
Addressing Diversity in Academia

CSC: New Faculty Workshop

Milly Delgado

(with input from past and present mentors)



ACS
Chemistry for Life™

American Chemical Society
Savannah, GA



**COTTRELL SCHOLARS
COLLABORATIVE**
*Integrating Discovery and Education
to Advance Science*

October 18-19, 2019

Think-Pair-Share question

Why do we work on diversifying science?

New research further confirms that music training benefits kids' brains



AFP RELAXNEWS
Thursday, June 19, 2014, 2:32 PM

Researchers at the Boston Children's Hospital worked with magnetic resonance imaging (MRI) and found early musical training enhances the areas of the brain responsible for executive functioning.

Also known as cognitive control or supervisory attentional system, "executive functioning" refers to brain management, not unlike the corresponding corporate term.

This is the top of the hierarchy in terms of brain organization, for executive functioning enables information processing and retention, regulates behavior, and is responsible for problem solving and planning, among other cognitive processes.

Better said, it's a key player to success in life.

In the study, researchers considered a musically trained child to be one who had at least two years of private lessons under his or her belt.

MOST POPULAR



Studies indicating the benefits of music are numerous, but Boston researchers add to the list, saying enhanced ability to manage in life is one of them. (©XAVIER GALLEG0 MORELL/SHUTTERSTOCK.COM)

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3K



211



236



German speakers are likely to imagine where this woman is going and English speakers to focus on her journey, but bilinguals may be able to have it both ways.

EyeEm/iStockphoto

Speaking a second language may change how you see the world

By [Nicholas Weiler](#) | Mar. 17, 2015 , 3:15 PM

Where did the thief go? You might get a more accurate answer if you ask the question in German. How did she get away? Now you might want to switch to English. Speakers of the two languages put different emphasis on actions and their consequences, influencing the way they think about the world, according to a new study. The work also finds that bilinguals may get the best of both worldviews, as their thinking can be more flexible.

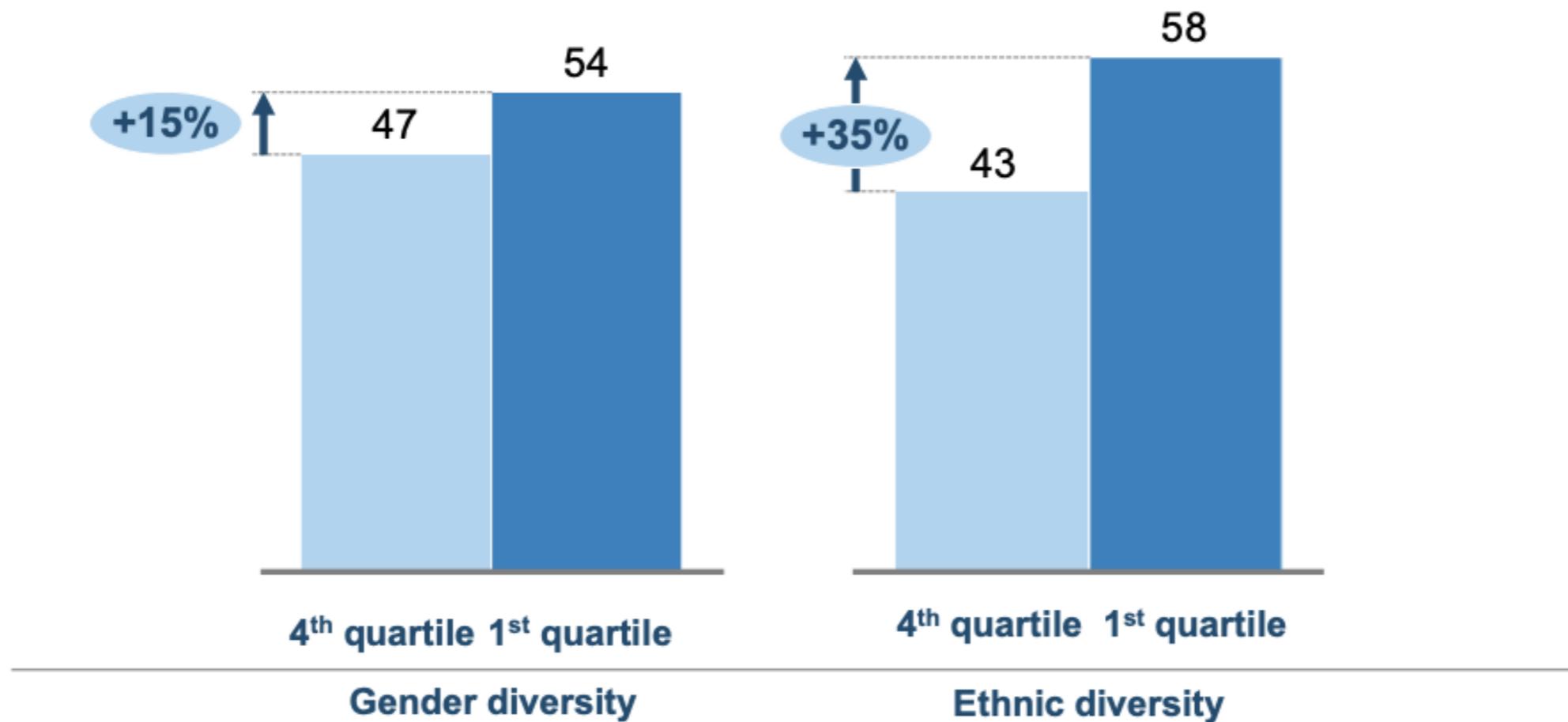
McKinsey: Increased Diversity Correlates to Increased Innovation/Profit

