

Breaking the Bias Habit

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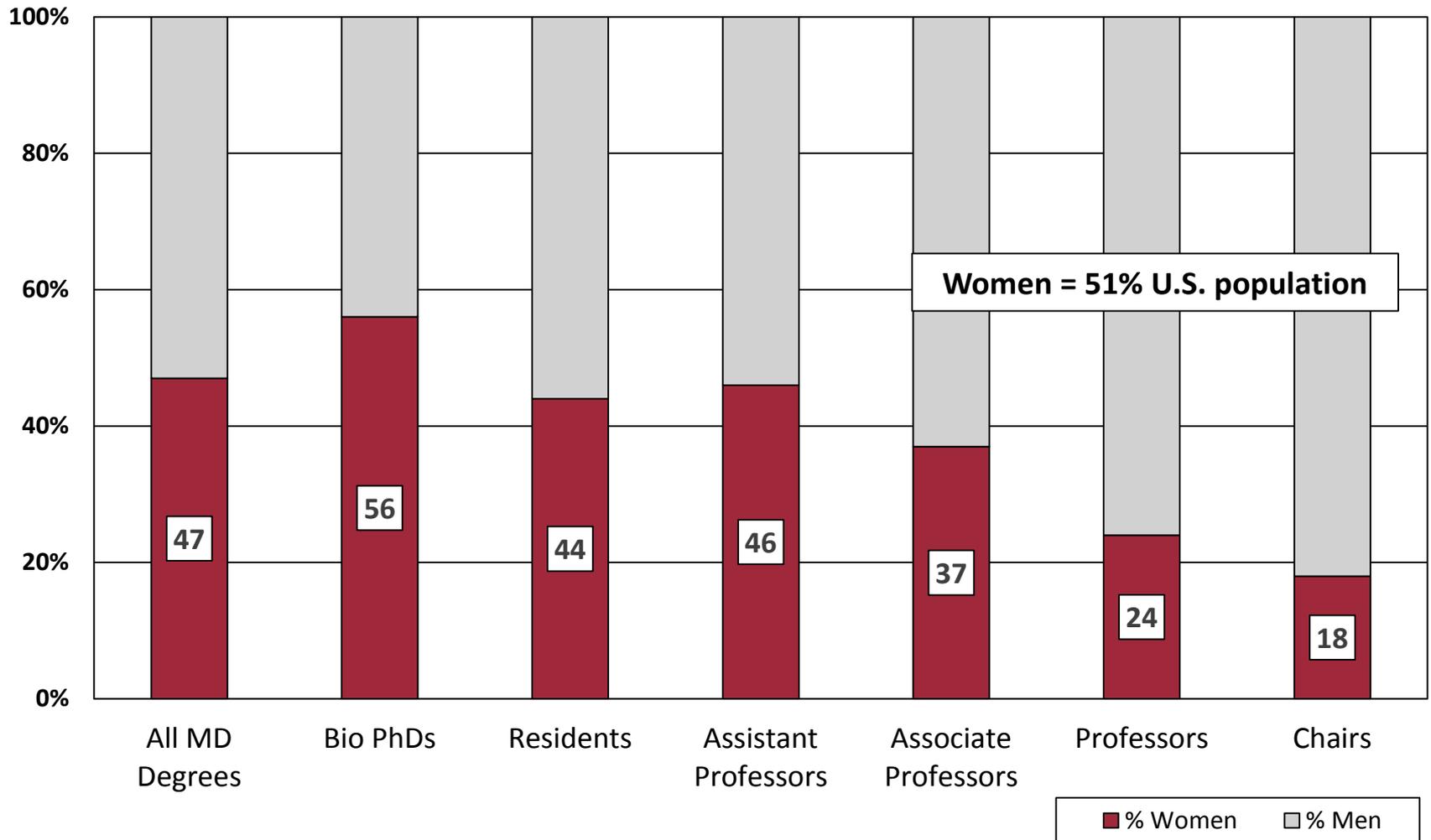
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William S. Middleton Memorial Veterans Hospital

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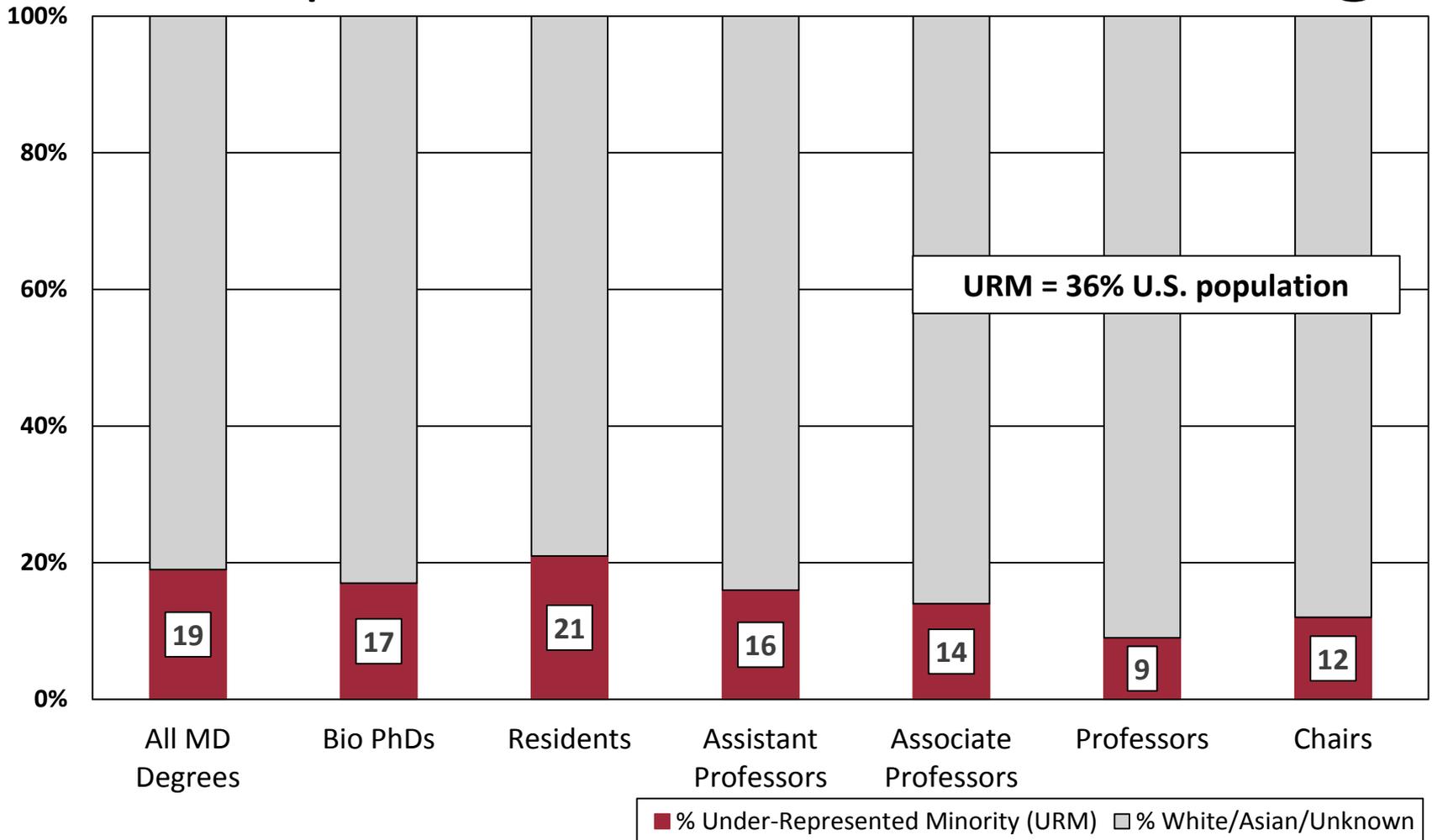
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Women are underrepresented in leadership in academic science & medicine



