

Hidden Bias

Implicit Bias, Prejudice and Stereotypes

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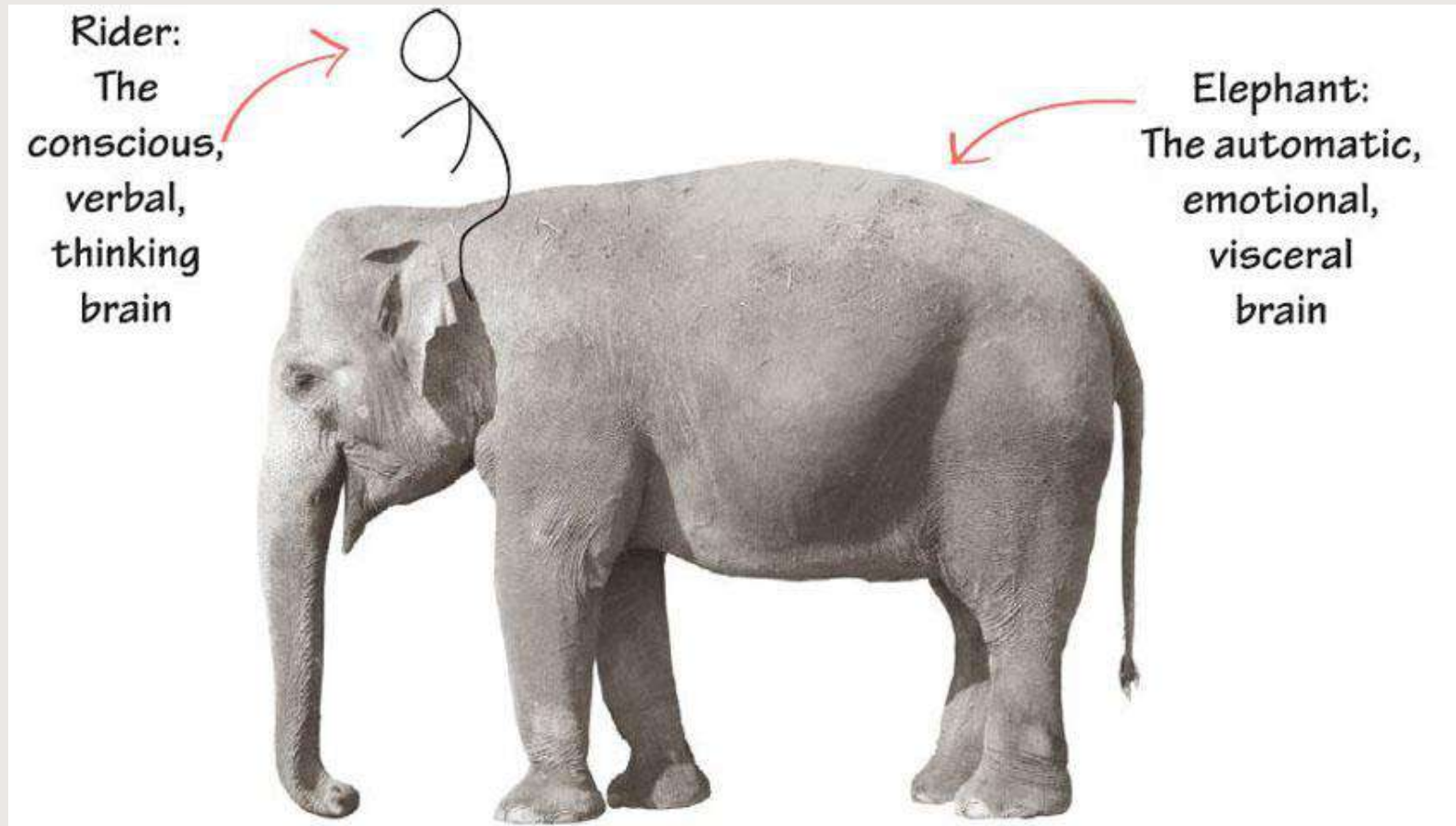
Lock Haven University of PA

Presented at AAUW-PA 88th Annual Meeting

- **Explicit vs. Implicit**
- **Evidence of implicit processes**
 - **Are we all prejudiced?**
 - **Origins of implicit bias**
- **Consequences of implicit bias**
 - **Beating the bias**

The Rider and the Elephant

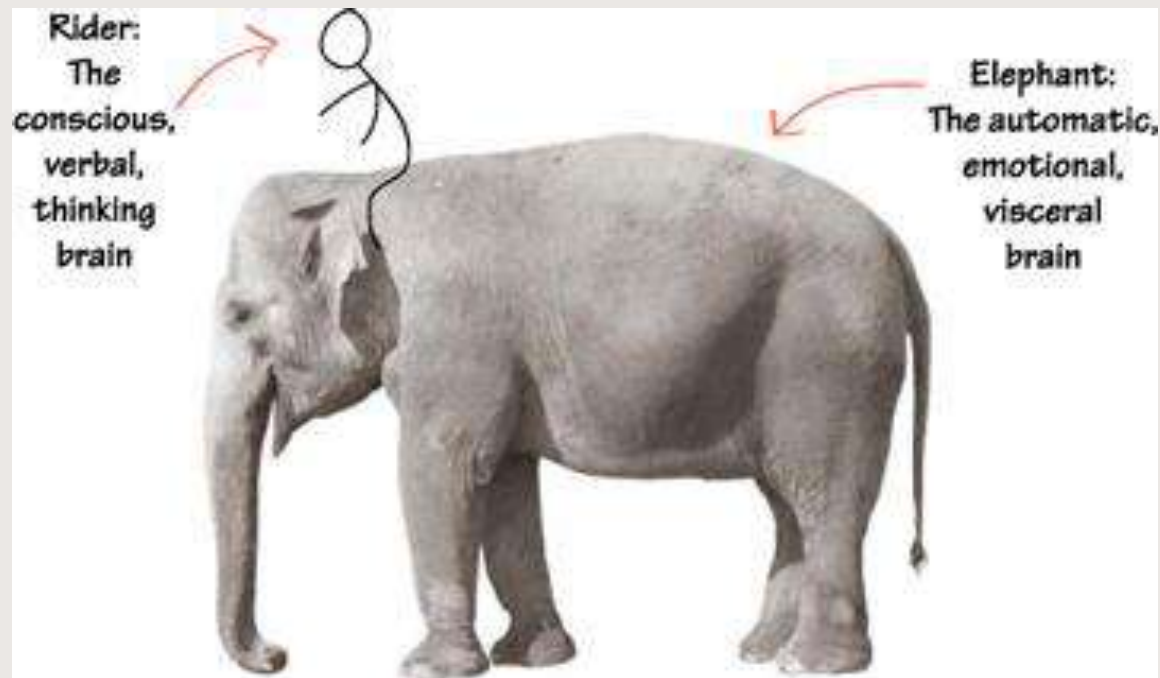
Explicit and Implicit



Haidt, 2006

The Rider: Explicit

- Conscious thoughts and feelings
- Can express, control
- Measured with self-report