“Delivering Through Diversity” (2018): Hunt, Prince, Dixon-Fyle, Yee

<https://www.mckinsey.com/business-functions/organization/our-insights/why-diversity-matters>

How diversity correlates with better financial performance

Likelihood of financial performance above national industry median, by diversity quartile
%



SOURCE: McKinsey Diversity Database

1. Diverse teams are more innovative and more productive
2. Our distinctive personal experiences influence everything we do: *including research and teaching*
3. *Demographic diversity* is valuable because it adds *intellectual diversity*

Diversity training outcomes

The effects of programs intended to increase diversity at 829 large to midsize US companies was monitored over 10 years. The longitudinal effects of these programs was statistically isolated and quantified based on the **change in demographics of manager-level employees** over this timespan.

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Type of program	White		Black		Hispanic		Asian	
	Men	Women	Men	Women	Men	Women	Men	Women
Mandatory diversity training				-9.2			-4.5	-5.4
Job tests		-3.8	-10.2	-9.1	-6.7	-8.8		-9.3
Grievance systems		-2.7	-7.3	-4.8		-4.7	-11.3	-4.1

NOTE GRAY INDICATES NO STATISTICAL CERTAINTY OF A PROGRAM'S EFFECT.

SOURCE AUTHORS' STUDY OF 829 MIDSIZE AND LARGE U.S. FIRMS. THE ANALYSIS ISOLATED THE EFFECTS OF DIVERSITY PROGRAMS FROM EVERYTHING ELSE GOING ON IN THE COMPANIES AND IN THE ECONOMY.

FROM "WHY DIVERSITY PROGRAMS FAIL," BY FRANK DOBBIN AND ALEXANDRA KALEV, JULY-AUGUST 2016

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What works?

Diversity Programs That Get Results

Companies do a better job of increasing diversity when they forgo the control tactics and frame their efforts more positively. The most effective programs spark engagement, increase contact among different groups, or draw on people's strong desire to look good to others.

% CHANGE OVER FIVE YEARS IN REPRESENTATION AMONG MANAGERS

Type of program	White		Black		Hispanic		Asian	
	Men	Women	Men	Women	Men	Women	Men	Women
Voluntary training			+13.3		+9.1		+9.3	+12.6
Self-managed teams	-2.8	+5.6	+3.4	+3.9				+3.6
Cross-training	-1.4	+3.0	+2.7	+3.0	-3.9		+6.5	+4.1
College recruitment: women*	-2.0	+10.2	+7.9	+8.7		+10.0	+18.3	+8.6
College recruitment: minorities**			+7.7	+8.9				
Mentoring				+18.0	+9.1	+23.7	+18.0	+24.0
Diversity task forces	-3.3	+11.6	+8.7	+22.7	+12.0	+16.2	+30.2	+24.2
Diversity managers		+7.5	+17.0	+11.1		+18.2	+10.9	+13.6

*College recruitment targeting women turns recruiting managers into diversity champions, so it also helps boost the numbers for black and Asian-American men.

**College recruitment targeting minorities often focuses on historically black schools, which lifts the numbers of African-American men and women.

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Take aways:

- Diversity work is not easy
- Diversity work can (and should!) be empirically quantified
- Effective diversity work is **institutional, integrated, and voluntary**

A young boy and his father are driving through the woods. There is a terrible accident. The father is killed instantly. The boy is severely injured and rushed to a hospital for emergency surgery. In the operating room, the lead surgeon looks at the boy and says, "I can't operate on this boy, he is my son."