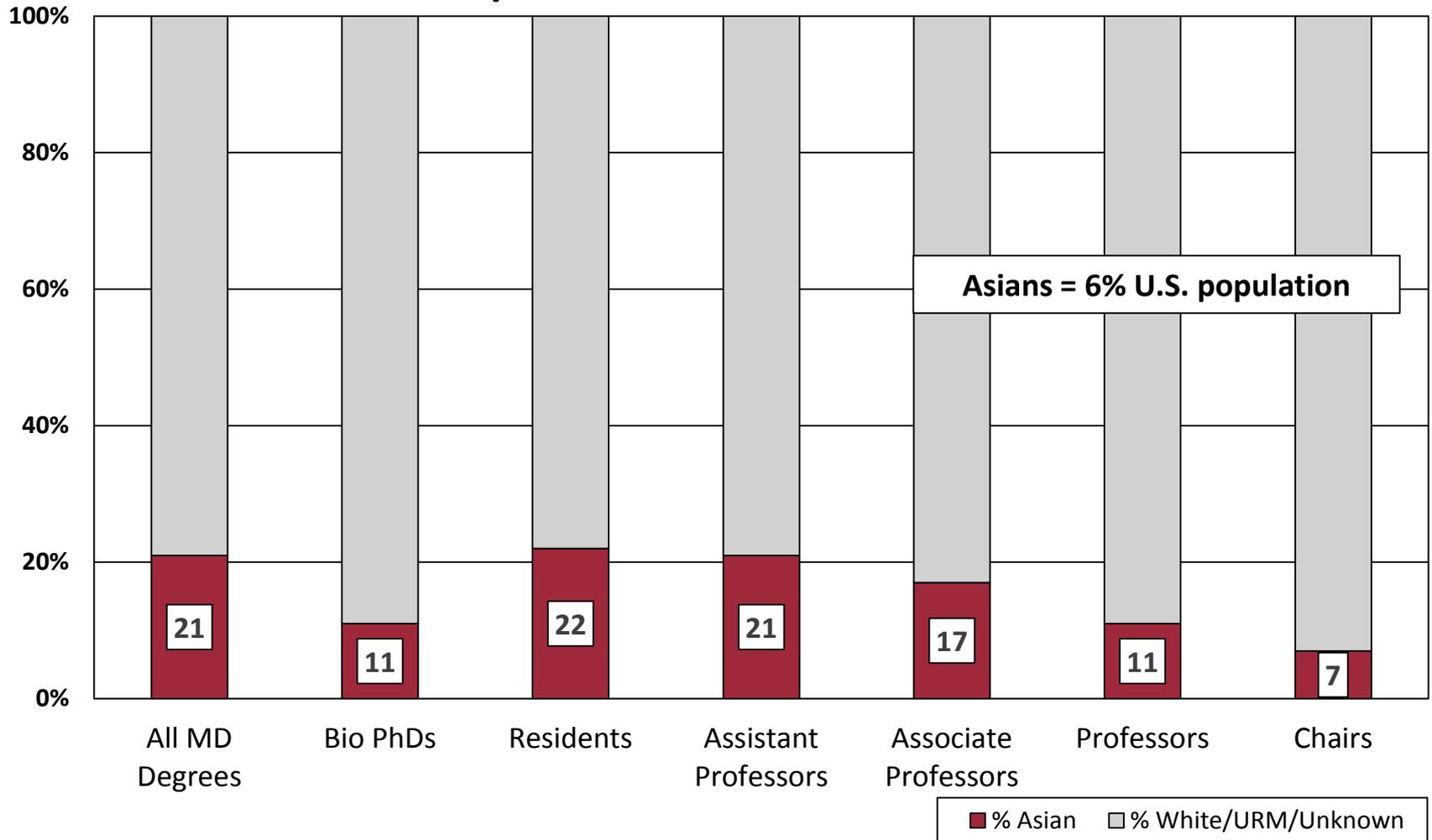
AAMC, 2017-2019; Survey of Earned Doctorates 2016

Racial & ethnic minorities are underrepresented at all career stages



AAMC, 2017-2019; Survey of Earned Doctorates 2016

Asians are relatively underrepresented in leadership in academic medicine



AAMC, 2017-2019; Survey of Earned Doctorates 2016

Do we care?

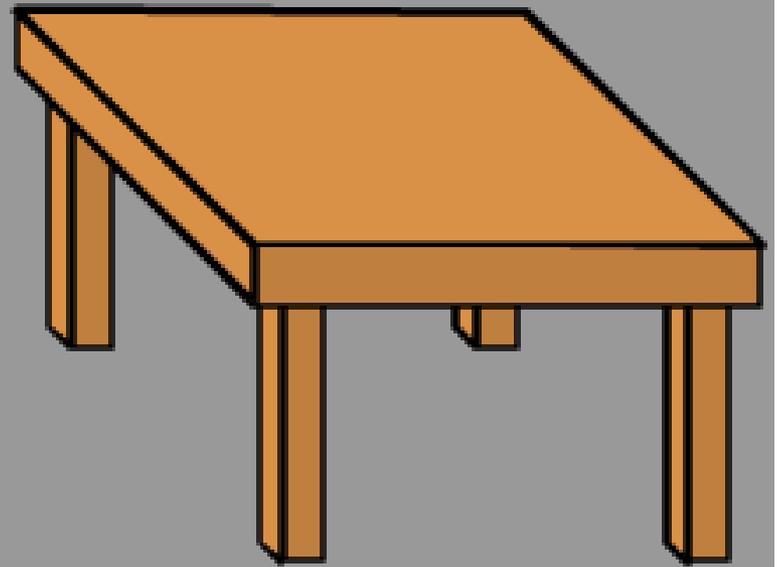
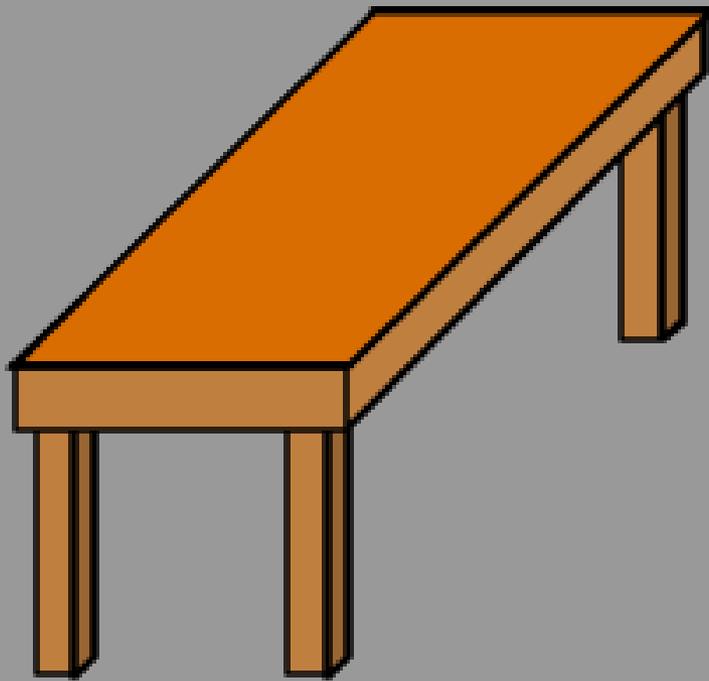
- **Diverse groups are more productive, creative, innovative, and engage in higher levels of critical analysis** (Phillips, 2014; Kets & Sandroni, 2015; Page, 2017; and more)
 - E.g., publish more articles in higher impact journals (Freeman & Huang, 2014, 2015)
- **Diverse perspectives yield new approaches to teaching, research, and mentorship** (Morrison & Grbic, 2015; Woolley et al., 2010, Umbach, 2006; Xie et al., 2011; Nielsen et al., 2017; and more)
- **White medical students at schools with diverse student bodies feel better prepared to care for non-White patients** (Saha et al., 2008)
- **Decreases health disparities** (Levine & Ambady, 2013; Louis Sullivan Commission, 2004; Smedley et al., 2003; Smedley et al., 2004)