Ambivalent Sexism Scale

**Disagree
strongly**

**Disagree
somewhat**

**Disagree
slightly**

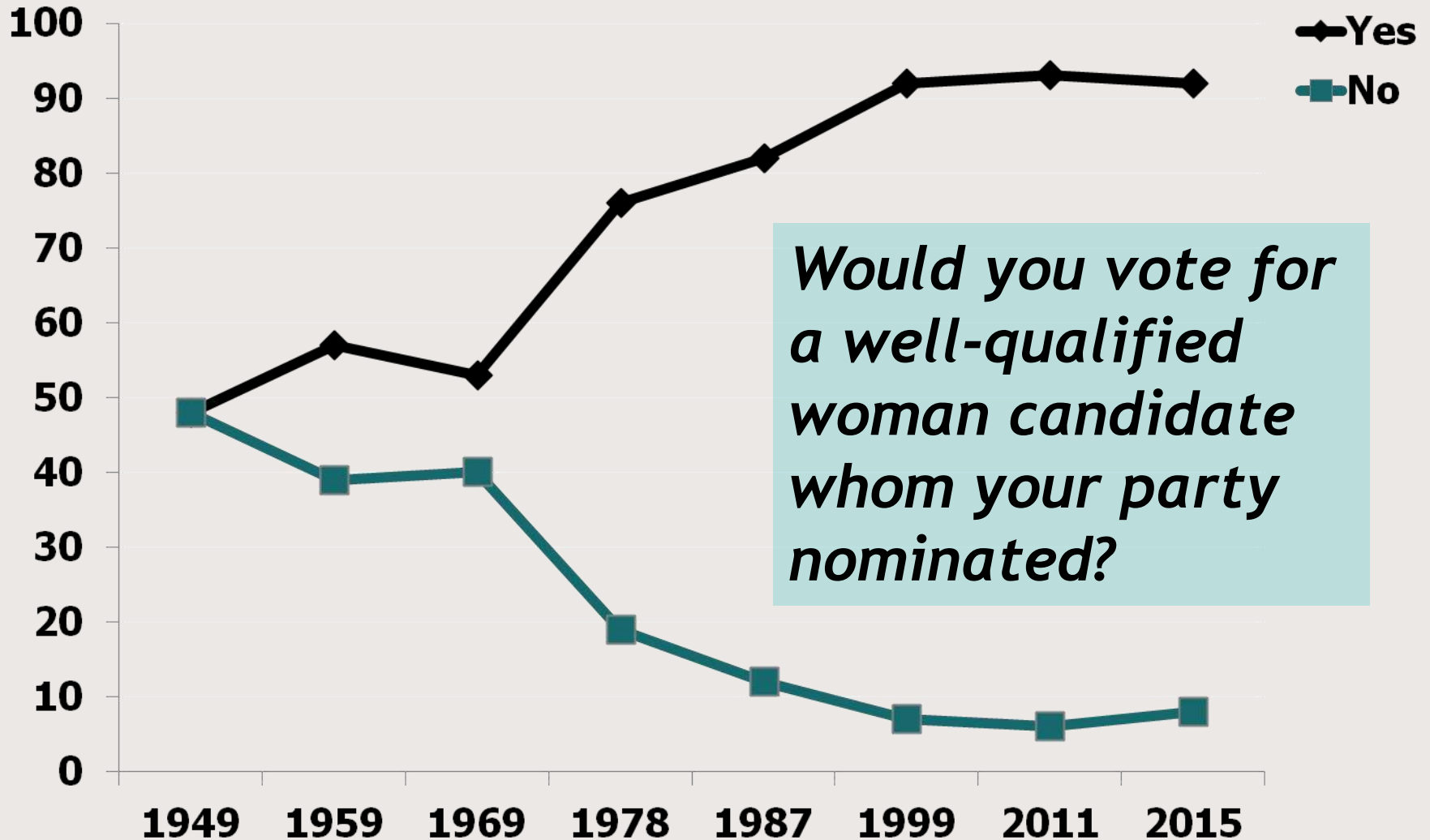
**Agree
slightly**

**Agree
somewhat**

**Agree
strongly**

- Women exaggerate their problems at work (hostile)
- A good woman should be set on a pedestal by her man (benevolent)

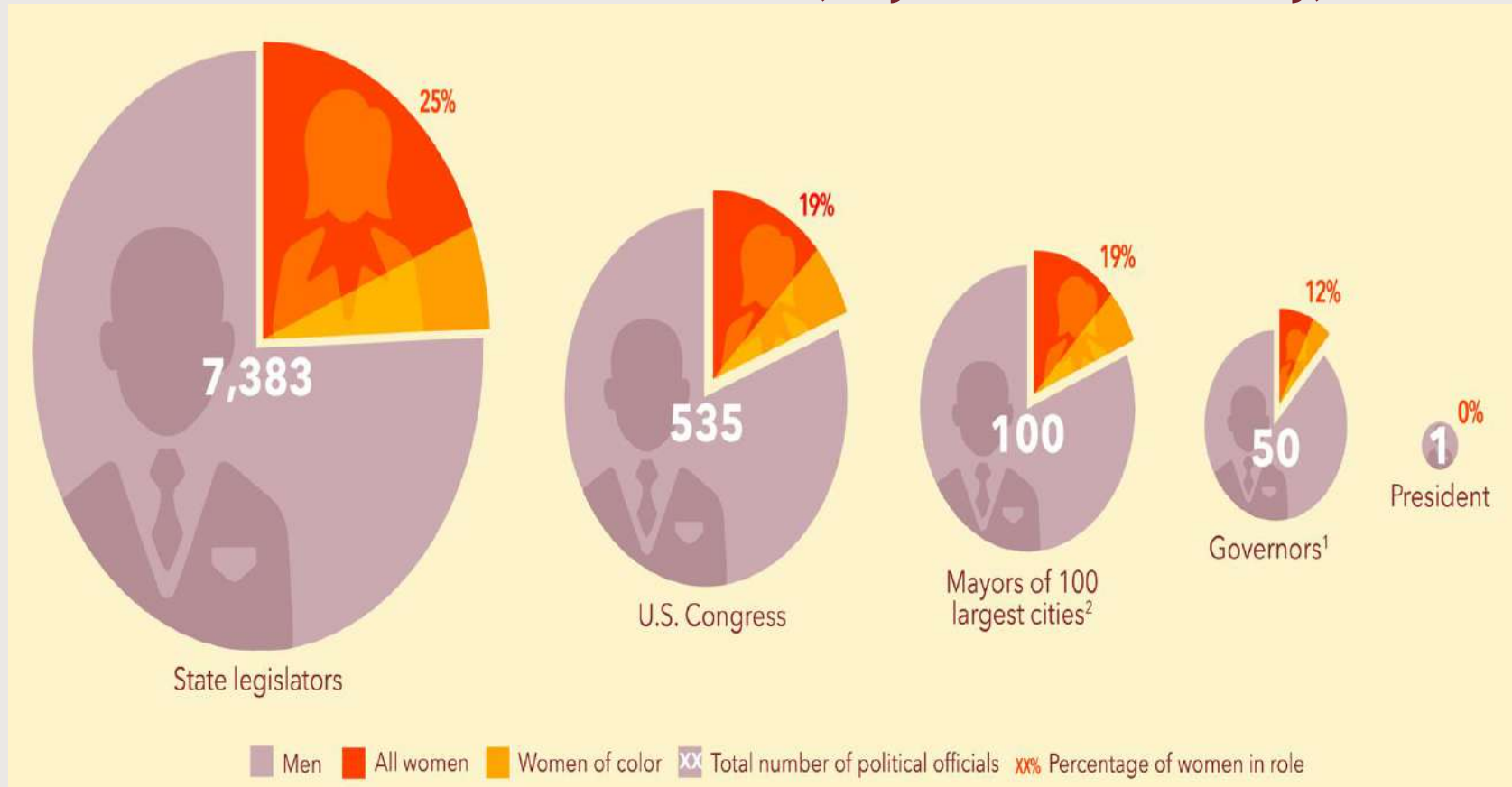
Explicit bias is decreasing...



Gallup Poll

...but has not disappeared

Women in U.S. Elected Offices, by Race/Ethnicity, 2016



Source: AAUW-assembled data for this figure provided by Center for American Women and Politics (2016a, 2016b)

¹ Does not include U.S. territories or the District of Columbia

² Mayoral data are from 2015



jimgeraghty @jimgeraghty

1m

It's one of the happiest nights of your life, Madam Secretary. Enjoy it.



4



6



Peter Feld

@peterfeld

Follow

Naturally someone just told Hillary to smile.

