implicit bias

By: Team Canvas aka The Basal GANGLia
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Respondents at an Internet site completed over 600,000 tasks between October 1998 and April 2000 measuring attitudes toward and stereotypes of social groups. Their responses demonstrated, on average, implicit preference for White over Black and young over old and stereotypic associations linking male terms with science and career and female terms with liberal arts and family. The main purpose was to provide a demonstration site at which respondents could experience their implicit attitudes and stereotypes toward social groups. Nevertheless, the data collected are rich in information regarding the operation of attitudes and stereotypes, most notably the strength of implicit attitudes, the association and dissociation between implicit and explicit attitudes, and the effects of group membership on attitudes and stereotypes.
Group cognition:
Attitudes and knowledge about social groups
Implicit Association Test (IAT)
What was measured?

1. Race attitude (using names)
2. Race attitude (using faces)
3. Age attitude (using names)
4. Age attitude (using faces)
5. Gender-career stereotype
6. Gender-science stereotype
7. Self esteem
8. Math-arts attitude
9. Election 2000 preference

Procedure

1. Choose IAT task
2. Report explicit attitudes
3. Complete IAT task
4. Show results

Race attitudes

White participants indicated both explicit and implicit preferences for white over black faces.

Black participants indicated strong explicit preference for black over white faces, but slight implicit preference for white over black faces.

All participants, regardless of age, had strong implicit preference for young over old faces.
Men had both implicit and explicit bias associating male with career and female with family at a similar strength.

Women had lower explicit bias but higher implicit bias compared to men.

Do implicit association results differ depending on the participants' gender and ethnicity?

<table>
<thead>
<tr>
<th>Task</th>
<th>Gender</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Race attitude (faces)</td>
<td>0.65</td>
<td>0.76</td>
</tr>
<tr>
<td>Race attitude (names)</td>
<td>0.81</td>
<td>0.99</td>
</tr>
<tr>
<td>Age attitude (faces)</td>
<td>0.95</td>
<td>1.11</td>
</tr>
<tr>
<td>Age attitude (names)</td>
<td>1.39</td>
<td>1.54</td>
</tr>
<tr>
<td>Gender–science</td>
<td>0.73</td>
<td>0.72</td>
</tr>
<tr>
<td>Gender–career</td>
<td>0.76</td>
<td>0.66</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>1.14</td>
<td>1.10</td>
</tr>
<tr>
<td>Math–arts attitude</td>
<td>0.99</td>
<td>0.58</td>
</tr>
<tr>
<td>Election 2000 attitude</td>
<td>0.23</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Note. All effects are presented in effect size form (Cohen’s d).
Overall findings

- Results mirrored smaller-scale laboratory studies
- Results reflect conscious denial of biases
- Implicit bias is observed in all groups
- Explicit vs. implicit bias attitudes differ
- Implicit attitudes reflect both the influence of environment AND individual’s personal implicit attitudes
- Implicit and explicit attitudes are more associated than previously thought

Social attributions from faces bias human choices

Christopher Y. Olivola\textsuperscript{1}, Friederike Funk\textsuperscript{2}, and Alexander Todorov\textsuperscript{2}

Our success and well-being, as individuals and societies, depend on our ability to make wise social decisions about important interpersonal matters, such as the leaders we select and the individuals we choose to trust. Nevertheless, our impressions of people are shaped by their facial appearances and, consequently, so too are these social decisions. This article summarizes research linking facial morphological traits to important social outcomes and discusses various factors that moderate this relationship.
Which face looks the most competent? Most dominant? Most extroverted? Most trustworthy?

Remember this?

Half a Minute: Predicting Teacher Evaluations From Thin Slices of Nonverbal Behavior and Physical Attractiveness

Nalini Ambady and Robert Rosenthal

The accuracy of strangers’ consensus judgments of personality based on “thin slices” of targets’ nonverbal behavior were examined in relation to an ecologically valid criterion variable. In the 1st study, consensus judgments of college teachers’ molar nonverbal behavior based on very brief (under 30 s) video clips significantly predicted global end-of-semester student evaluations of teachers. In the 2nd study, similar judgments predicted a principal’s ratings of high school teachers. In the 3rd study, ratings of even thinner slices (6 s and 15 s clips) were strongly related to the criterion variables. Ratings of specific micrononverbal behaviors and ratings of teachers’ physical attractiveness were not as strongly related to the criterion variable. These findings have important implications for the areas of personality judgment, impression formation, and nonverbal behavior.