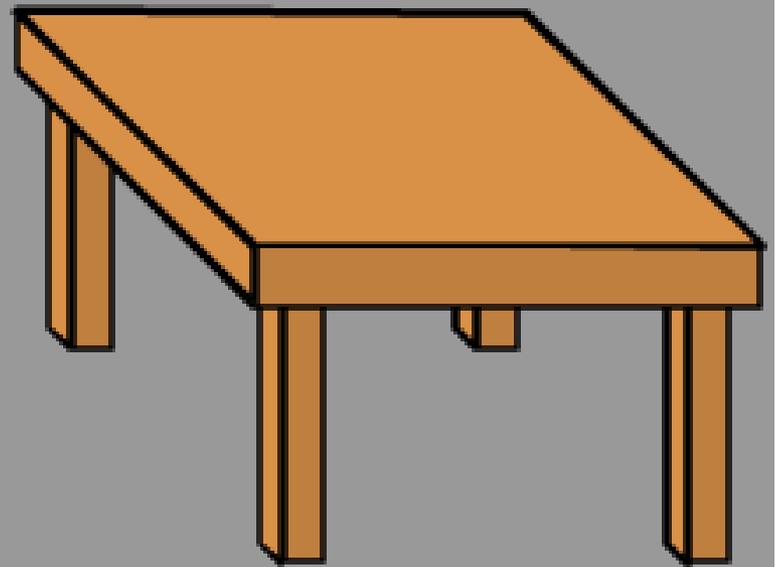
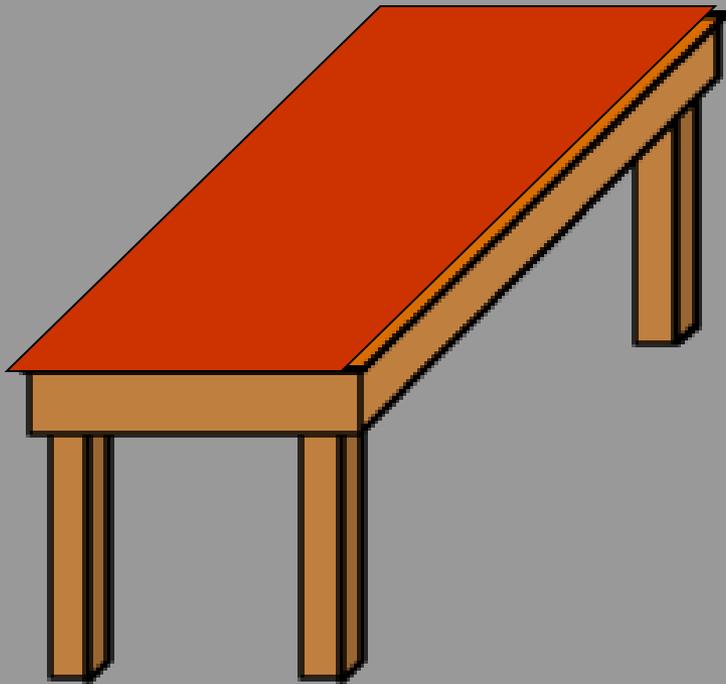
Assumptions about groups of people lead two kinds of inter-group bias

1. Explicit, consciously endorsed, personal beliefs
 - Decreasing
2. Implicit processes based on mere existence of cultural stereotypes
 - Still highly prevalent –
<https://implicit.harvard.edu/implicit/demo/takeatest.html>
 - Strong predictor of behavior in some settings, even if at odds with personal beliefs
 - Functions as a habit

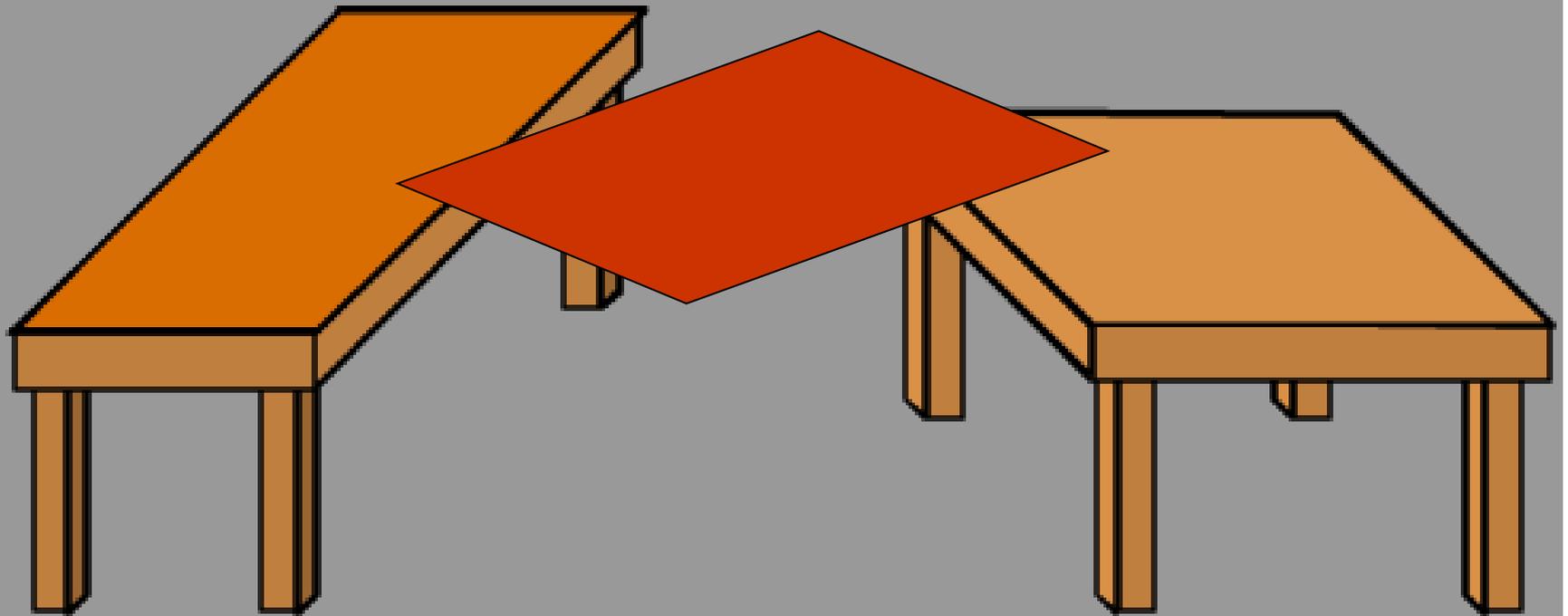
Devine, J Pers soc Psychol, 1989. Carnes et al. JDHE, 2012. Chapman et al. JGIM, 2013