10:57 PM - 28 Jul 2016



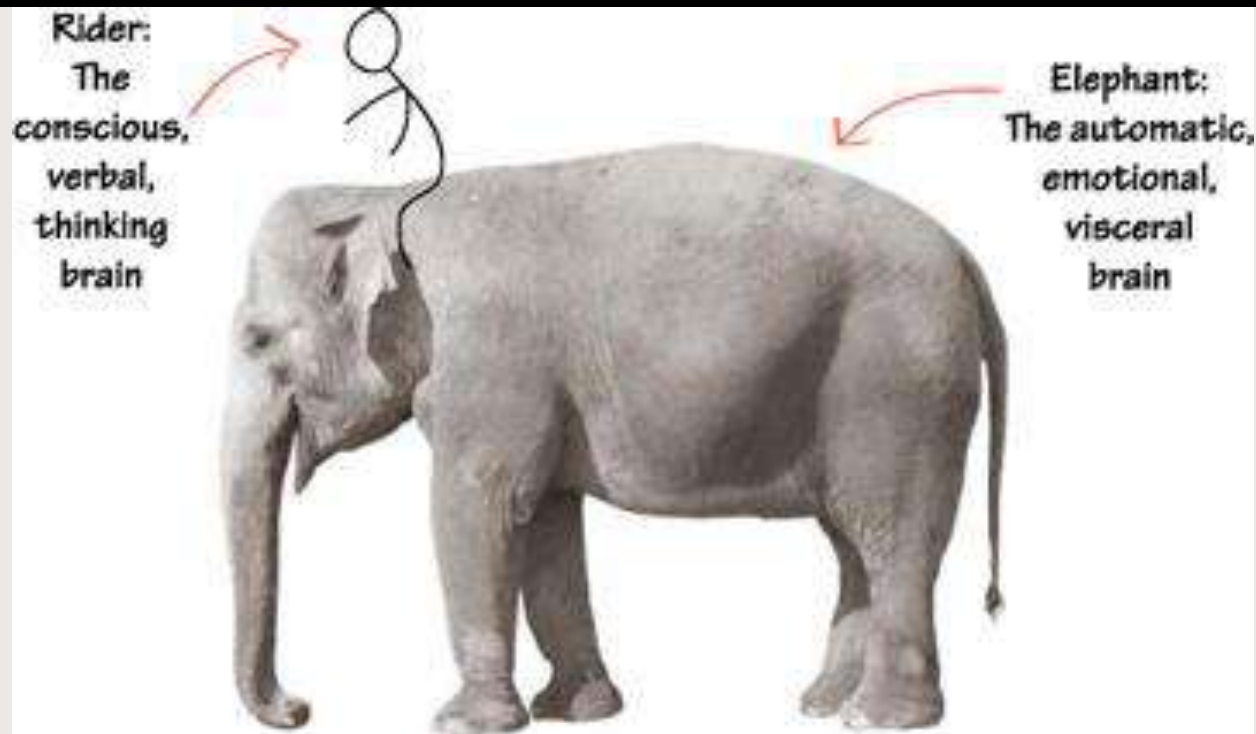
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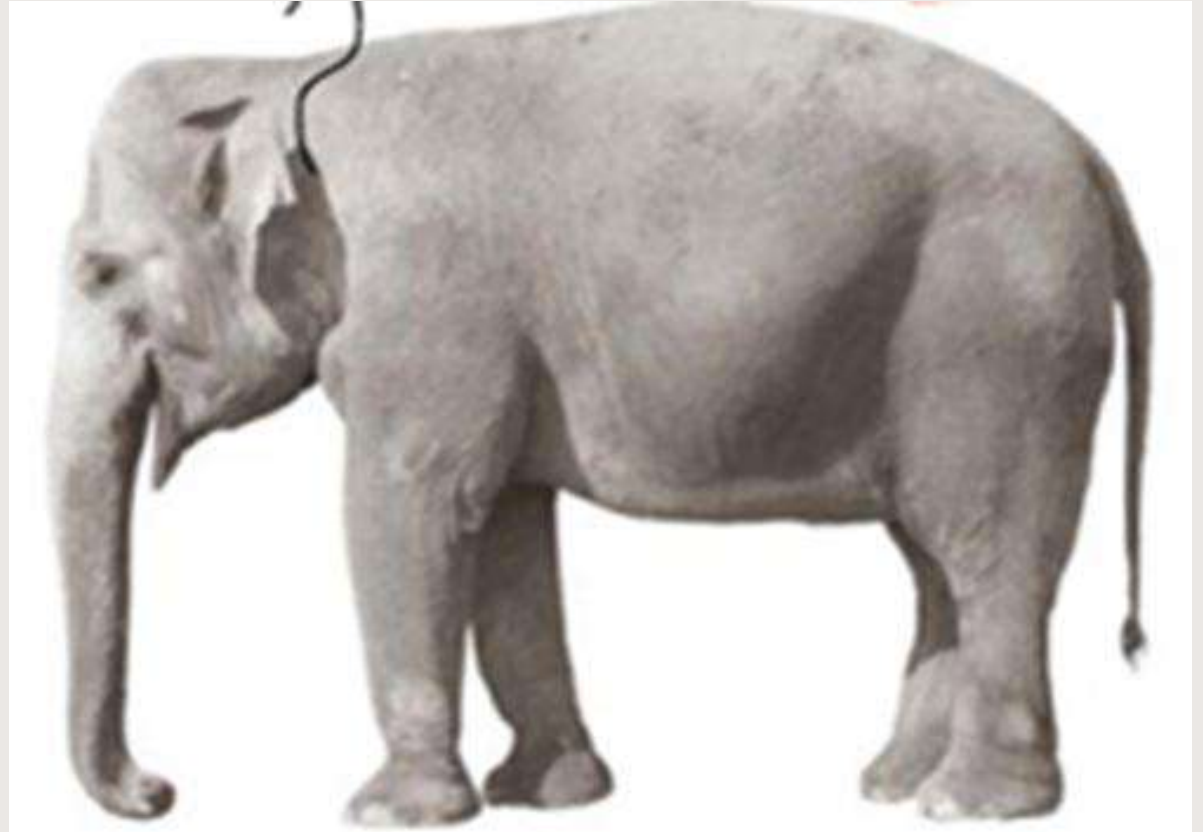
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Elephant: Implicit

- Unconscious thoughts and feelings
 - Hidden, outside of awareness
- Automatic, uncontrollable

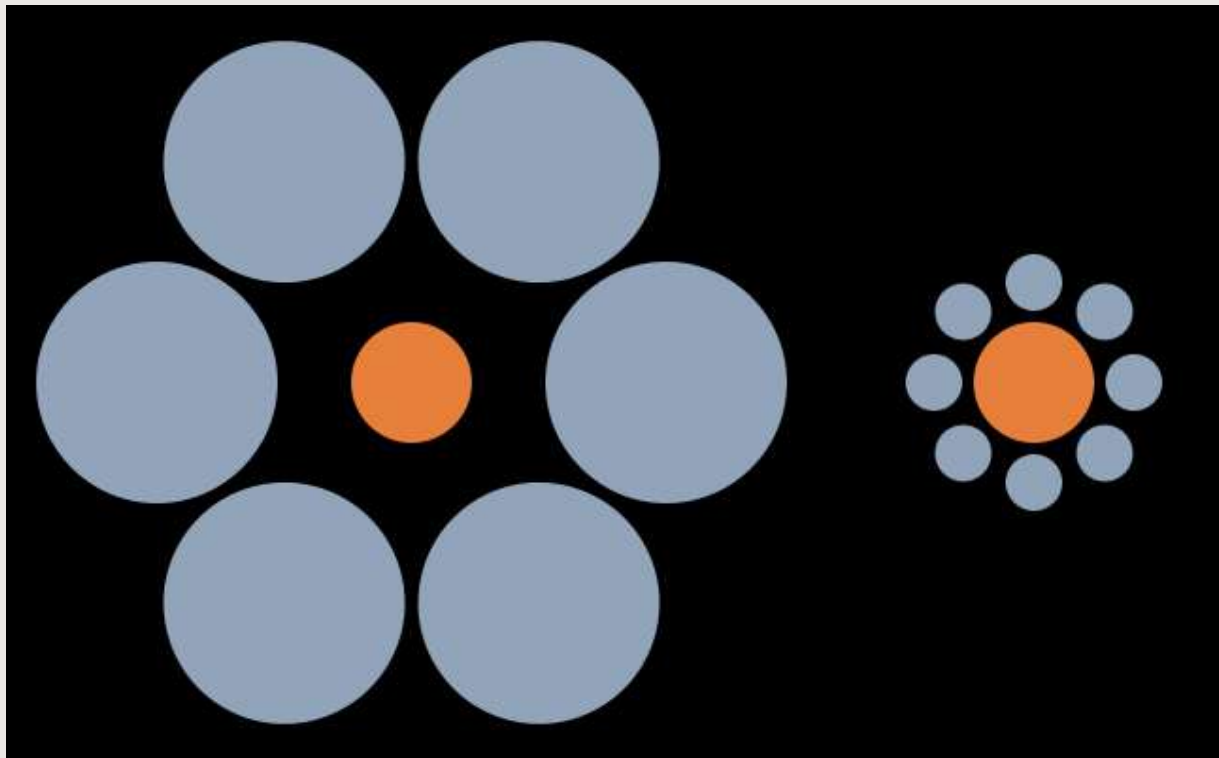


**Estimate 80-90% of mind unconscious,
hidden from ourselves**



Mindbugs (Banaji & Greenwald, 2013)

- mental habits or shortcuts
- can cause errors in perception



Social mind bugs

- Detect angry faces more quickly than happy faces.
- Adaptation - threat detection?



(Pinkman et al, 2010)

Prejudice:
Negative attitude
or emotional
response to group
members



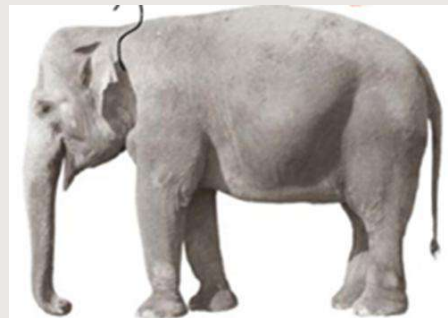
Stereotype:
Beliefs about
characteristics of
group members



Discrimination:
Negative actions
towards group
members.