Taken from Professor Boyle’s COGS 2 lecture slides.
CEOs whose faces are perceived to look more competent are more likely to be hired by large, successful companies, even though they perform no better than their less competent looking peers. So strong, it seems, is this facial bias, that the CEOs of Fortune 500 companies have more competent looking faces than other types of leaders. Finally, within the military domain, having a face that is perceived to be dominant-looking predicts rank attainment.

Legal implications

Facial appearances actually do influence voting preferences, economic exchanges, and legal judgments.

“Face-ism”

- Republican voters vs. Democrats voters
- Voters with limited political knowledge vs. voters with high political knowledge
- The accuracy of face-based inferences often drops once the target person’s gender, ethnicity, and age are controlled for
- Reliance on facial information leads observers to neglect other, more valid, cues, which ultimately harms their judgmental accuracy
- People form very different social attributions from distinct photos of the same individual (contradicts the notion that stable morphological facial features drive accurate and reliable social inferences)

What is the takeaway?
Are smarter people actually less racist?
Hip-hop Concerts
What is prejudice?

- From *Merriam-Webster*: An adverse opinion or leaning formed without just grounds or before sufficient knowledge
- Prejudice across different social categories
What does it mean in the context of implicit bias and society?
Breaking the prejudice habit: Mechanisms, timecourse, and longevity

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ABSTRACT

The prejudice habit-breaking intervention (Devine, Forscher, Austin, & Cox, 2012) and its offshoots (e.g., Carnes et al., 2015) have shown promise in effecting long-term change in key outcomes related to intergroup bias, including increases in awareness, concern about discrimination, and, in one study, long-term decreases in implicit bias. This intervention is based on the premise that unintentional bias is like a habit that can be broken with sufficient motivation, awareness, and effort. We conducted replication of the original habit-breaking intervention experiment in a sample more than three times the size of the original (N = 292). We also measured all outcomes every other day for 14 days and measured potential mechanisms for the intervention’s effects. Consistent with previous results, the habit-breaking intervention produced a change in concern that endured two weeks post-intervention. These effects were associated with increased sensitivity to the biases of others and an increased tendency to label biases as wrong. Contrasting with the original work, both control and intervention participants decreased in implicit bias, and the effects of the habit-breaking intervention on awareness declined in the second week of the study. In a subsample recruited two years later, intervention participants were more likely than control participants to object on a public online forum to an essay endorsing racial stereotyping. Our results suggest that the habit-breaking intervention produces enduring changes in peoples’ knowledge of and beliefs about race-related issues, and we argue that these changes are even more important for promoting long-term behavioral change than are changes in implicit bias.
Big Ideas → Education?

- “unintentional bias is like a habit that can be broken with sufficient motivation, awareness, and effort”
- “Our results suggest that the habit-breaking intervention produces enduring changes in peoples’ knowledge of and beliefs about race-related issues, and we argue that these changes are even more important for promoting longterm behavioral change than are changes in implicit bias.”
- “Concern about discrimination”
- “Lasting psychological change”

Controversy at UCSD

UCSD administrators told the San Diego Union-Tribune that because the event wasn’t sanctioned by the university or run by a student organization, university officials don’t have a reason to penalize party hosts.

“UCSD administrators told the San Diego Union-Tribune that because the event wasn’t sanctioned by the university or run by a student organization, university officials don’t have a reason to penalize party hosts.”
Equity, Diversity, and Inclusion
Criticisms of DEI

To what extent could it be seen as tokenism?

Ambivalence of STEM-heavy students?
The Process

- Two groups, one with and one without intervention
- Introduce the IAT to both
- Presentation “intervention” was given
  - Participants wrote an essay to reflect upon it
- Follow-up survey given every other day for two weeks
- 2nd Phase testing after two years

General Results

“We found that the habit-breaking intervention produced an enduring impact on concern about discrimination.”

“We found that both intervention and control participants exhibited this decrease [in IAT score].”