Habits of mind usually serve us well but they can lead to errors and interfere with our conscious intentions

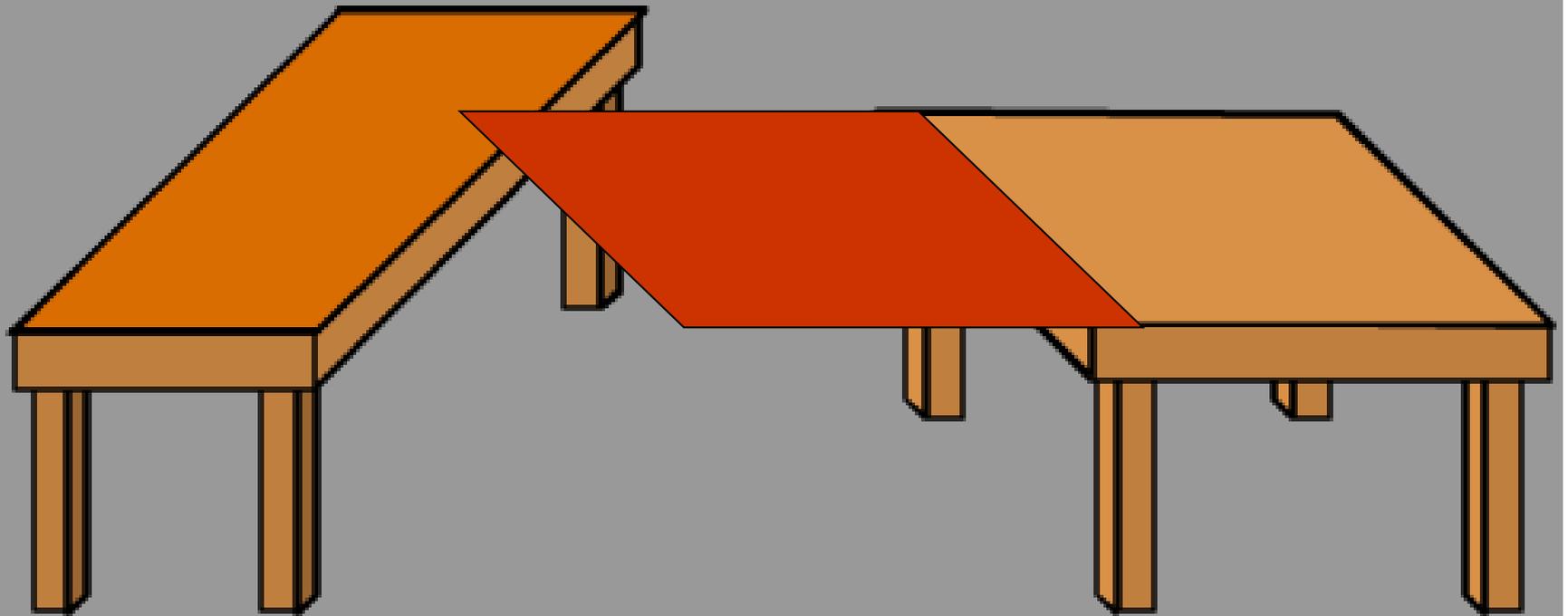




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“Stroop Effect” and the color naming task

Compatible Trial

RED

BLACK

BROWN

GREEN

YELLOW

BLUE

Incompatible/ Interference Trial

RED

BLACK

BROWN

GREEN

YELLOW

BLUE

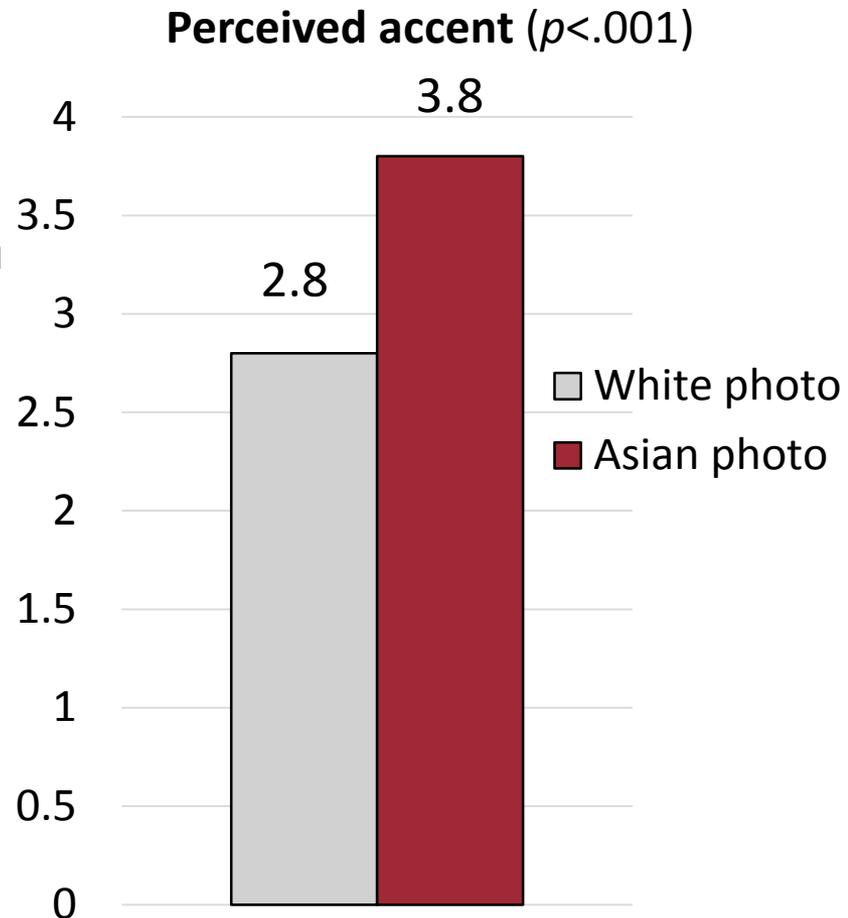
Habits of mind distort perceptions



- 450 word recorded essay read by Standard American English speaker



- Random assignment to photo
- All participants hear the same recording



Rubin, 1992; Kang & Rubin, 2009

We know common stereotypes even if we don't believe them

Men¹

- Strong
- Decisive
- Stubborn
- Competitive
- Ambitious
- Risk-taking
- Assertive
- Logical
- Authoritative
- Independent

