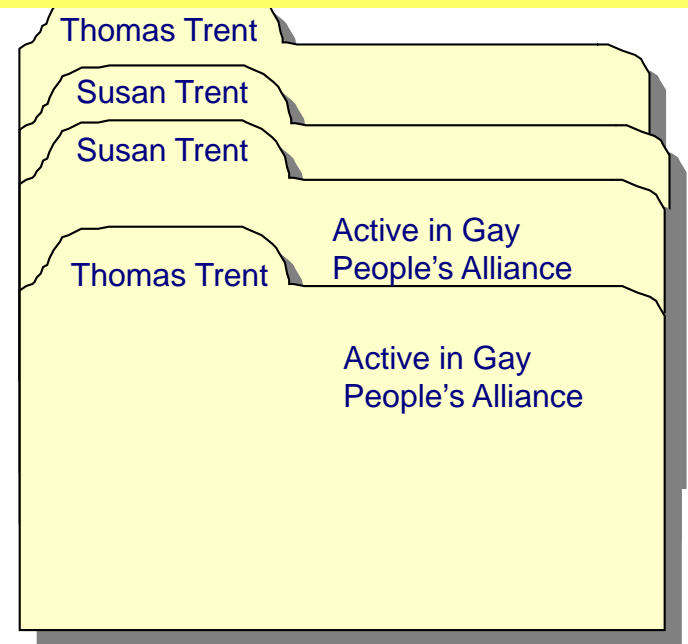
# Salary Offered



Moss-Racusin et al., 2012

# Evaluation of Identical Resumes: Gender and Sexual Orientation

- Nearly identical resumes of law students applying to internships in Canadian law firms.
- Gay-labelled male applicants received 62% as many offers as other male applicants.
- Gay-labelled female applicants received 50% as many offers as other female applicants.

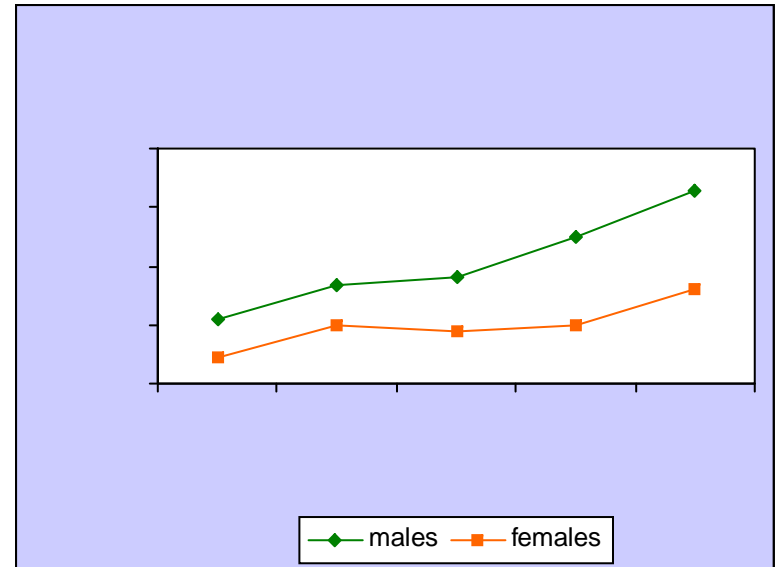


Similar and expanded findings:  
Weichselbaumer (2003)

# Evaluation of Fellowship Applications: Gender

“...the success rate of female scientists applying for postdoctoral fellowships at the [Swedish Medical Research Council] during the 1990s has been less than half that of male applicants.”

Women applying for a post-doctoral fellowship had to be 2.5 times more productive to receive the same reviewer rating as the average male applicant.