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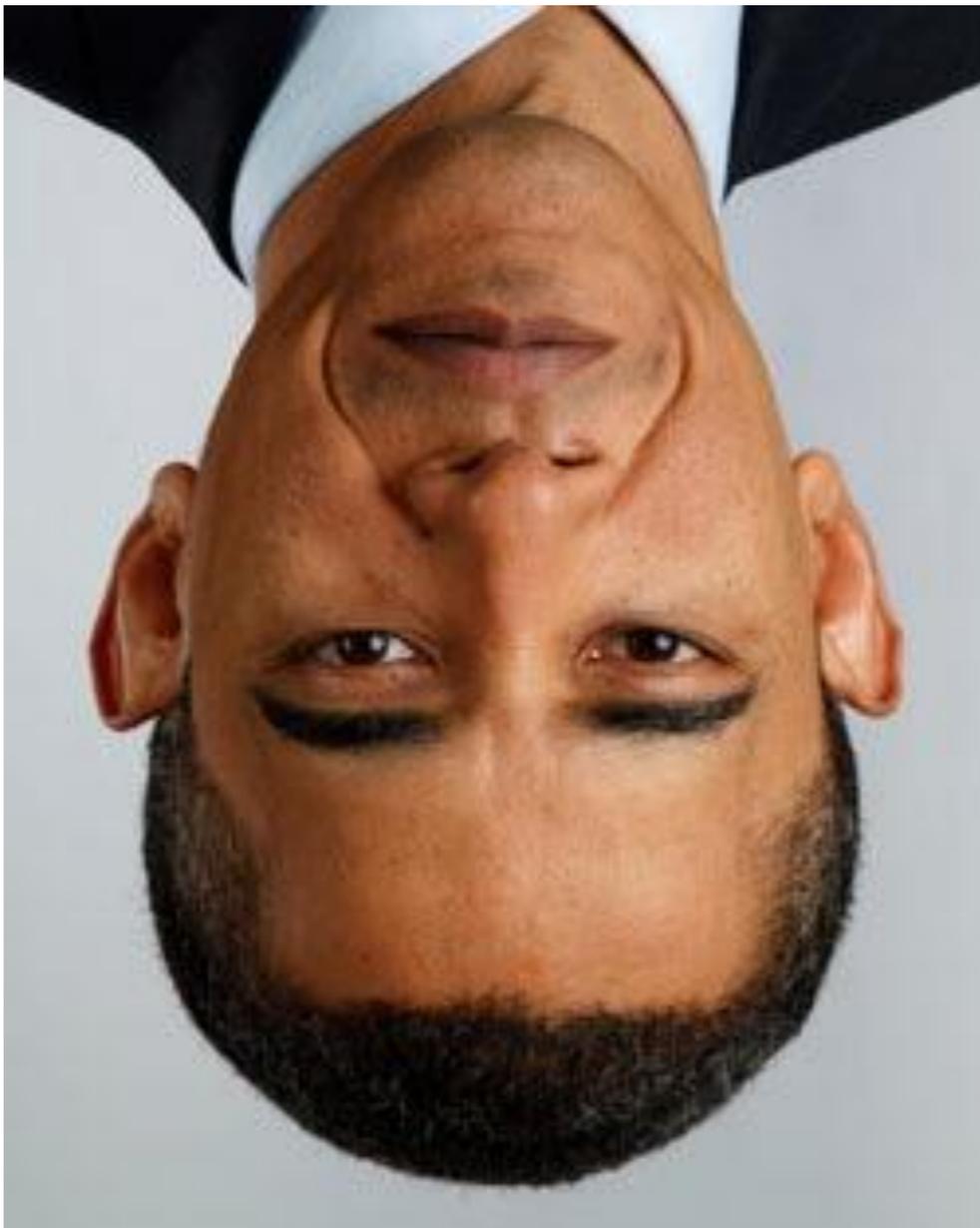


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“Implicit bias” or “Implicit association” or “Unconscious bias”

Project Implicit: implicit.harvard.edu

The Thatcher Effect



The Thatcher Effect

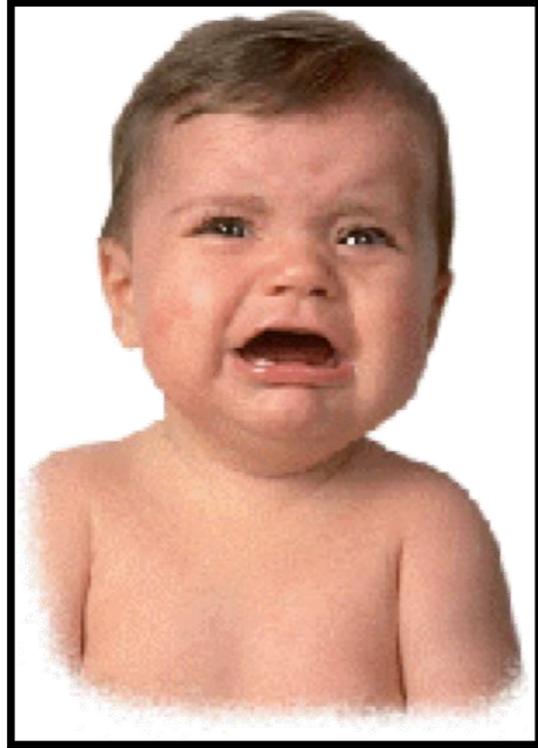


The brain naturally makes **assumptions** to make data processing reasonable

What is this person feeling?