Women¹

- Caring
- Nurturing
- Family-oriented
- Emotional
- Supportive
- Sympathetic
- Nice
- Helpful
- Dependent

White²

- High status
- Rich
- Intelligent
- Arrogant
- Privileged
- Blonde
- Racist
- All-American
- Ignorant

Asian²

- Intelligent
- Bad drivers
- Good at math
- Nerdy
- Shy
- Skinny
- Educated
- Quiet

Black²

- Ghetto or unrefined
- Criminal
- Athletic
- Loud
- Gangsters
- Poor
- Have an attitude
- Unintelligent
- Uneducated

Latino²

- Poor
- Illegal immigrant
- Uneducated
- Family-oriented
- Lazy
- Day laborer
- Unintelligent
- Loud
- Gangsters

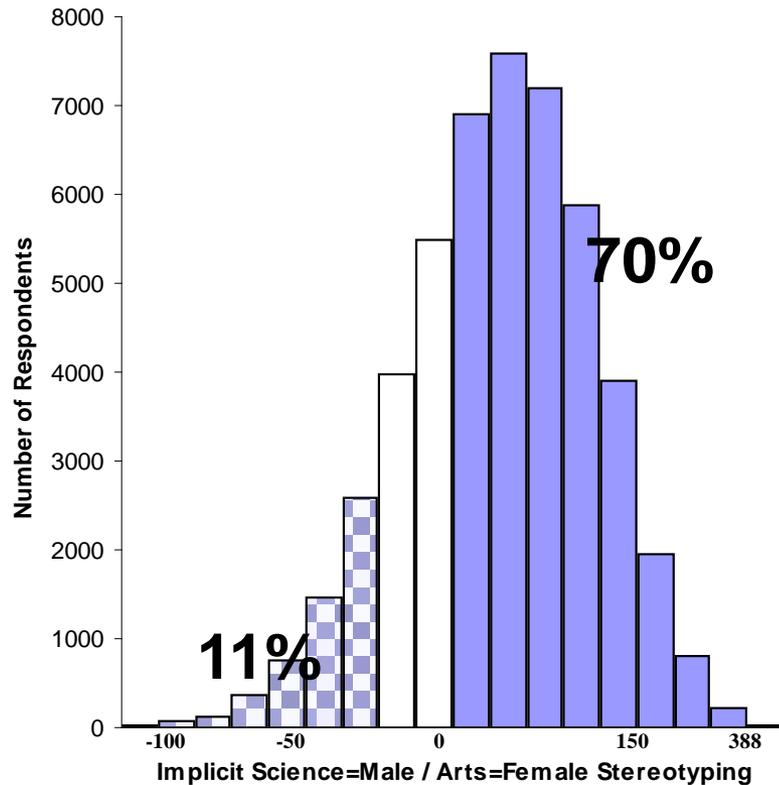
¹Carli et al., 2016, Eagly and Sczesny, 2009, Bem, 1974; ²Ghavami and Peplau, 2013

Things to know about stereotypes

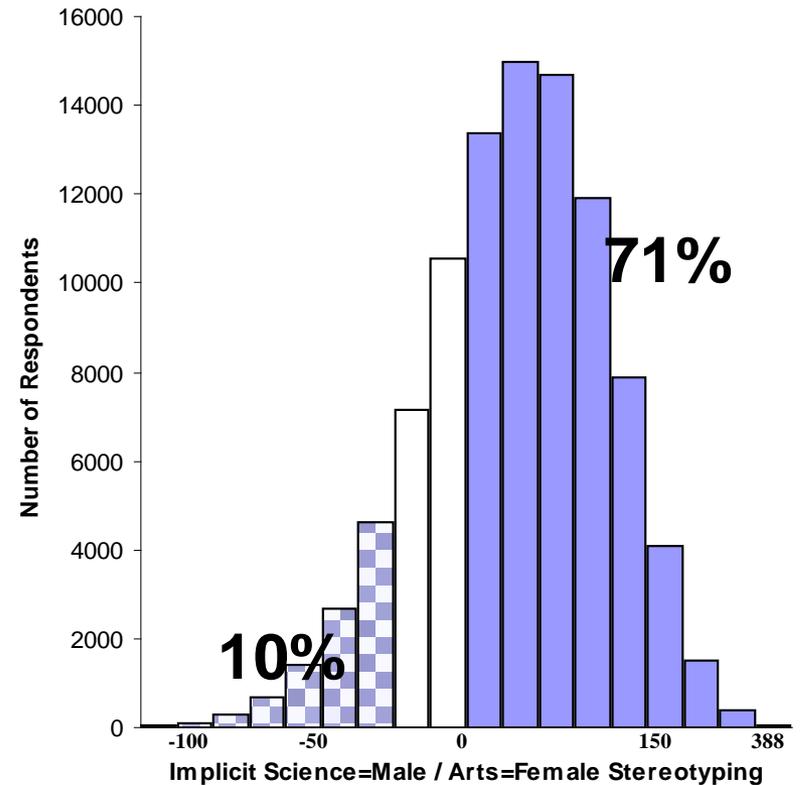
- They persist in the face of disconfirming data
- A trivial piece of information makes the entire content of a stereotype pop to mind and filters all subsequent information
- Just knowing them (even if we don't believe them) can influence interpretation of objective data
- Depending on the situation, they create *stereotype-advantaged* or *stereotype-disadvantaged* groups