Similar findings:

- USA/GAO report on *Peer Review in Federal Agency Grant Selection* (1994)
- *European Molecular Biology Organization Reports* (2001)
- NIH Pioneer Awards: *Journal of Women's Health* (2005) & *Nature* (August 2006)

# Letters of Recommendation for Successful Medical School Faculty Applicants

## Differences

### Letters for men:

- Longer
- More references to:
  - CV
  - Publications
  - Patients
  - Colleagues



### Letters for women :

- Shorter
- More references to personal life
- More “doubt raisers” (hedges, faint praise, and irrelevancies)

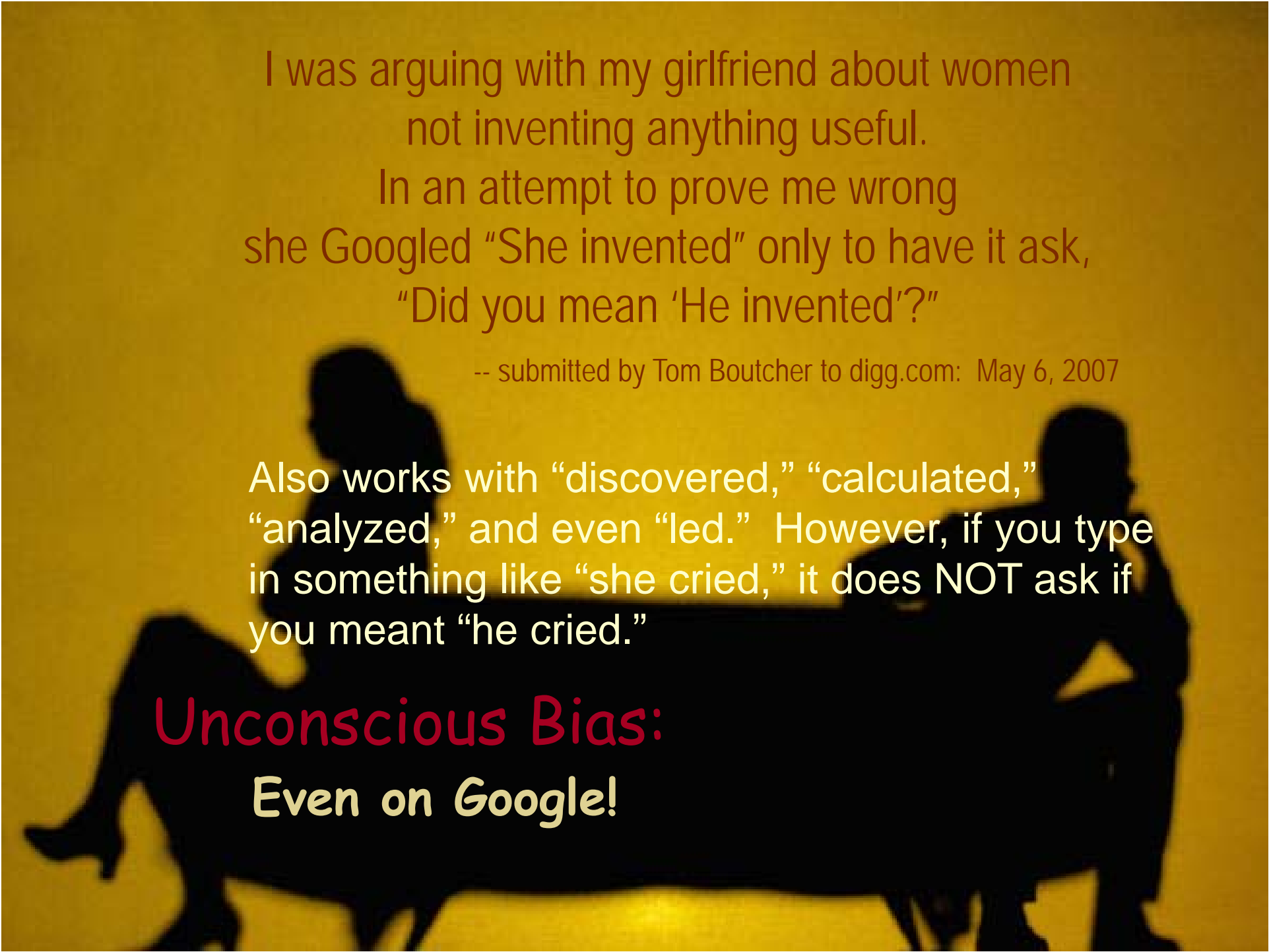
*“It’s amazing how much she’s accomplished.”*

*“It appears her health is stable.”*

*“She is close to my wife.”*

# Why does it matter that we lose women or URM faculty and scientists?

- When we lose women or URM faculty and scientists, we lose the power inherent in diversity.
- Diversity creates group intelligence.
- Professor's gender, ethnicity or race has a powerful effect on students' performance in math and science classes, their likelihood of taking future math and science courses, and their likelihood of graduating with a math, science or engineering degree.