Hidden Bias: Implicit Stereotypes and Prejudice

- **Explicit and implicit stereotypes can be independent:**
 - **Person might consciously reject stereotype**
 - **BUT unconscious stereotypes can still be automatically activated.**

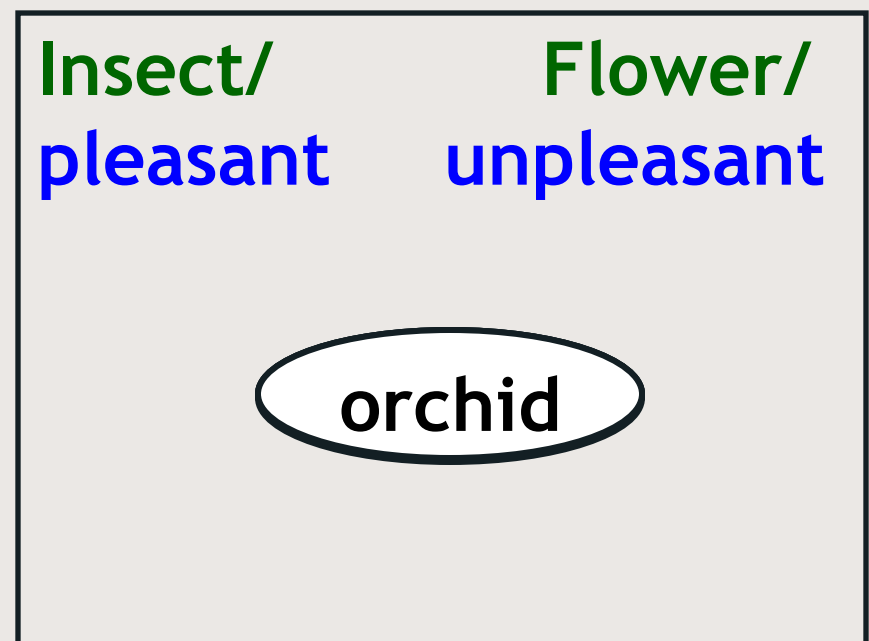
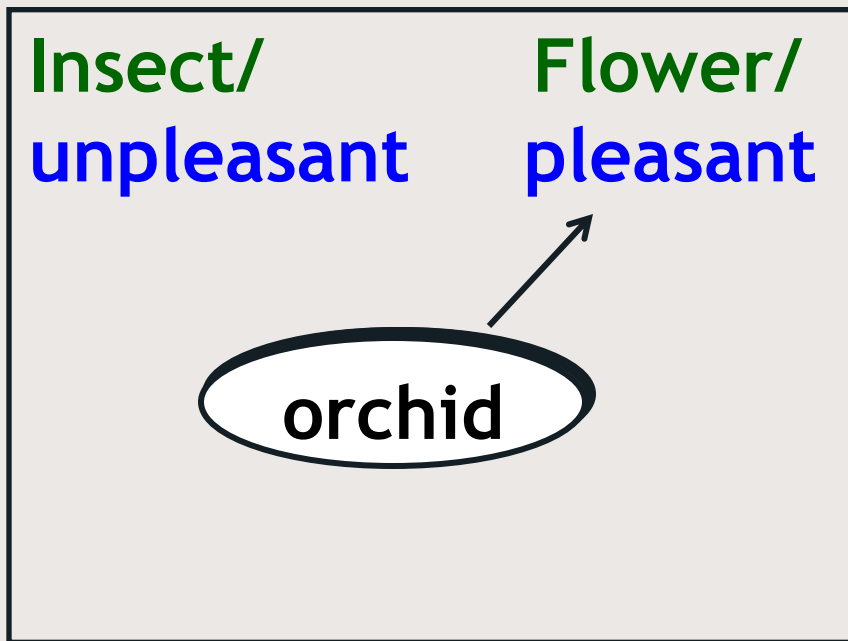


Evidence of implicit bias

- **IAT: Implicit Association Test**
- **Brain imaging**
- **Other tests of implicit bias**
 - **Priming, reaction time, signal detection**

IAT

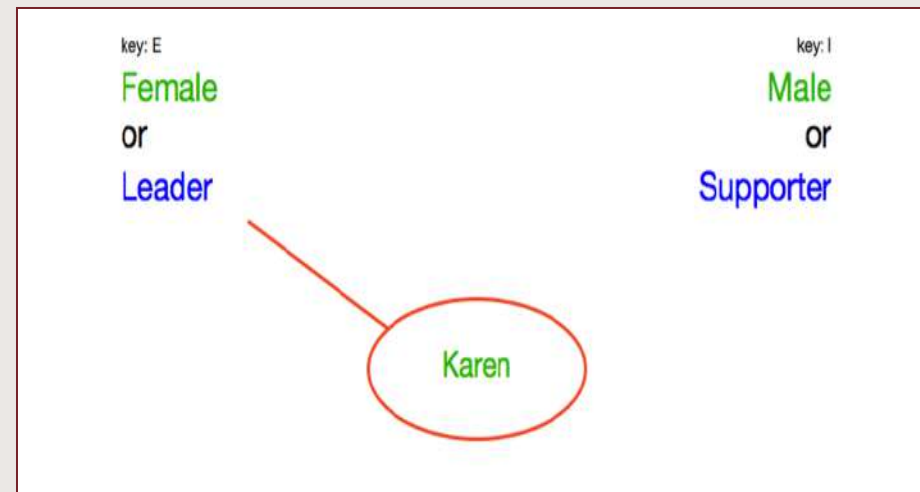
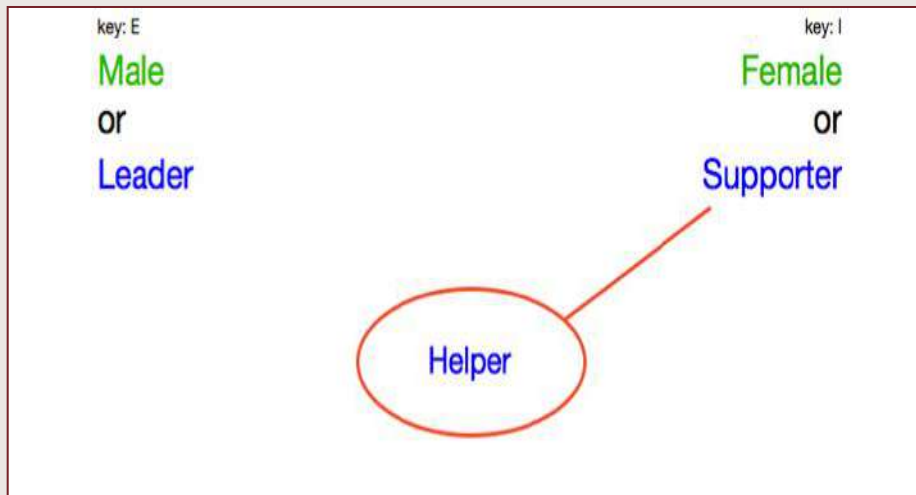
Are some associations or relationships made faster than others?



Can take variety of IATs on Harvard Implicit website <https://implicit.harvard.edu/implicit/>

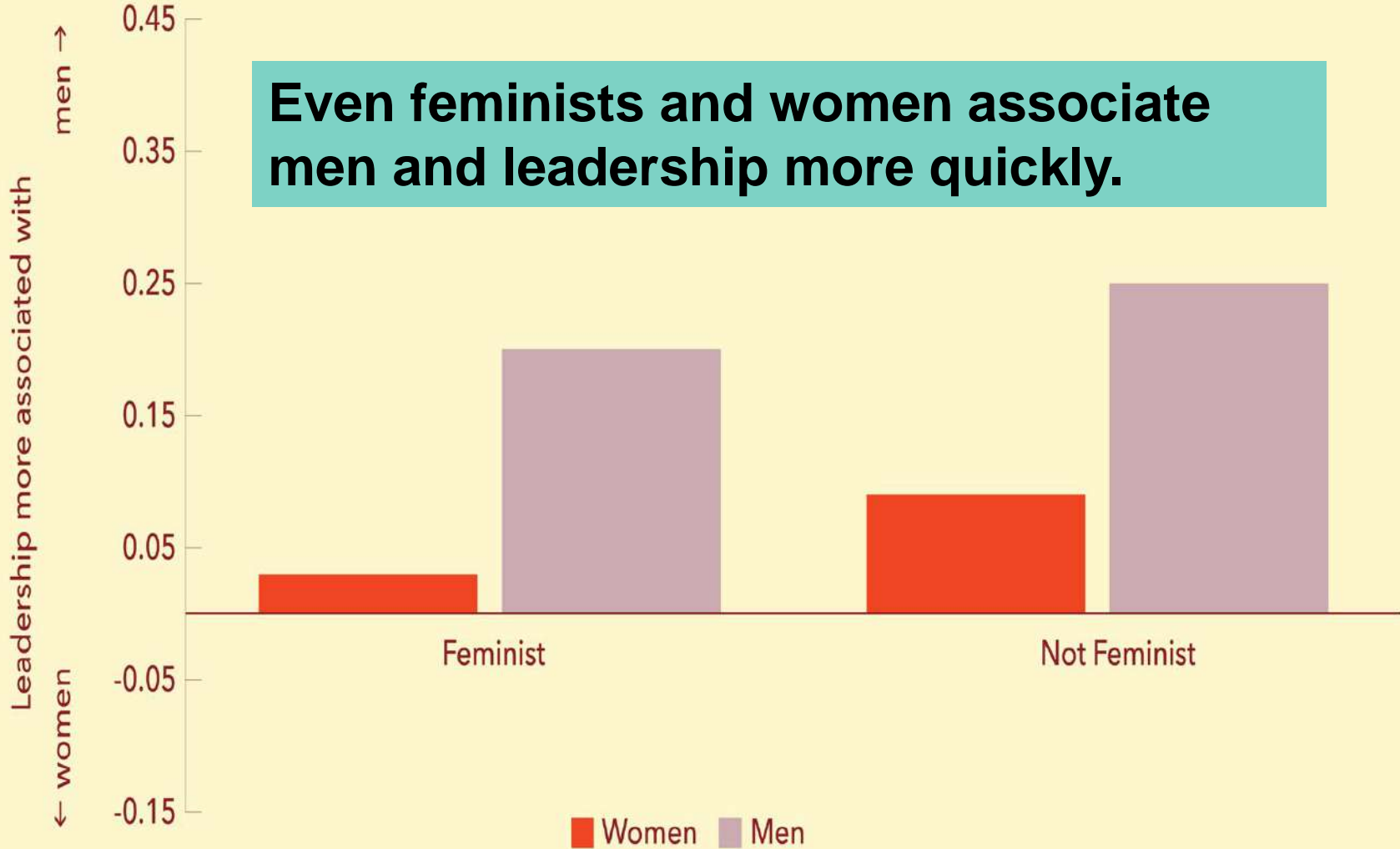
The AAUW Implicit Association Test on Gender and Leadership