Implicit Gender-Science Stereotypes

Male Respondents

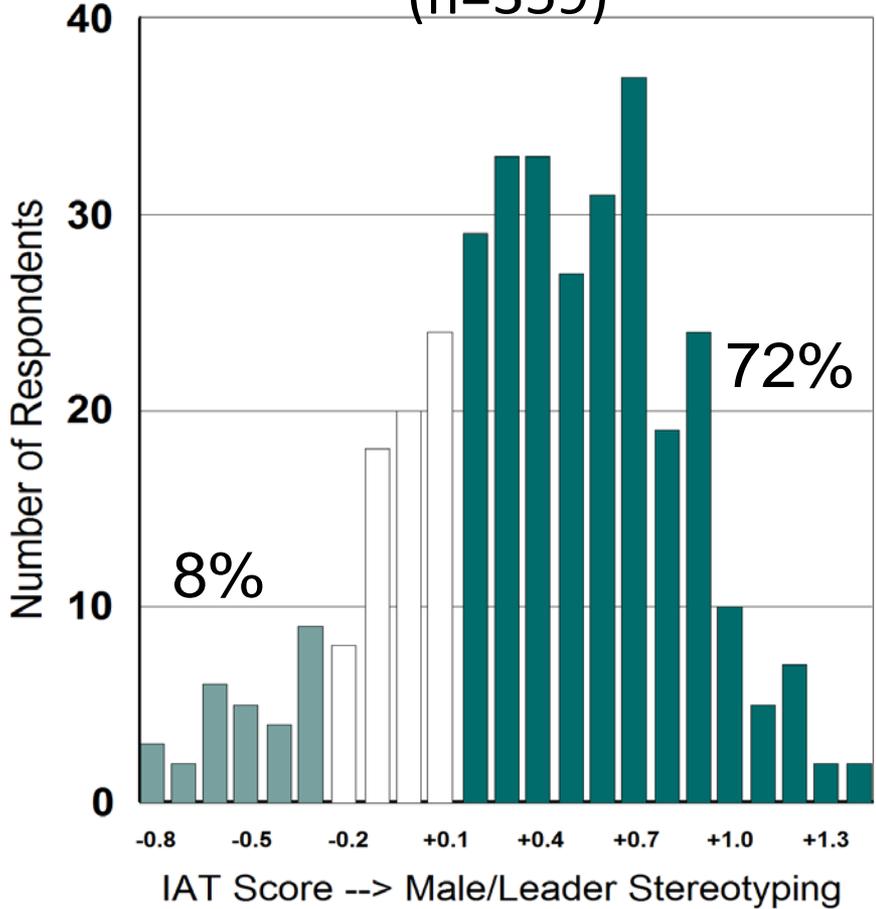


Female Respondents



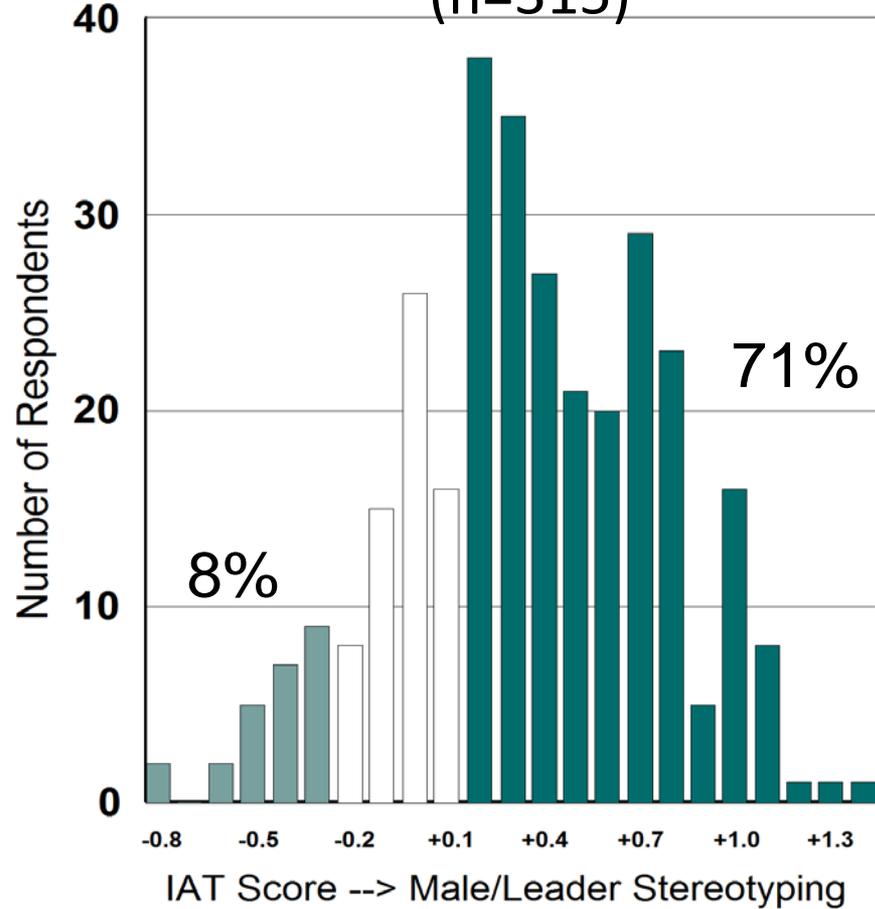
Male Respondents

(n=359)



Female Respondents

(n=315)



Gender and Leadership IAT Scores



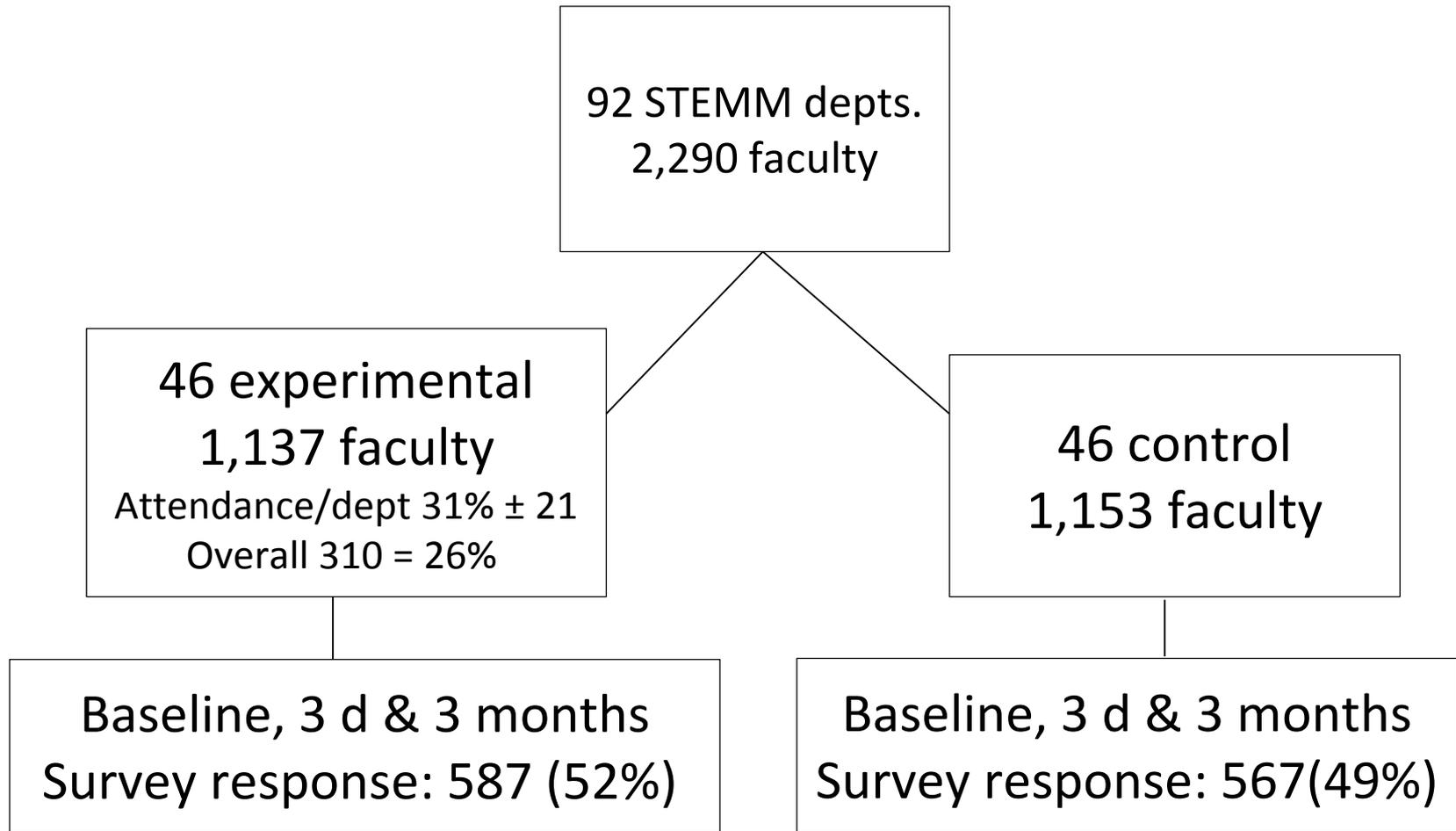
Bias is a habit that can be broken

Breaking the bias habit takes *more than good intentions*

- Awareness
- Motivation
- Self-efficacy
- Positive outcome expectations
- Deliberate practice

e.g. Bandura, 1977, 1991; Devine, et al., 2000, 2005; Plant & Devine, 2008; Ericsson, et al., 1993; Prochaska & DiClemente, 1983, 1994