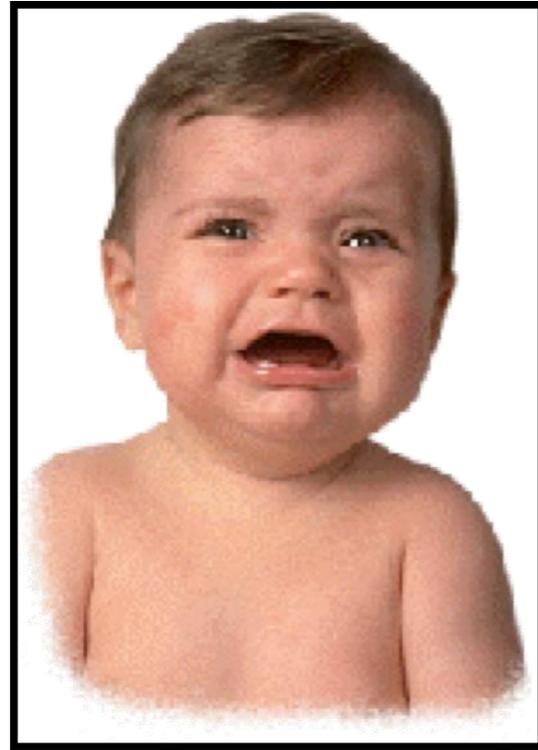


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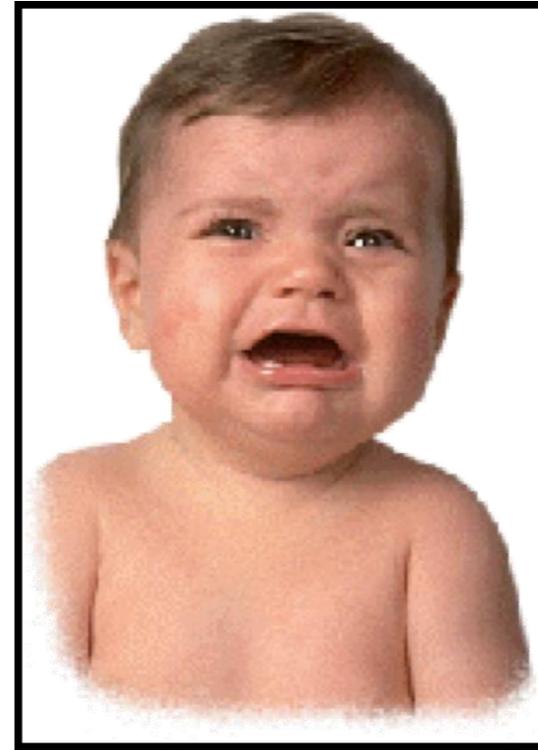
What is this person feeling?