I was arguing with my girlfriend about women  
not inventing anything useful.  
In an attempt to prove me wrong  
she Googled "She invented" only to have it ask,  
"Did you mean 'He invented'?"

-- submitted by Tom Boutcher to digg.com: May 6, 2007

Also works with "discovered," "calculated,"  
"analyzed," and even "led." However, if you type  
in something like "she cried," it does NOT ask if  
you meant "he cried."

**Unconscious Bias:**  
**Even on Google!**

# Implicit bias in health care

“It’s a whole new way to understand why extremely well-meaning people can potentially behave in a biased way. In health care, people are altruistic and very well intentioned, so why are there still disparities in care?” “Bias in medical decision-making has been studied for 30 years. It’s basically how our minds work. We make snap judgments. We assess things quickly so that we actually function in our world.”

Janice Sabin, Ph.D., MSW  
Professor, University of Washington



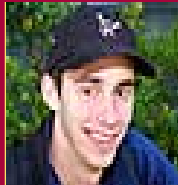
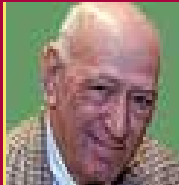





“One of the key things about implicit biases is that people generally don’t know that they have them, we have these associations that can influence our judgment and the way we behave, but people typically aren’t very aware of them.”

Kate Ratliff, Ph.D., Associate Professor of Psychology at the University of Florida.



# The Faces of Berkeley Engineering

Meet Tomorrow's Leaders and Today's Pioneers

Students			Faculty			Alumni		
								
Julia Cross	Kibibi Moseley	Anthony Levandowski	Werner Goldsmith	Ali Niknejad	Jennifer Mankoff	Oren Jacob	Julia Gee	Floyd Kvamme
Studies the martial art Wu Shu	Table tennis champion	Lego robot creator	Wrote the book on Impact	Circuit Maven	Accomplished viola player	Pixar wizard	Volunteer-aholic	Chip guru

**What is the effect on applicants -- aspiring students and potential faculty?**

**How is it that people committed to diversity made such a web page? It was clearly not done intentionally, meaning that there was an unconscious element.**

# Impact of Schemas on Leadership

- With single sex groups, observers identify the person at the head of the table as the leader.
- With mixed sex groups
  - a male seated at the head of the table is identified as the leader.
  - a female seated at the head of the table is identified as the leader only half the time (and a male seated somewhere else is identified the other half).



# Impact of Schemas about Parenthood

Assumptions about the implications of motherhood for women's career commitment have consequences, despite recent data showing that:

- Women academics who marry and have families publish as many articles per year as single women.
- “...net sex differences in productivity are small to nil once other personal characteristics, structural settings, and facilitating resources are taken into account.” (Xie & Shauman, p.191)

Yu Xie and Shauman (2003) *Women in science: Career processes and outcomes*.

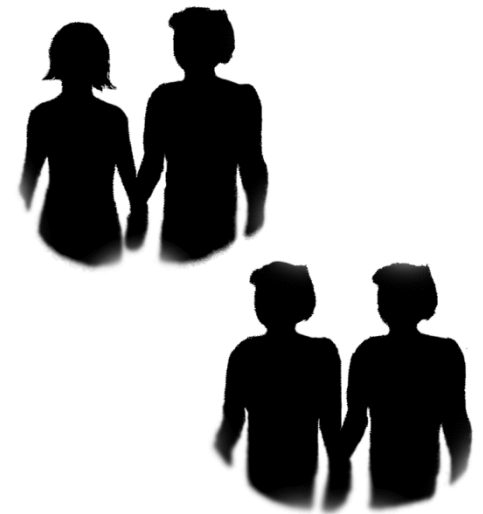
Cole and Zuckerman (1987) *Scientific American* 256 (2), 119-125.

Boushey (2005) Center Economic Policy & Research

# Student Evaluation of Teaching Credibility: Sexual Orientation

One male instructor provided a guest lecture to 8 sections of a communication course.

- In half of lectures, he referred to “my partner Jennifer” and in other half to “my partner Jason.”
- The “straight” instructor received 22% more positive comments than the “gay” instructor.
- The “straight” instructor received 81% fewer negative comments than the “gay” instructor.