Cluster randomized trial of gender bias habit-reducing intervention



Personal bias reduction strategies

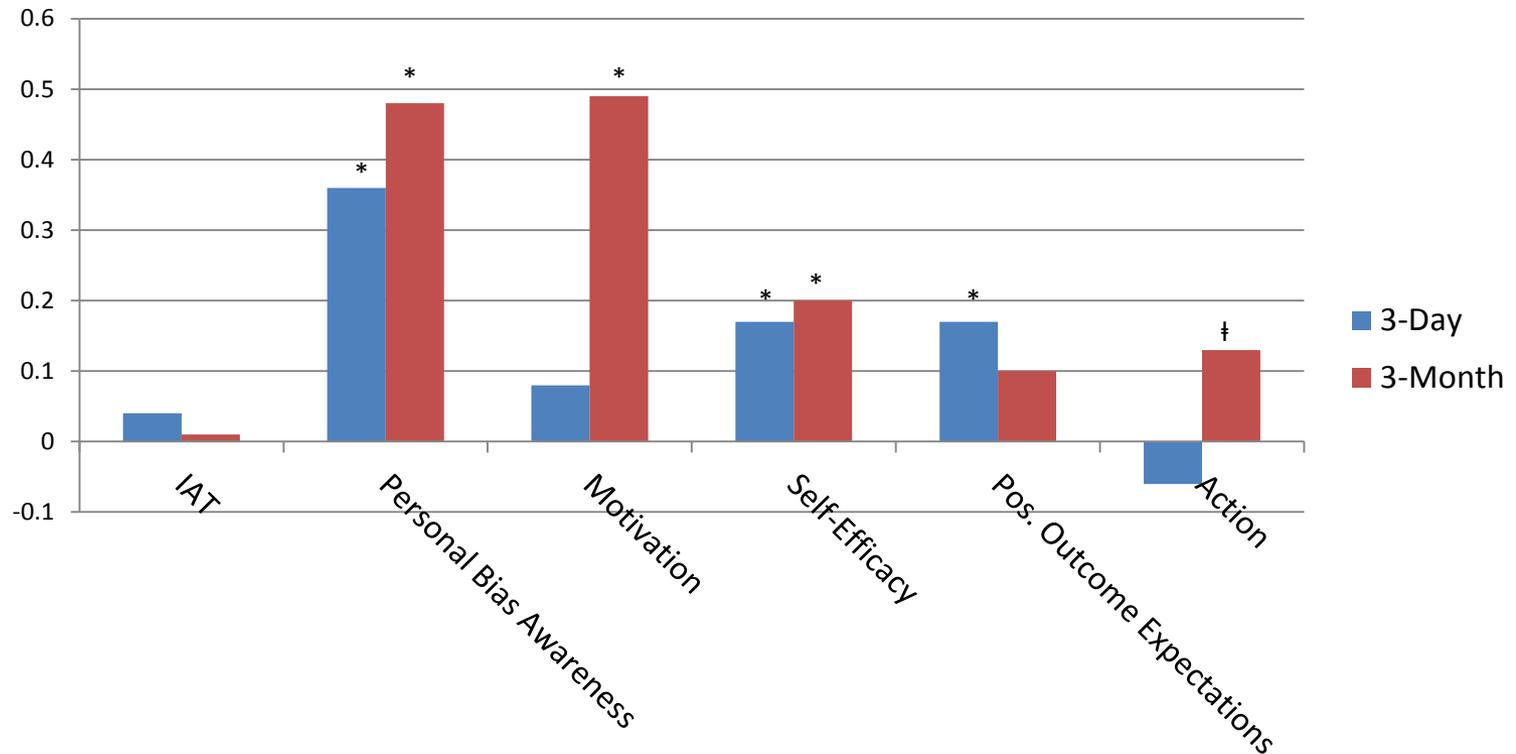
- Stereotype Replacement
- Counter-Stereotypic Imaging
- Individuating
- Perspective-Taking
- Increase Opportunities for Contact

(e.g., Galinsky & Moskowitz *J Pers Soc Psychol* 2000; Monteith et al., *Pers Soc Psychol Rev* 1998; Blair et al., *J Pers Soc Psychol* 2001)

- Plus 2 that DON'T work:
 - Stereotype Suppression
 - Too Strong a Belief in One's Personal Objectivity

(e.g. Macrae et al. *J Pers Soc Psychol* 1994; Uhlmann & Cohen. *Organ Behav Hum Decis Process* 2007)

Differences Between Experimental and Control Departments Compared With Difference at Baseline (IAT in D-scores; others on 7-point Likert scales)



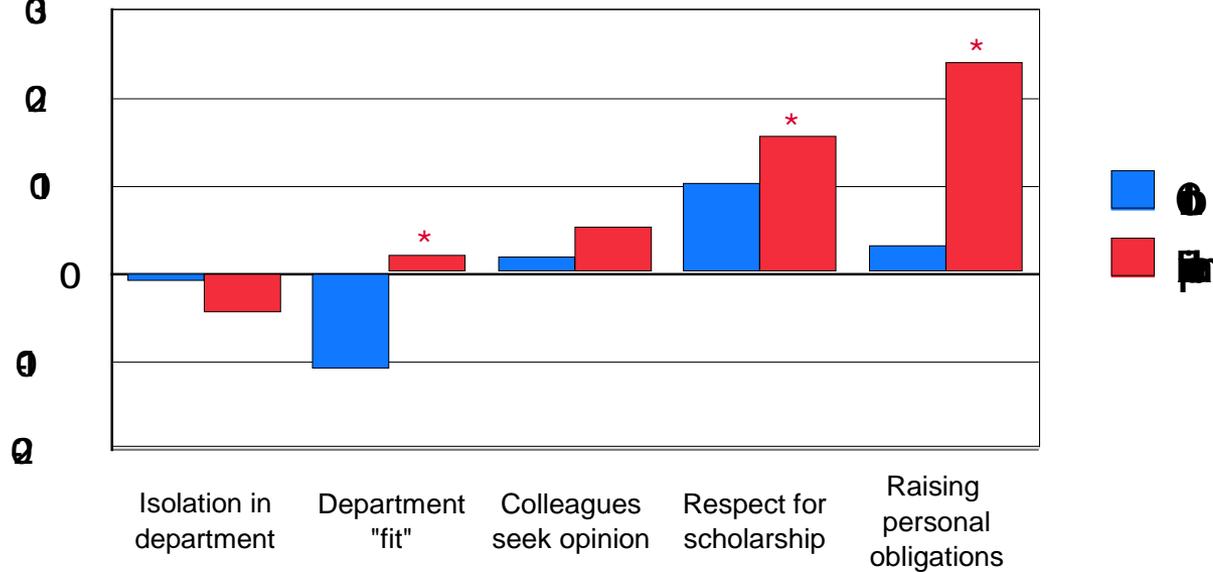
N = 92 departments; 1154 faculty (50.4% response rate)