Debbie



afraid

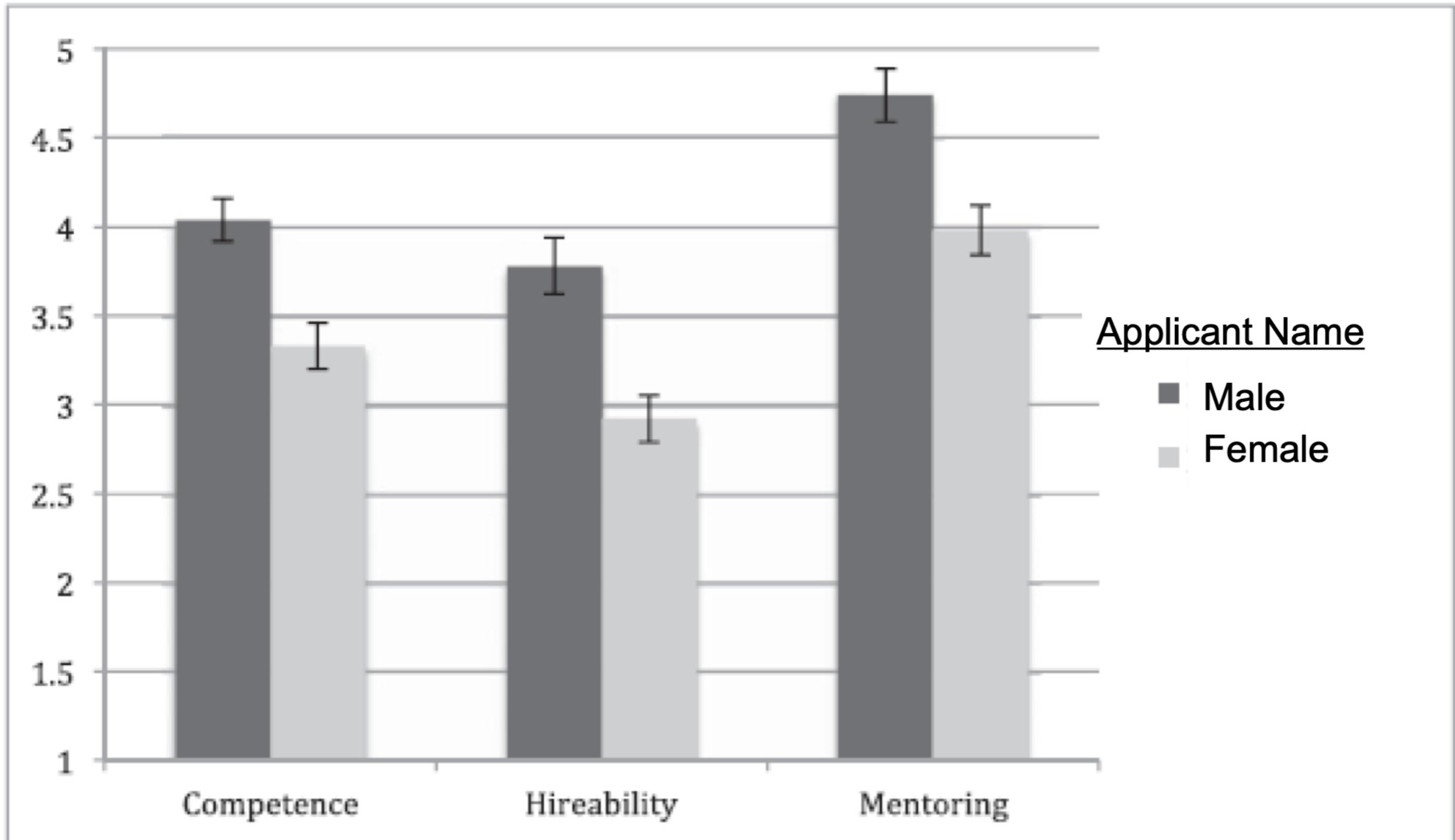
Danny



angry

Implicit bias impacts us as faculty

STEM faculty were asked to evaluate a resume for a potential lab manager. Half of the time the resume was assigned a male name, and half a female name.