Fig. 2. Changes over time in the intervention and control conditions in IAT scores, concern, and discrepancies (and the components of discrepancies, shoulds and woulds). Envelopes indicate ± 1 Wald standard error of the estimate.
How would you criticize it?

- The metric of study is hard to define
- The nature of the IAT test; people getting better at it in terms of just a reaction game
- Population distribution
Lasting Ideas
When is bias implicit?

“De Houwer, Teige-Mocigemba, Spruyt, and Moors (2009) pick out the following features as ones taken to be characteristic of implicit associations: operation without the guidance of proximal goals (that would enable the agent to initiate, intervene or stop the processes); operation without substantial cognitive resources (such as when one’s attention is occupied with some other task); and operation with very limited time (such as when one is required to respond very quickly); or without awareness.”
“The relevant question is not whether an individual has this awareness, but whether they should have such awareness, and whether lacking it is culpable.”

### Implicit Association Test

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Spectacular, Excellent, Fabulous, Delightful, Cherish, Happy, Fantastic, Friendship</td>
</tr>
<tr>
<td>Bad</td>
<td>Gross, Evil, Sickening, Awful, Yucky, Despise, Abuse, Rotten</td>
</tr>
<tr>
<td>African Americans</td>
<td><img src="image1.png" alt="Images of faces" /></td>
</tr>
<tr>
<td>European Americans</td>
<td><img src="image2.png" alt="Images of faces" /></td>
</tr>
</tbody>
</table>
Percent of web respondents with each score

<table>
<thead>
<tr>
<th>Preference Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong automatic preference for European American compared to African American</td>
<td>24%</td>
</tr>
<tr>
<td>Moderate automatic preference for European American compared to African American</td>
<td>27%</td>
</tr>
<tr>
<td>Slight automatic preference for European American compared to African American</td>
<td>17%</td>
</tr>
<tr>
<td>Little to no automatic preference between African American and European American</td>
<td>18%</td>
</tr>
<tr>
<td>Slight automatic preference for African American compared to European American</td>
<td>7%</td>
</tr>
<tr>
<td>Moderate automatic preference for African American compared to European American</td>
<td>5%</td>
</tr>
<tr>
<td>Strong automatic preference for African American compared to European American</td>
<td>2%</td>
</tr>
</tbody>
</table>

This distribution summarizes 3,314,277 IAT scores for the Race task completed between December 2002 and December 2015.

Charles Kinsey
Other Cognitive Imperfections

- Failure of Attentiveness
- Self-deception
Mitigating Bias Blind Spot via A Serious Video Game
Mitigating bias blind spot via a serious video game

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What is Bias Blind Spot?

- BBS is a failure to recognize bias in oneself while overestimating it in others.

Examples:
- People always think that they are good drivers and others are bad drivers.
- People tend to make excuses for their own mistakes, while they feel it is more difficult to forgive others’ mistakes.

More examples?
Why do people have Bias Blind Spot?

- Because people have ready access to their own introspective information, but not to the introspections of others, they tend to overestimate the diagnostic utility of their own introspections.

Why is it detrimental to human judgment?

- Corporate executives may ignore the role of self-benefit in their questionable business practices.
- Doctors may be blind to the role of financial self-gain in providing substandard patient care.
- Employers may deny the role of sexism in discriminatory promotions.
- Politicians may ignore the role of their own ideology in their support of social policies.

Thus, we need to mitigate BBS!
Experiment 1:

In MACBETH (Mitigating Analyst Cognitive Bias by Eliminating Task Heuristics), players assume the role of an intelligence analyst and are given a series of scenarios describing impending terrorist attacks, which they solve by identifying the suspect, the location, and method of attack. Analysts can use different intelligence sources to gather the information and generate hypotheses about the suspects, locations, and methods of each attack.
Experiment 1: Independent Variables

- Repetition: single play vs. repeated play.
- Duration: 30 min vs. 60 min.
- Training: implicit vs. hybrid
  - Implicit: players pursued scenarios where making biased decisions cost them points and sometimes loss of a mission, but they were not explicitly trained on biases.
  - Hybrid: players received the same training as those in the implicit condition, but were also explicitly instructed and tested on biases as part of their gameplay.