Russ, Simonds, and Hunt (2002) *Communication Education*, 51:3, 311-324.

# Strategies for Breaking the Cycle

- Increase conscious awareness of bias and how bias leads to overlooking talent
  - Implicit Association Test:  
<https://implicit.harvard.edu/implicit/>
- Develop more explicit criteria (less ambiguity)
- Alter departmental policies and practices

# Cognitive Errors during Evaluation

- Negative stereotypes: far more evidence is required to be certain an individual has an “*unexpected*” attribute (competence)
- Positive stereotypes: earn extra points due to presumption of competence
- Raising the bar: happens during evaluation when candidate is member of group thought to be suspect/incompetent
- Elitism
- First impressions (dress, posture, laughter)

With thanks to JoAnn Moody, PhD, JD, Faculty Developer, Higher Education Consultant



#### Focus Within:

- Tune into your emotions
- Recognize how your experience has shaped your perspective
- Stick to facts, and don't make assumptions.
- Turn frustration into curiosity.

#### Learn about others

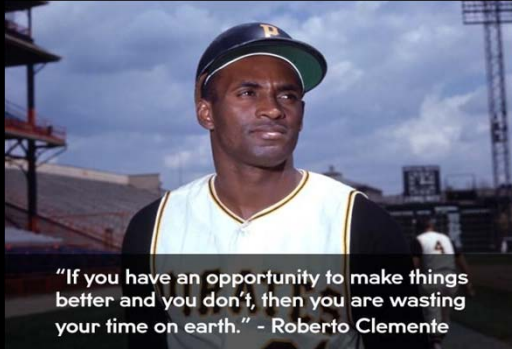
- Recognize how their experiences have shaped their perspective
- Consider how they might see the situation and what is important to them
- Think about how your actions may have impacted them

#### Engage in dialogue

- Ask open-ended questions
- Listen to understand, not to debate
- Offer your views without defensiveness or combativeness
- Disentangle impact from intent
- Avoid blame, think contribution

#### "eXpand" the options

- Brainstorm possible solutions
- Be flexible about different ways to reach a common goal
- Experiment and evaluate
- Seek out diverse perspectives



"If you have an opportunity to make things better and you don't, then you are wasting your time on earth." - Roberto Clemente

# Take Home messages

"Do not judge me by my successes, judge me by how many times I fell down and got back up again."  
-Nelson Mandela



Diversity fosters excellence



Implicit bias affects evaluations



Implicit biases can change



Self-concepts and environments matter



Increase conscious awareness of bias and how bias leads to overlooking talent

Implicit Association Test:  
<https://implicit.harvard.edu/implicit/>

The challenge of the 21st century is not to demand equal opportunity in the machinery of oppression, but rather to identify and dismantle those structures in which racism continues to be embedded.

Angela Davis

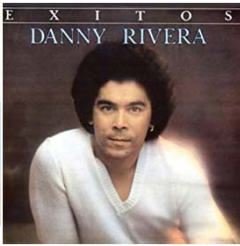
FeminineFusion.net



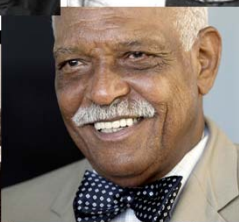
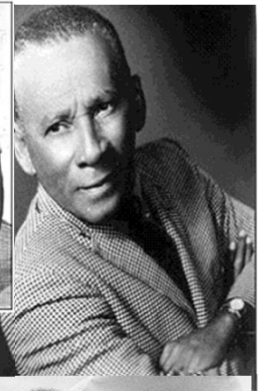
"Race matters to a young woman's sense of self when she states her hometown, and then is pressed, 'No, where are you really from?', regardless of how many generations her family has been in the country. Race matters to a young person addressed by a stranger in a foreign language, which he does not understand because only English was spoken at home. Race matters because of the slights, the snickers, the silent judgments that reinforce that most crippling of thoughts: 'I do not belong here.'"

-Sonia Sotomayor

HUFF  
POST



## Questions?



# Systemic racism in the USA

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[https://youtu.be/YrHIQIO\\_bdQ](https://youtu.be/YrHIQIO_bdQ)