IAT: Implicit Association test

Project Implicit: implicit.harvard.edu

Berkeley

Stanford

LEFT

RIGHT

Berkeley

Stanford

LEFT

Cal

RIGHT

Berkeley

Stanford

LEFT



RIGHT

Good

Bad

LEFT

RIGHT

Good

Bad

LEFT



RIGHT

Good

Bad

LEFT



RIGHT

Berkeley

Good

LEFT

Stanford

Bad

RIGHT

Berkeley

Good

Stanford

Bad

LEFT

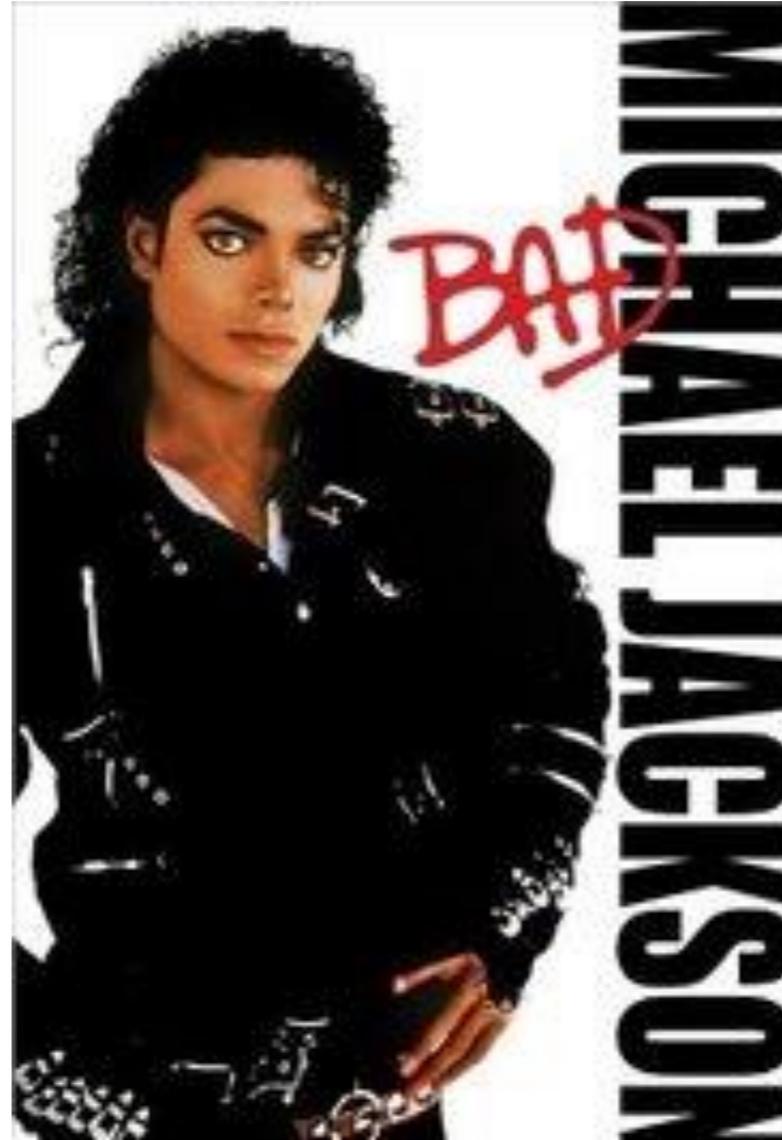
Cal

RIGHT

Berkeley