Experiment 1: Dependent Variables

- BBS knowledge:
  - At each time of measurement, participants received three multiple-choice questions containing a scenario describing BBS with four response options and a possible score ranging between 0 and 3 (one point for each correct bias identification); they had to determine what bias each scenario represented.
- BBS mitigation:
  - Determining participants’ susceptibility to a range of biases (not just the biases that were part of our game) has been a standard approach to measuring BBS.
In sum, Experiment 1 results suggest a serious video game can be effective for bias training. The results also revealed repeated play improved both BBS knowledge and mitigation. Furthermore, a hybrid approach pairing implicit training with explicit instruction was more effective than implicit training alone at increasing knowledge.
Experiment 2:

The experimental procedures were identical to Experiment 1 with one exception: All participants were prescreened for knowledge of English, testing vocabulary from the game. We retained hybrid-training version of MACBETH, which was modified to include feedback. Participants received both feedback about biases to facilitate unbiased decision making and outcome feedback in the form of ingame performance scores.

![Feedback example](image)

*Fig. 7. BBS feedback (Experiment 2).*
Experiment 2: Independent Variables

- Repetition: single play vs. repeated play.
- Duration: 30 min vs. 60 min.
- Feedback: JIT vs. delayed
  - JIT: Give players immediate feedback (just-in-time feedback).
  - Delayed: Give players delayed feedback.

Experiment 2: Dependent Variables

- BBS knowledge:
  - At each time of measurement, participants received three multiple-choice questions containing a scenario describing BBS with four response options and a possible score ranging between 0 and 3 (one point for each correct bias identification); they had to determine what bias each scenario represented.
- BBS mitigation:
  - Determining participants’ susceptibility to a range of biases (not just the biases that were part of our game) has been a standard approach to measuring BBS.
In sum, feedback did not make a discernible difference for BBS training in Experiment 2. Similarly, we did not find support for the effects of duration on either BBS mitigation or knowledge. Overall, regardless of experimental condition, playing MACBETH reduced BBS linearly over time and improved BBS knowledge at last posttest, but the improvement in knowledge decayed at 8 weeks.
Experiment 3:

The procedures were identical to Experiment 2. The game with hybrid training and JIT feedback was modified into either a single-player or multiplayer version.

Fig. 9. Multiplayer interaction in the game.
**Experiment 3: Independent Variables**

- Repetition: single play vs. repeated play.
- Duration: 30 min vs. 60 min.
- Learning environment: single-player vs. multiplayer
  - Single-player: Participants play alone.
  - Multiplayer: Participants play either with another human participant or, when another participant was not available, with artificial intelligence, or partly with both.

**Experiment 3: Dependent Variables**

- BBS knowledge:
  - At each time of measurement, participants received three multiple-choice questions containing a scenario describing BBS with four response options and a possible score ranging between 0 and 3 (one point for each correct bias identification); they had to determine what bias each scenario represented.
- BBS mitigation:
  - We made the BBS mitigation questions more applicable to participants in our study by rewording the second BBS question, so that the question asked about others with similar levels of training to yourself exhibiting the effect, instead of the average student.
Experiment 3: Result & Discussion

In sum, the differences in learning environment did not apparently affect BBS mitigation and knowledge. However, similar to the effects of prior Experiments, regardless of condition, MACBETH either reduced BBS linearly over time, or initially improved BBS knowledge, which then decayed after 8 weeks.
## Summary