How quickly do people sort men and women into leadership or supporter categories?



<http://www.aauw.org/article/implicit-association-test/>

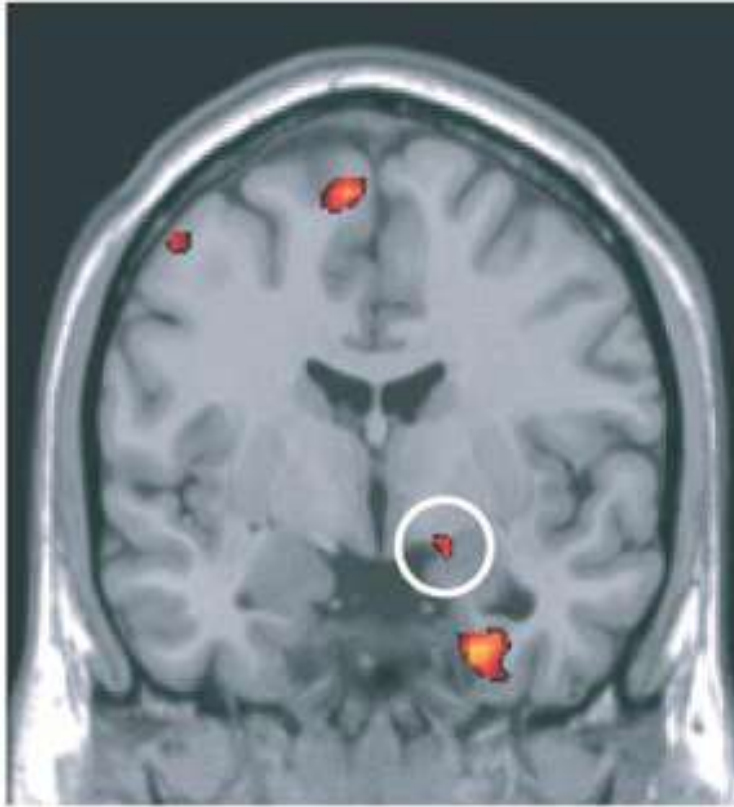
Early Respondent AAUW IAT Score Means by Gender and Feminist Identity



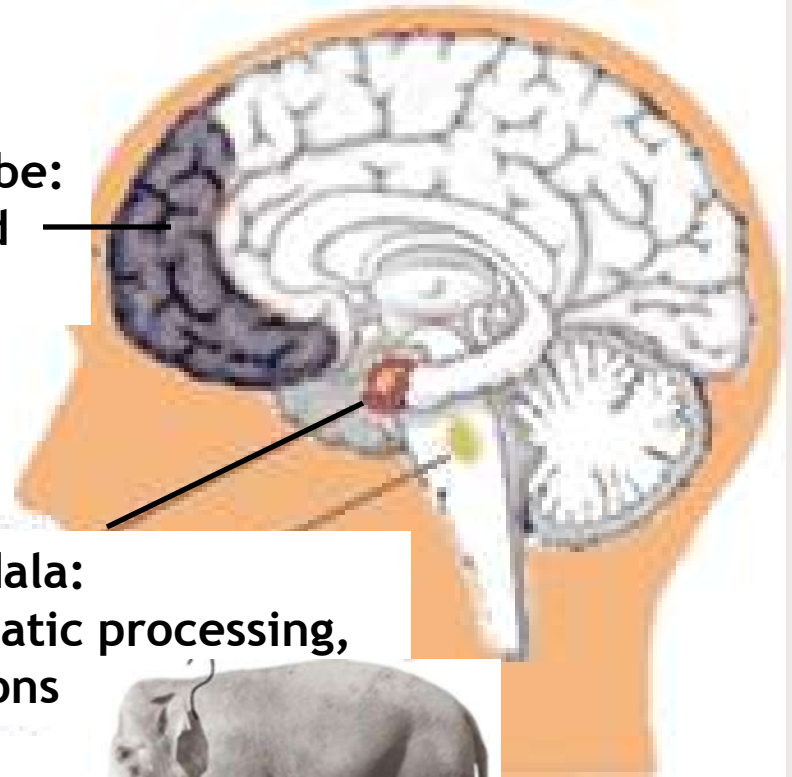
Even feminists and women associate men and leadership more quickly.

Brain Imaging

- Different parts of brain process information based on group membership.



Frontal lobe:
Controlled
cognition



Amygdala:
Automatic processing,
emotions

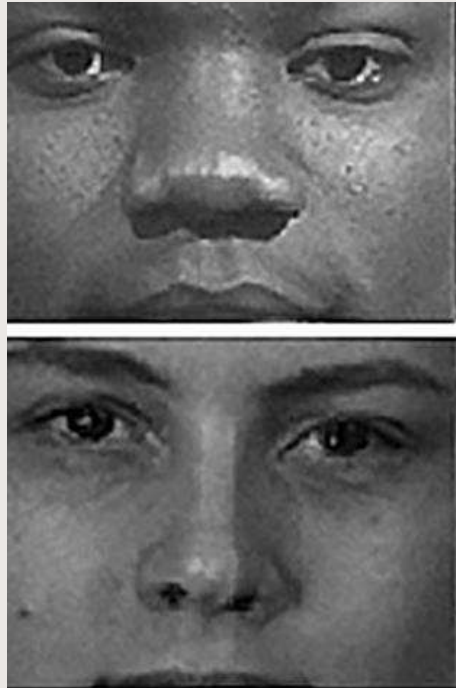


Brain Imaging

- **fMRI - measures brain activity**
- **Whites exposed to Black or White faces**
 - **Low explicit racism**
 - **Race IAT: Preference for White**
 - **Quicker association of**
 - **Black faces with bad words**
 - **White faces with good words.**

(Cunningham et al., 2004)

- **Faces shown for short time (25ms)**
 - **More amygdala activation for Black faces**
 - Amygdala automatically responds to emotional stimuli, especially negative.
- **Correlated with IAT scores.**



- **Faces shown for long time (525ms)**
 - No difference in amygdala activation
 - Activation in frontal lobe for Black faces
 - Areas associated with conflict and control
- **Also correlated with IAT scores.**



Are we all prejudiced?

- **Knowing vs. endorsing**
 - All are aware of content of stereotypes, including the targets of stereotypes.
 - Women are...Lazy? Aggressive?
Moody?
- **Stereotypes often triggered automatically**
 - Even if we don't want them to be

Are we all prejudiced?

What separates prejudiced vs. nonprejudiced?