Good

LEFT



Stanford

Bad

RIGHT

Stanford

Good

LEFT



Berkeley

Bad

RIGHT

Stanford

Good

Berkeley

Bad

LEFT



RIGHT

Stanford

Good

Berkeley

Bad

LEFT



RIGHT

Latino

Safety

White

Crime

LEFT

RIGHT

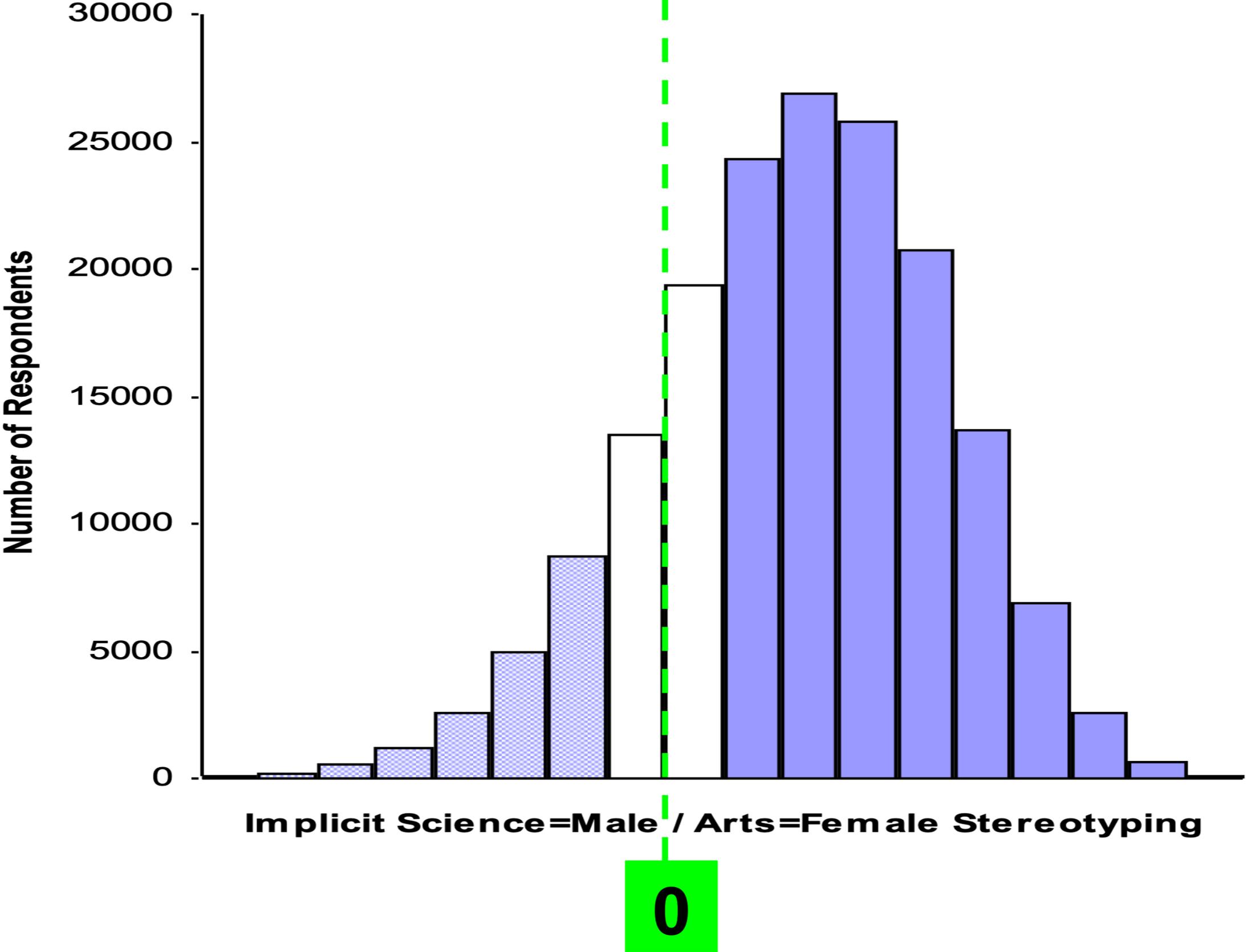
Women
Sciences

Men
Humanities

LEFT

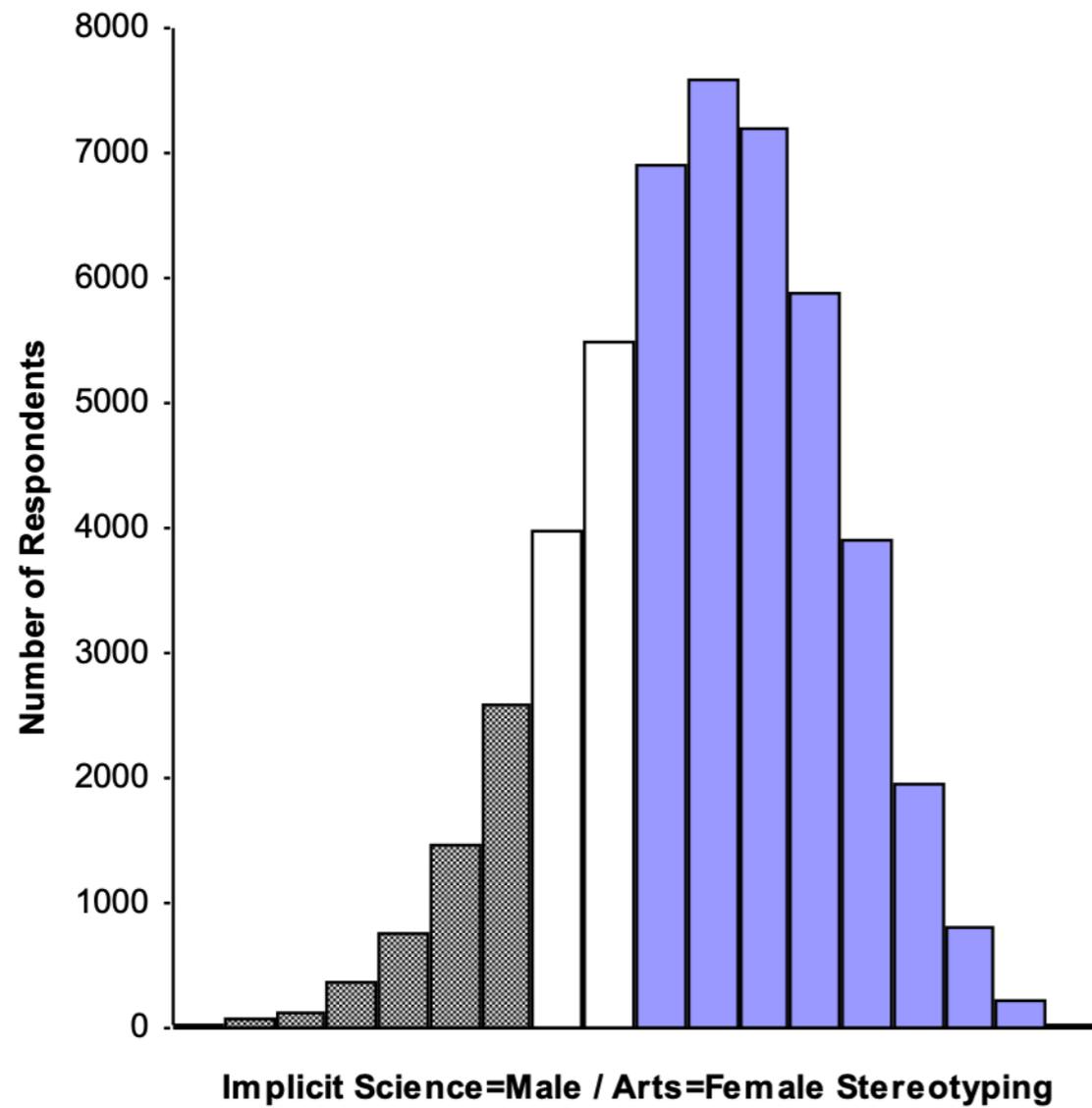
RIGHT

Gender–Science Association Results on “Project Implicit”