IAT= Implicit Association Test (standardized D-score)

*P < 0.05; models adjusted for faculty gender and rank

† P < 0.05 for action at 3 months when comparing only experimental depts with ≥25% attendance

2012-2010 Mean Difference



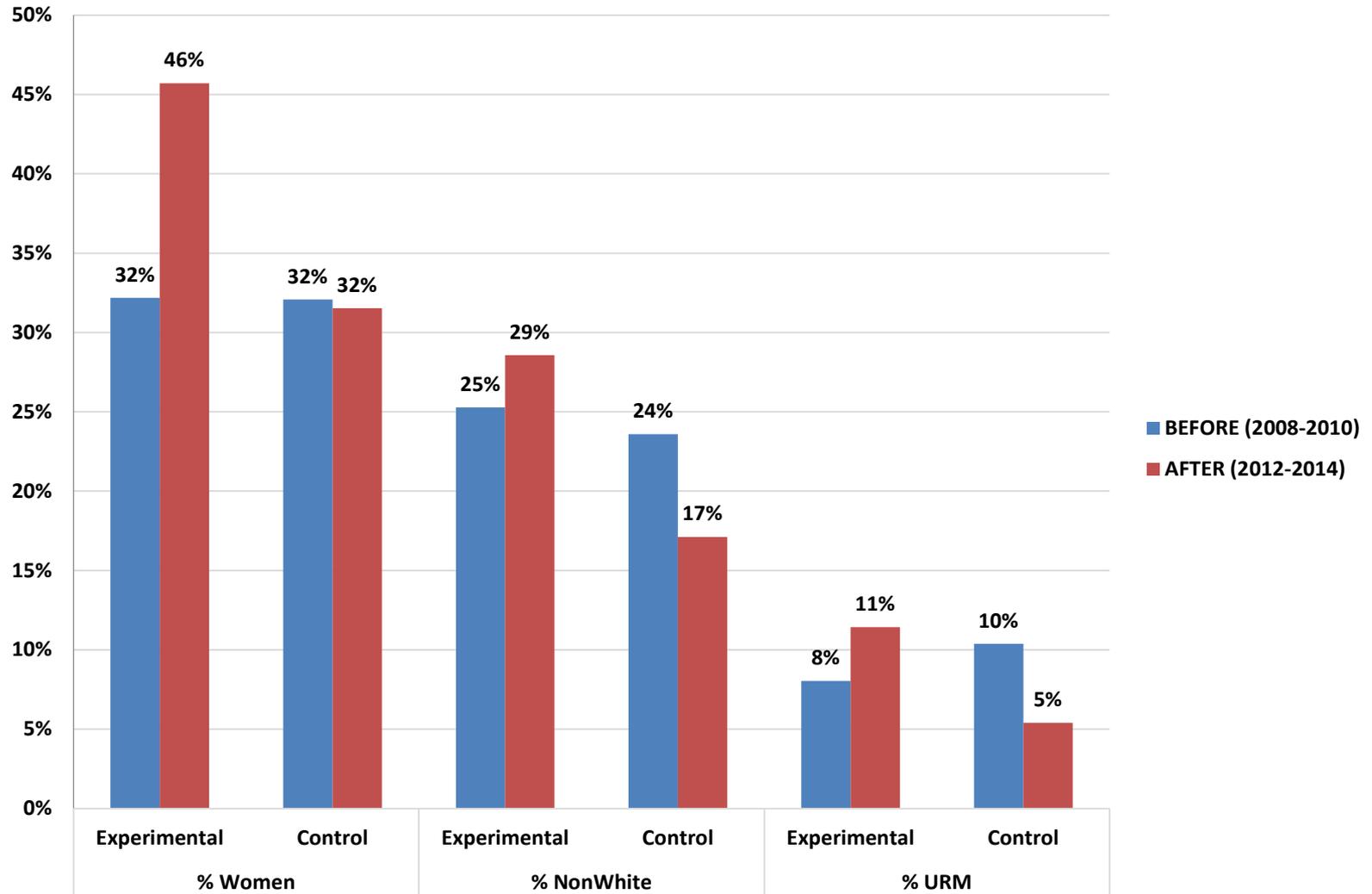
Notes:

N=92 departments; 671 faculty respondents for response rate between 48% (2010) and 43% (2012).

* Indicates statistically significant difference between experimental and control departments compared with differences at baseline, at $p < .05$.

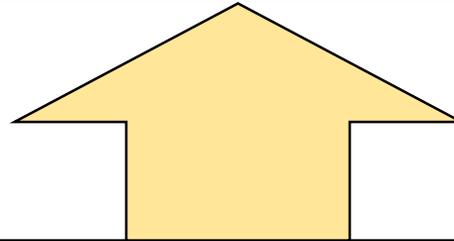
** Significant only for departments in which 25% or more of the faculty attended the workshop, $p < .05$.

Diversity of New Faculty Hires, Experimental vs. Control Departments in Bias Literacy Workshop Study

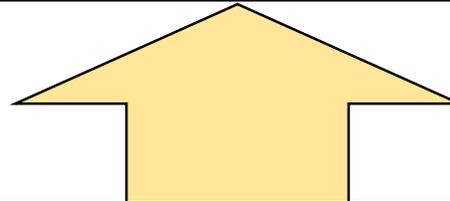


Targeting individual faculty had institutional impact

INSTITUTIONAL OUTCOMES:
Gender parity among new hires, greater retention of male faculty



DEPARTMENT CLIMATE:
Improved feelings of fit, feeling valued, raising personal issues



INDIVIDUAL BEHAVIORS:
Increased motivation, self-efficacy, and action

Future Directions

Does this approach work beyond one institution and beyond gender bias?

R35 GM122557

Bias Reduction in Internal Medicine (BRIM)

- Cluster randomized study of 3-hour bias habit-reducing workshop
- 20 departments of Medicine
- Divisions randomly assigned to receive workshop early (Group 1) or later (Group 2)
- Outcome measures: self-reported equity-promoting behaviors, perceptions of department climate, burnout
- Targeted completion 2022

BRIM sites



Summary & Conclusions

- Group stereotypes affect our attitudes, behaviors, and judgments -- *even when we don't want them to and even when we are unaware of it happening*
- These group stereotypes have real effects on individuals in selecting and persisting in careers in science and medicine -- *especially as they rise toward leadership*
- The bias habit can be broken -- *but it takes more than good intentions*
- When STEMM faculty broke the gender bias habit – *department climate improved for everyone, more women faculty were hired, and more male faculty retained*