- Resisting the stereotype
- **Weight IAT**

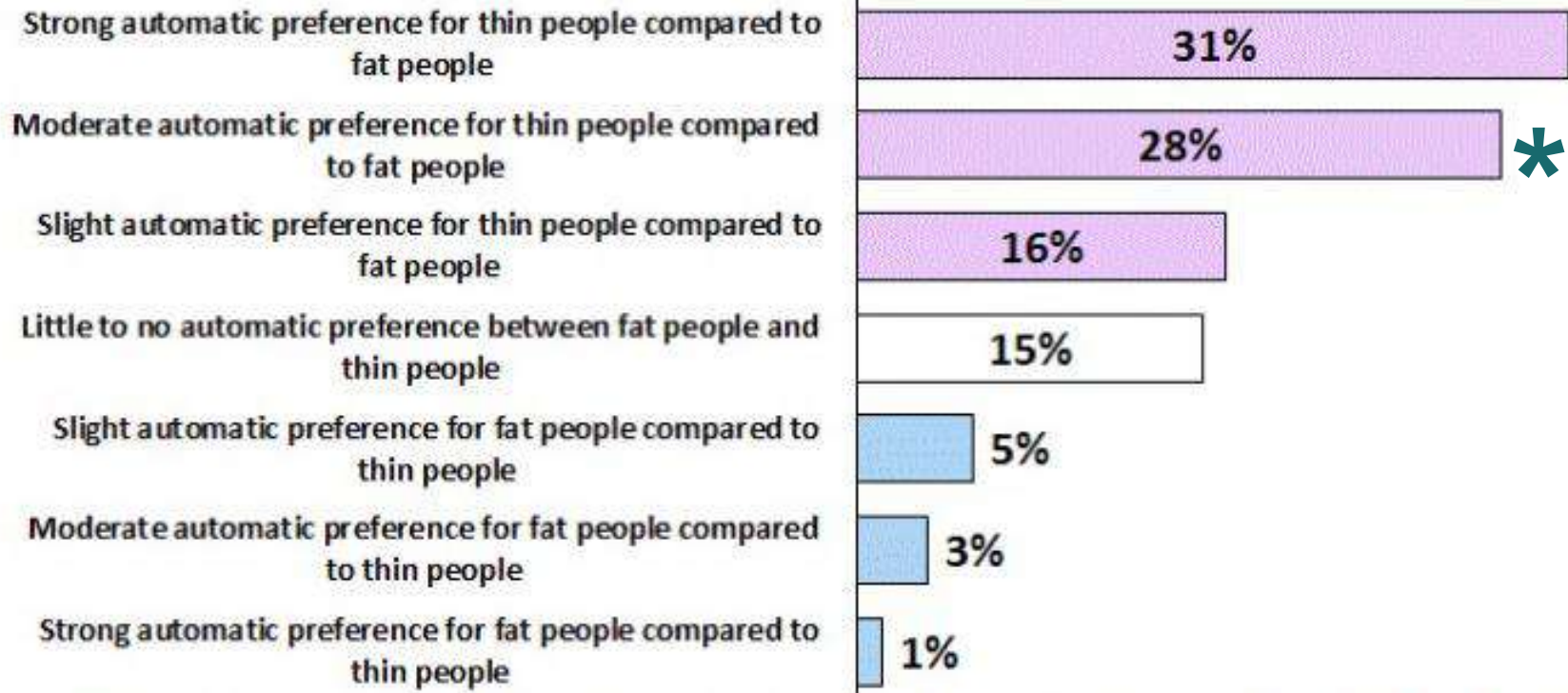




Weight IAT



Percent of web respondents with each score



This distribution summarizes 1,121,747 IAT scores for the Weight task completed between April 2004 and December 2015.

Origins



**Thinking
in
categories**

**Cultural
exposure**

**Us vs.
Them**

- Each table, 1/2 volunteer to be describers, 1/2 volunteer to close eyes.



Did your description include gender, age, ethnicity, social role (e.g. grandmother)?

Origins

- **We think in categories**
 - **Categories reduce the overwhelming complexity of incoming information**
 - **Mental short cuts to knowing a person**

- **Categories might be partly correct.**
 - **Are stereotypes useful guides for thinking?**
- **Nurse = Female**
- **92% of nurses are women**



Cultural Exposure

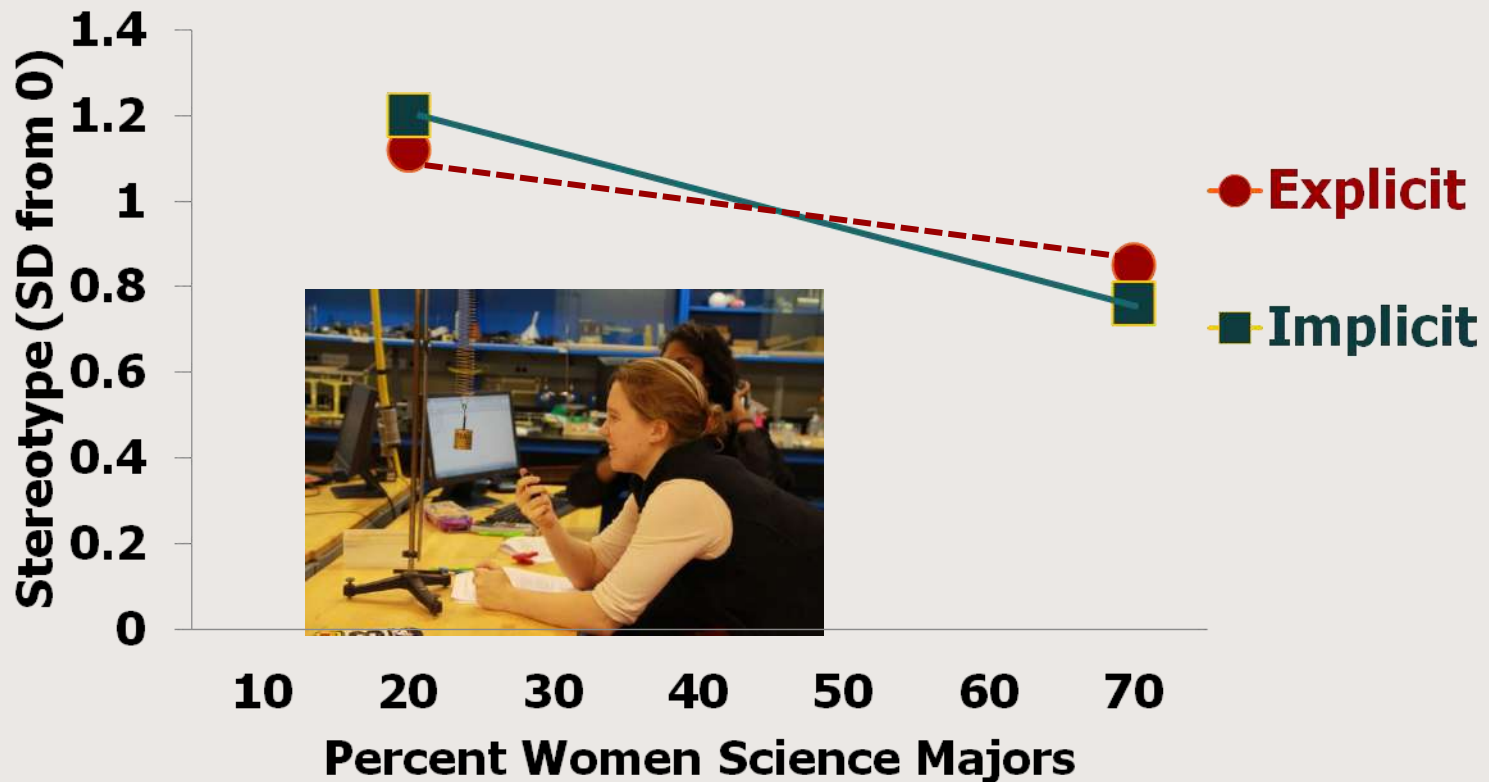
- Culture provides content of stereotypes
- Brains quickly learn
- **Study of 66 nations** (Miller et al., 2015)
 - The percent of women science majors,
 - related to explicit and implicit male = science bias



Science = Male Stereotype

Explicit and Implicit

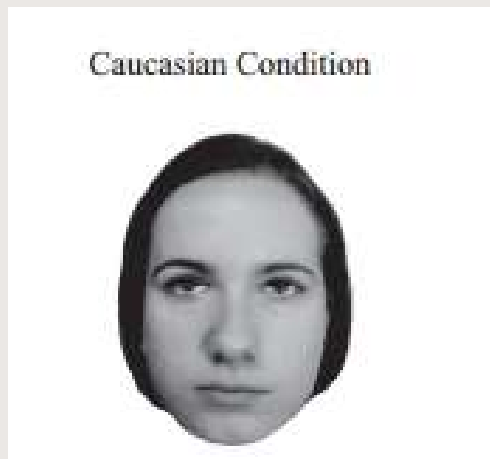
(0 = gender neutral)



Miller, Eagly, & Linn (2015)

Us vs. Them

- Identification with group
- Favor ingroup
 - Babies (3 & 6 months) look longer at face of own race than other race (Liu, et al, 2015)



Us vs. Them

- Adaptation to form bonds with caregiver, ally
- Preference based on familiarity
- Enhanced self-image

- **Ingroup favoritism contributes to disadvantaging outgroup**
 - E.g., Favoring job candidates who fit corporate “culture”