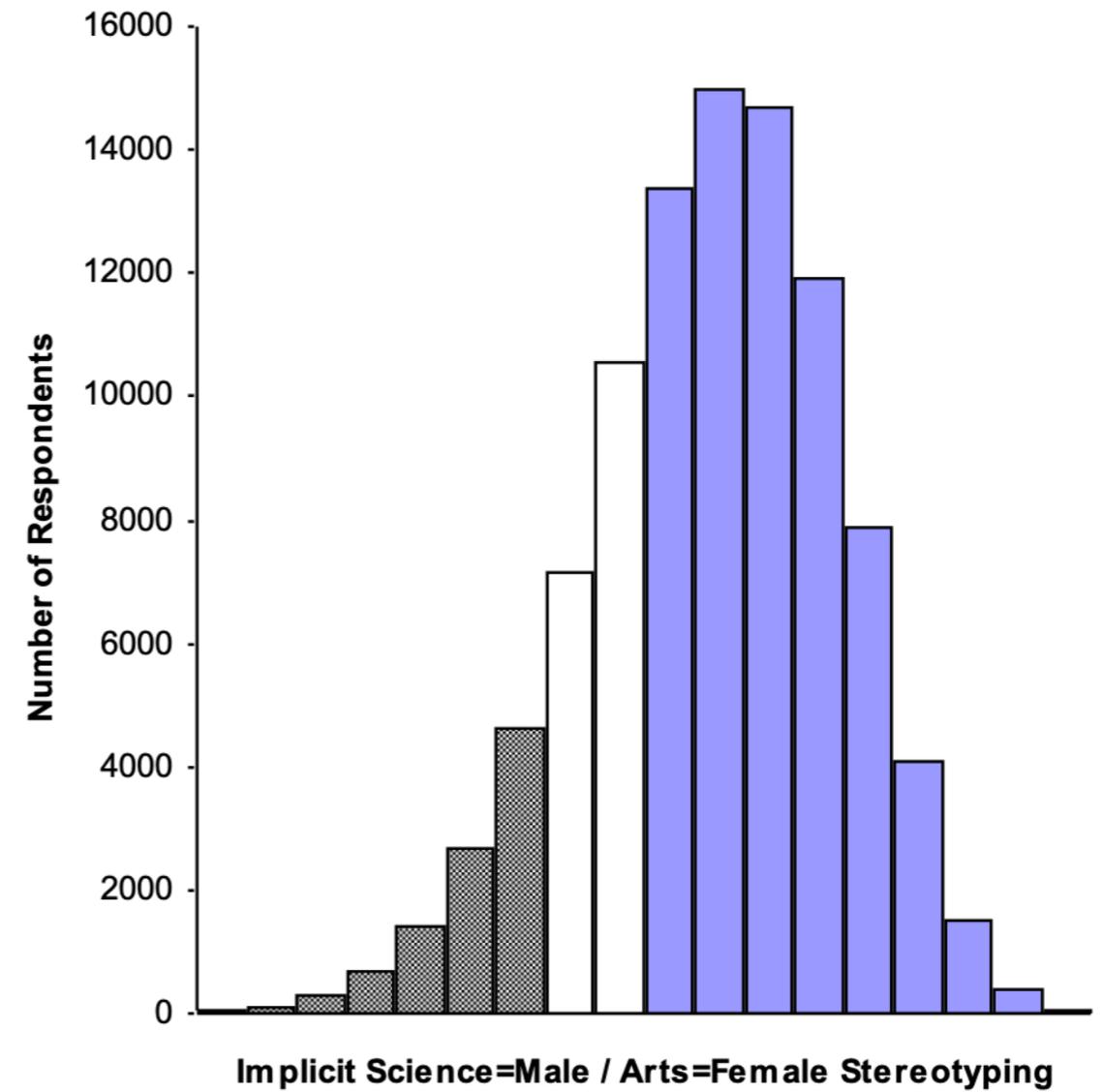


Gender–Science Association Results on “Project Implicit”

Male Respondents



Female Respondents



How implicit bias affects us

- Hiring committees for new faculty
- Acceptance of students into graduate programs
- Course evaluations by students (Student perception of teaching)

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Teaching Evals: Bias and Tenure

New studies on student evaluations of teaching say a simple intervention can fight gender bias, at least in the short term, and that perceived teaching effectiveness declines after tenure.

By [Colleen Flaherty](#) // May 20, 2019

35 COMMENTS

Axes of Diversity

- Gender
- Race and Ethnicity
- (Dis)ability
- LGBTQ
- Socioeconomic status
- Culture
- Life experience
- Age
- Geography
- Educational pedigree
- Political ideology
- Religion
- Nationality
- Visa/immigrant status
- Language/accent
- etc.



Inclusion

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Science

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CREDIT: R.WYDRO/ISTOCKPHOTO

Moving toward inclusion

By [Namandje Bumpus](#) | Dec. 7, 2015, 9:45 AM

Inclusion

- Involves bringing together and harnessing diverse forces and resources in a way that is beneficial.
- Puts the concept and practice of diversity into action by creating an environment of involvement, respect, and connection—where the richness of ideas, backgrounds, and perspectives are harnessed to create business value and overall success.

Diversity is **what you have**. **Inclusion is what you do**.

Learn to love the **Uniqueness** of each individual

Benefits of Understanding Differences:

- More effective communication
- Less misunderstandings
- Increased recruitment and retention
- More effective motivational methods
- Better-formed expectations
- Increased productivity and teamwork



Take Away

- Be aware of implicit bias
- Implicit biases that associate **science** with **gender and race** are pervasive
- Do not allow yourself to define a person based upon *one* stereotype about *one* aspect of their complex identity.
- Colleagues and students of underrepresented groups might feel alone and under excessive pressure to over-perform to prove they belong.
- Just recognizing that we don't know everything about others, develops an awareness towards accepting diversity and creates a more inclusive environment.



Q: How does diversity influence your teaching?