Table 1
Overview of the argument presented in the paper and the three experiments.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
<th>Our approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBS – the unconscious tendency to value one's knowledge, experiences,</td>
<td>We developed a bias-training serious video game, which:</td>
<td>In Experiment 1, we manipulated Training (implicit vs. hybrid)</td>
</tr>
<tr>
<td>and introspections over the knowledge, experiences, and introspections</td>
<td>• Offered players opportunities to demonstrate bias</td>
<td>In Experiment 2, we manipulated Feedback (JIT vs. delayed) while we kept hybrid training constant</td>
</tr>
<tr>
<td>of others.</td>
<td>• Revealed players’ biased decisions either implicitly through a reward structure of the game (e.g., through loss of points for biased</td>
<td>In Experiment 3, we manipulated Learning Environment (single-player vs. multiplayer) while we kept hybrid training and JIT feedback constant</td>
</tr>
<tr>
<td>BBS compromises quality decision making and makes people blind to their</td>
<td>decisions) and/or explicitly through bias education</td>
<td>In addition, in all experiments we manipulated Repetition (single vs. repeated play) and Duration (30 min vs. 60 min) and examined</td>
</tr>
<tr>
<td>own biases.</td>
<td>By observing how their biases had cost them points—or even the entire game—players could more easily evaluate their own actions in the</td>
<td>participants’ responses at 3 points in time: pretest, last posttest, 8-week posttest</td>
</tr>
<tr>
<td>BBS mitigation is difficult because people:</td>
<td>game as demonstrably biased, thereby sensitizing them to their own BBS.</td>
<td></td>
</tr>
<tr>
<td>• Are not aware they are biased</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Do not see evidence of their own biases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Become defensive when told they are biased</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thus, people need to observe themselves being biased without</td>
<td></td>
<td></td>
</tr>
<tr>
<td>defensiveness being triggered</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


## Table 3
Representative results across experiments.

<table>
<thead>
<tr>
<th>Hypotheses related to game mechanics:</th>
<th>Experiment 1</th>
<th>Experiment 2</th>
<th>Experiment 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1:</strong> Hybrid (vs. implicit) training (a) increases BBS knowledge and (b) reduces BBS.</td>
<td><strong>H1(a) supported, but over time hybrid (vs. implicit) training improved knowledge more only at last posttest.</strong></td>
<td>Not supported.</td>
<td><strong>H5:</strong> Single-player (vs. multiplayer) learning environment (a) increases BBS knowledge and (b) reduces BBS.</td>
</tr>
<tr>
<td><strong>H2:</strong> Repeated (vs. single) play (a) increases BBS knowledge and (b) reduces BBS.</td>
<td><strong>H2(a) supported;</strong></td>
<td><strong>H2(b) partially supported: Repeated (vs. single) play reduced BBS only at last posttest.</strong></td>
<td>Not supported.</td>
</tr>
<tr>
<td><strong>H3:</strong> Longer (vs. shorter) duration (a) increases BBS knowledge and (b) reduces BBS.</td>
<td>Not supported.</td>
<td>Not supported.</td>
<td><strong>H1(a) supported (but over time repeated play increased BBS knowledge more than single play only at last posttest);</strong></td>
</tr>
<tr>
<td>RQ: What are the temporal trajectories of BBS (a) knowledge and (b) mitigation?</td>
<td><strong>BBS Knowledge:</strong> Knowledge improved at last posttest but then decayed at 8 weeks. However, the effects of training, repetition, and to some extent duration, were able to offset the decay in knowledge at 8-weeks. At 8 weeks, hybrid training, repeated play, and 60-min game, although still resulting in some decay relative to the last posttest, improved BBS knowledge relative to the pretest. <strong>BBS Mitigation:</strong> Regardless of condition, MACBETH reduced BBS from pretest to last posttest, and this reduction in bias remained the same at 8-week posttest.</td>
<td><strong>BBS Knowledge:</strong> BBS knowledge had initially increased from pretest to last posttest but then decayed to almost pretest levels at 8 weeks. <strong>BBS Mitigation:</strong> Regardless of condition, BBS reduced linearly over time. A significant time by repetition interaction indicated repeated play reduced BBS linearly from pretest to last posttest, and from last posttest to 8-week posttest where it caught up with the effects of the single play.</td>
<td><strong>BBS Knowledge:</strong> Regardless of experimental condition, BBS knowledge increased from pretest to last posttest but then decayed at 8 weeks. <strong>BBS Mitigation:</strong> Time by repetition interaction indicated repeated play increased BBS knowledge from pretest to last posttest, but knowledge decayed at 8 weeks.</td>
</tr>
</tbody>
</table>
Implicit Bias and the Workplace
Why important

- Affects recruitment
  - Women not represented in STEM
    - Expectation of women disliking math/engineering
    - Fail to see other barriers
- Associations of scientists being men
  - Negative effect on recruiting women to science and engineering
  - Negative effect on perceptions of women in above fields
- Stereotype threat: fear performing poorly and reinforcing stereotypes
  - Girls as young as 9 years old internalize “math is hard” and “boys are better at math”
- Evaluations should be based on merit, not gender
Before we start...
Selective Attention

- Told to count number of times ball is passed between people wearing white shirts
- People miss the man in a gorilla suit in the video
Injunctification

“Injunctification posits that we are motivated to deem the current state of things we see as natural and desirable, leading to the defense of the status quo”
Riddle Me This?