Consequences



**Social
interaction**

**Hiring
decisions**

**Self-
stereotyping**

Social interactions

- White participants
- Measured implicit & explicit race bias
- Two 3-minute conversations with Black and White student
- Coded verbal and nonverbal behavior
 - Verbal more controllable than nonverbal

(Dovidio, Kawakami, & Gaertner, 2002)

**Partner
(confederate)**

Ratings of friendliness

Self



**Explicit prejudice
Predicted verbal and
self-ratings.**

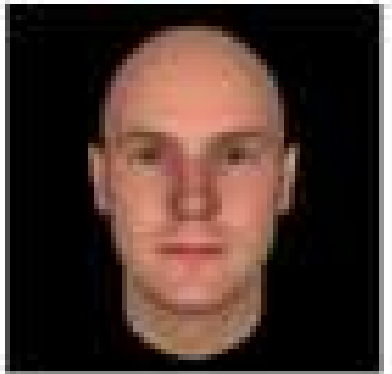
Observer



**Implicit prejudice
Predicted nonverbal,
partner, observer
ratings**

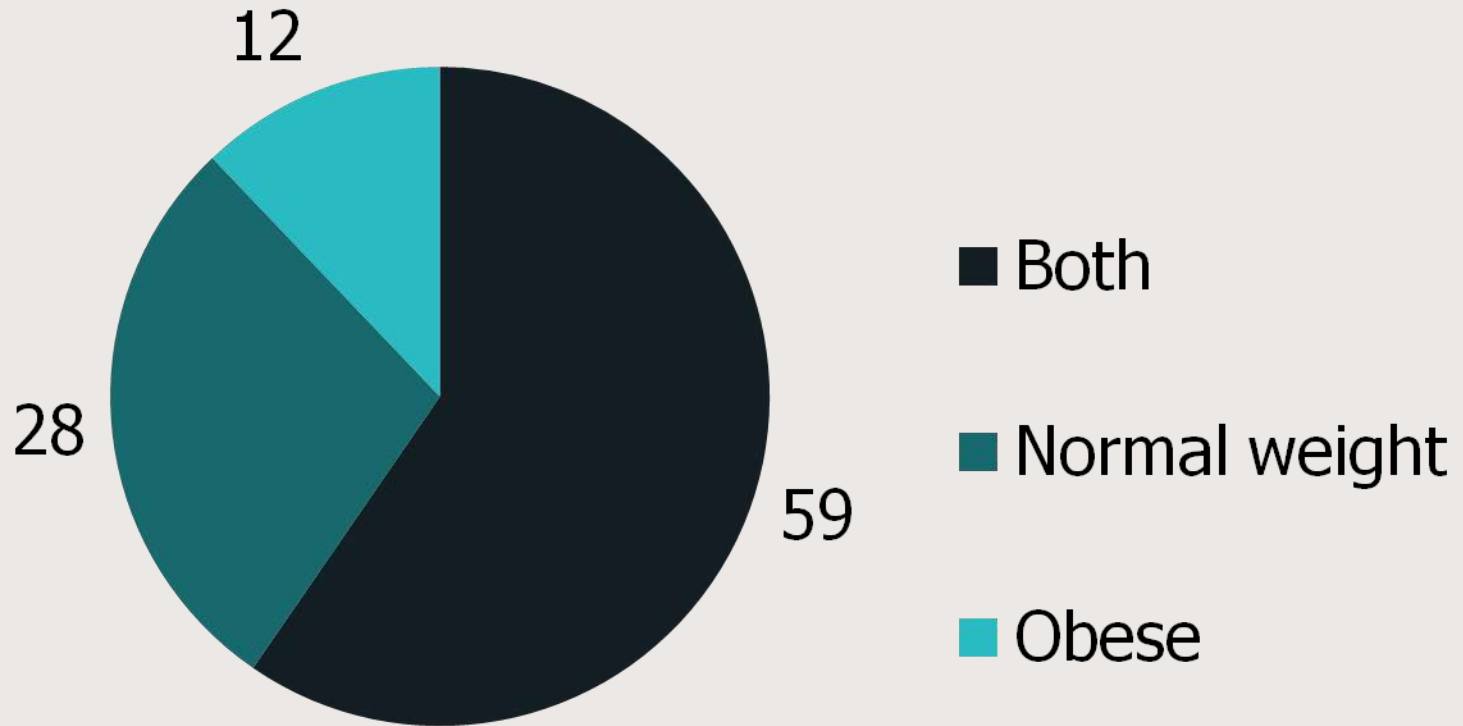
- **Hiring decisions**
- **Sent applications to job vacancies**
 - Applications matched on qualifications
 - Manipulated photos to vary weight

(Agerstrom & Rooth, 2011)



■ Hiring decisions

Of those invited for interview



(Agerstrom & Rooth, 2011)

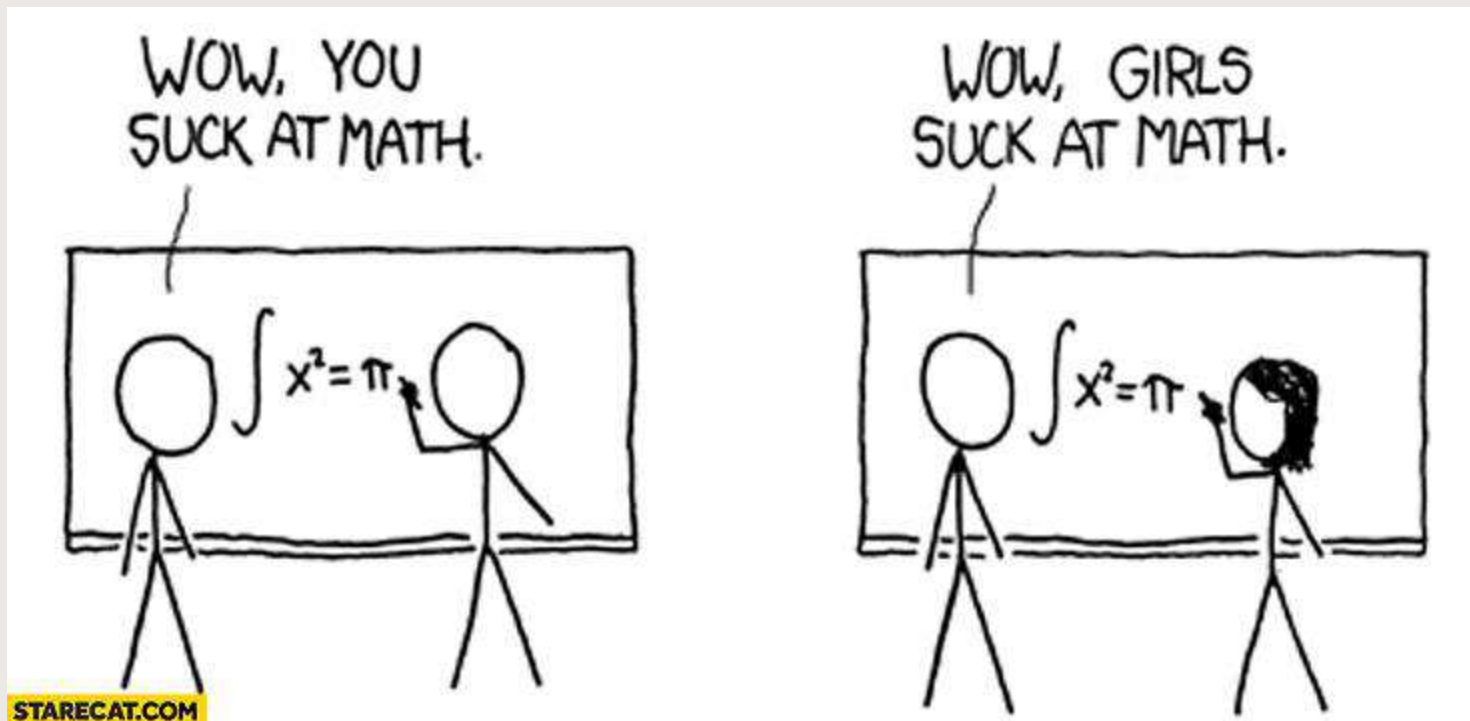
- Several months later, contacted hiring manager
- Implicit (IAT) measure
over weight = poor work performance
- Higher IAT less likely to invite obese candidate



- **Self-stereotyping**

 - Math = Male**

- Both men and women stronger implicit association of men with math.