A father and son are in a horrible car crash that kills the dad. The son is rushed to the hospital; just as he's about to go under the knife, the surgeon says, “I can’t operate — that boy is my son!” Explain.
Examples? 1 min

- Race
- Age
- Gender
The “female” applying for that position was viewed as less worthy of mentoring, less competent, less desirable as a new hire, and was offered less financial compensation. These results are distressing, particularly

- Experiment on sending the same resumes with different names
  - Female names fare worse
  - Implies both men and women are biased against women
- Even psychologists who are likely aware of the topic of implicit bias from their work or in training demonstrate this partiality
Hiring in Orchestra

- Primarily male-dominated until 1970s
- Introduced some blind auditions

- 8 separate orchestras comparing the number of women hired at blind auditions and not-blind auditions
  - The use of a screen (blind) increased likelihood that a woman would be hired by about one-third
Literature Reviews

- Single-blind vs. Double-blind reviews
- Double-blind: ~8% increase in the number of articles published by women
- Double-blind reviews reduce the opportunity for bias
SUCCESS AND LIKEABILITY DO NOT GO HAND IN HAND (FOR WOMEN)

Heidi Roizen is a highly successful, award-winning executive, venture capitalist, and entrepreneur. Her resume demonstrates her talents in a range of areas as well as her ability to adroitly recognize and fluidly take on challenging new tasks while climbing the corporate ladder. Stanford Professor Frank Flynn, PhD, developed an experiment using Roizen’s stellar resume as the framework to construct a case study to examine attitudes toward success and likeability as they relate to gender. Half of the students in a Harvard Business School class received a case with her name included in a document delineating her career achievements; the other half received the same case except that “Heidi” Roizen was changed to “Howard” Roizen throughout the document. Students were then asked to read through the resume and evaluate the “candidate” for various qualities.

While analysis showed that students found Heidi/Howard to be equally competent, they were much more severe in judging Heidi’s personality. They did not like her and generally did not want to hire or work with her. They were put off by her aggressive nature and found her “selfish.” The same cannot be said for their evaluations of “Howard”. This result is consistent with other literature, which generally finds that success negatively correlates with likeability for women. This equation is

- Very successful women are more severely judged (personality) than men
- Reduces desirability in hiring
**Representation of women in conferences**

- Women are underrepresented among invited speakers at disciplinary conferences
  - When the conference organizing committee is all-female or mixed composition, the gender distribution of invitations is representative of the established leaders of the field
  - When the conference organizing committee is all-male, 20-35% fewer women than expected are invited
    - Most likely due to subconscious bias or homophily (tendency to want to bond with one's own kind)
- Many invited women decline to speak at the conferences
Discussion

What are some positive qualities associated with women?
Positive qualities associated with men?
Language reveals implicit bias

In letters of recommendation for...
- Women: “conscientious, methodical, dependable”
  - Ability to nurture, dependability, capacity as a team player
- Men: “brilliant, analytical, talented, results”
  - Intellect, scientific achievement
Discussion

How do we reduce the impact of bias in the workplace?
Practices for minimizing subconscious bias impact (from the paper)

- Inoculate against implicit bias by discussing it or showing an informational video before convening recruitment, tenure, and selection committees
- When possible, mask the gender of candidates for positions
- Encourage a double-blind review process for journal articles
- Create heterogeneous committees that represent the breadth and diversity of the institution in terms of gender and ethnicity
- Consider the influence of language when creating job solicitations and writing letters of recommendation as well as giving honorary names to awards, memorial lecture series, etc.
- When evaluating candidates for hiring, tenure, and other promotions, ensure that their accomplishments are being evaluated, not their qualities as individuals
Discussion

Are there other practices that would reduce the negative impact of implicit bias in the workplace?
Thank You

Any questions?