- Stronger implicit bias Math = Male
- Men - higher math attitudes/identity/SAT
 - Me = Male, Math = Me
- Women - lower math attitude/identity/SAT
 - Me = Female, Math ≠ Me
 - Even women in math intensive majors



(Nosek et al., 2002)

Beating the Bias



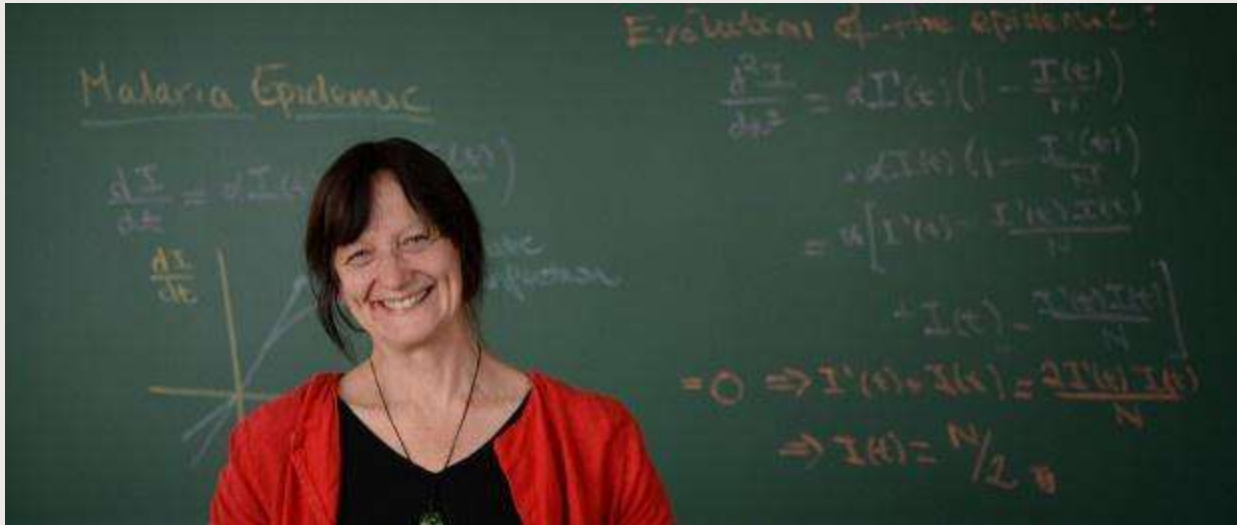
**Cultural
Changes**

**Blind
the bias**

**Bypass
the bias**

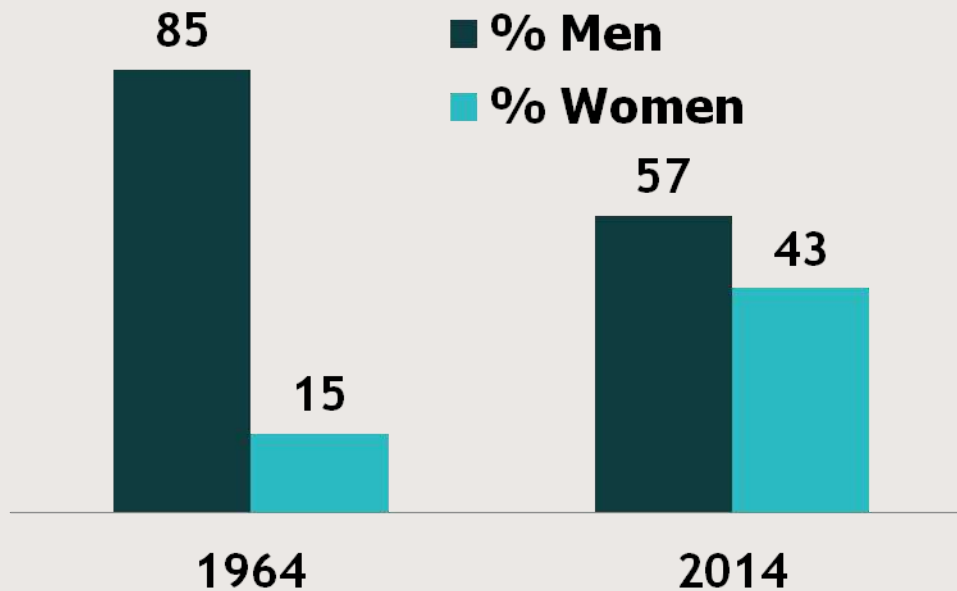
■ Cultural changes

- Younger people less bias than older male = career IAT
 - But no generational difference on race IAT
- More exposure to women faculty
 - Lower Male = Leader & Male = Math bias



- **Blind the Bias**
 - **Blind auditions in orchestras**

Instrumentalists at Five Major Orchestras



■ Blind the Bias

- Interview invites based on skill tests
- Percent non White, male, able bodied, elite school graduates invited to interview
- 20% to 60%



- **Bypass the bias**
 - Establish guidelines to eliminate personal judgment
 - E.g., testing for heart disease.

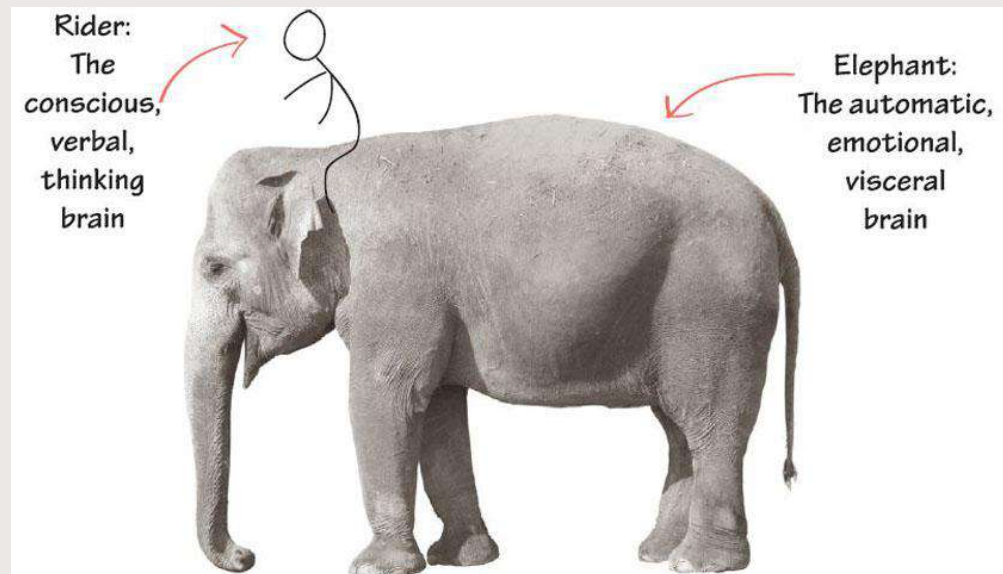


- **Bypass the bias**
 - **Incentivize diversity and equity**
 - Performance evaluations based on hiring and promotion of women and minorities
 - Iceland
 - Legislation require verification of equal pay



Conclusions:

- Implicit bias is pervasive and powerful
- Serious real world consequences
- May not be able to eliminate
- But can weaken or bypass



References

Agerström, J., & Rooth, D. (2011). The role of automatic obesity stereotypes in real hiring discrimination. *Journal of Applied Psychology, 96*(4), 790-805.

Aldermanmarch, L. (2017, March 28). *The New York Times*. Equal pay for men and women? Iceland wants employers to prove it. Retrieved from <https://www.nytimes.com>

Banaji, M.R. & Greenwald, A.G. (2013). *Blindspot: Hidden biases of good people*. New York: Bantam Books.

Cunningham, W.A., Johnson, M.K., Raye, C.L., Gatenby, J.C., Gore, J.C., & Banaji, M.R. (2004). Separable neural components in the processing of black and white faces. *Psychological Science, 15*, 806-813.

References

Devine, P. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*, 5-18.

Dovidio, J.F., Kawakami, K., & Gaertner, S.L. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology*, *82*(1), 62-68.

Haidt (2006) *The happiness hypothesis*. New York: Basic Books.

Hill, C. (2016) *Barriers and bias: The status of women in leadership*. Washington, DC: AAUW. Retrieved from <http://www.aauw.org/research/barriers-and-bias/>

Liu, S., Xiao, W. S., Xiao, N.G., Quinn, P.C., Zhang, Y., Chen, H., Ge, L., Pascalis, O., & Lee, K. (2015). Development of visual preference for own- versus other-race faces in infancy. *Developmental Psychology*, *51*(4), 500-511.

References

Miller, C.C. (Feb. 25, 2016). Is blind hiring the best hiring? *The New York Times*. Retrieved from <http://www.nytimes.com>

Miller, D.I., Eagly, A.H., & Linn, M.C. (2015) Women's Representation in Science Predicts National Gender-Science Stereotypes: Evidence From 66 Nations Study based on 66 countries. *Journal of Educational Psychology, 107*(3), 631-644.

Nosek, B. A., Banaji, M.R., & Greenwald, A.G. (2002). Math = Male, Me = Female, Therefore, Math \neq Me. *Journal of Personality and Social Psychology, 83*(1) 44-59.

Pinkham, A. E., Griffin, M., Baron, R., Sasson, N.J., & Gur, R.C. (2010) The face in the crowd effect: Anger superiority when using real faces and multiple identities. *Emotion, 10*(1), 141-146.