

WHITE PAPER

# Managing Unconscious Bias

Strategies to Address Bias & Build More Diverse,  
Inclusive Organizations



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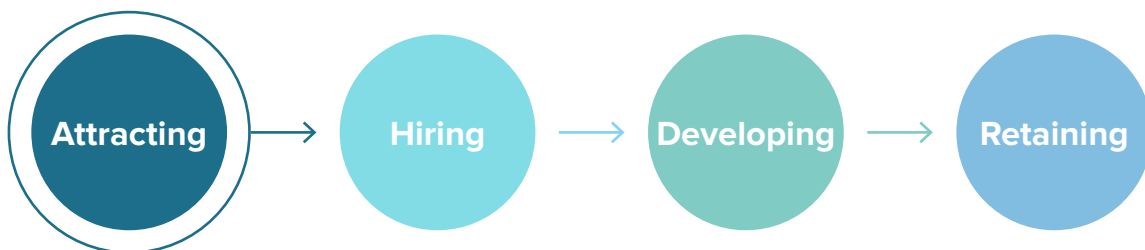
At any given moment, our brains are receiving 11 million pieces of information. We can only consciously process about 40 of those pieces.<sup>1</sup> To process the remaining 10,999,960 we rely on our subconscious, which helps us filter information by taking mental shortcuts. Unconscious bias refers to the information, attitudes, and stereotypes that inform our subconscious information-processing and dictate the process by which we take these mental shortcuts. While unconscious information processing is a critical part of human functioning, the shortcuts we take, and the bias that informs those shortcuts, often introduce errors into our decision-making.<sup>2,3</sup>

**Unconscious bias** can lead to many types of undesirable outcomes; in organizations, it can lead to differences in the way we attract, hire, develop, and retain people from underrepresented groups.<sup>4,5,6</sup> Even when these differences are subtle—and sometimes especially so—they present significant barriers to cultivating a diverse, inclusive organization. Awareness of unconscious bias and active engagement in efforts to reduce bias should be a core component of any company’s diversity and inclusion strategy. For the growing number of companies devoting resources to diversity, this Paper is a guide on how to think about and address unconscious bias at all levels of the organization.

Unconscious bias refers to the information, attitudes, and stereotypes that affect the way we process information subconsciously.

## RECOGNIZING BIAS

A wealth of popular unconscious bias research focuses on hiring - blind interview studies,<sup>7</sup> bias in resume reviews,<sup>8</sup> and bias in interviewer feedback,<sup>9</sup> for example. But there are actually four dimensions along which bias can exist in an organizational setting: Attracting, Hiring, Developing, and Retaining.



Failing to attract employees from underrepresented backgrounds leads companies to miss out on incredible talent. Particularly in industries like the technology industry where companies compete aggressively for talent, there is significant value in attracting the widest possible pool of qualified candidates. Unfortunately, unconscious bias can affect the strategies companies deploy to attract applicants, leading them to inadvertently, and often significantly, narrow the talent pool.

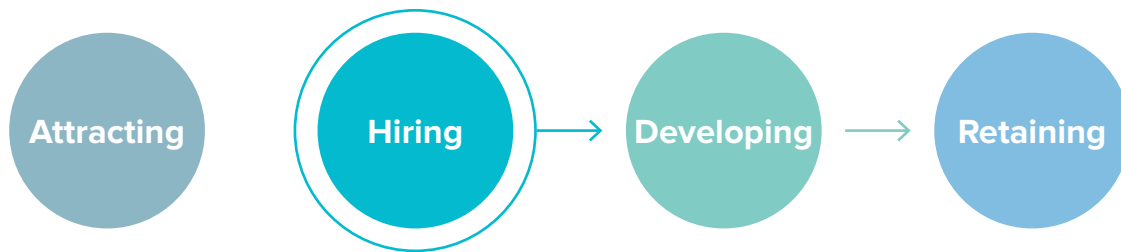
**Career websites.** Company career websites very often depict homogenous cultures, showing images of young (and often white or Asian) men, and office spaces marked by ping pong tables and alcohol.<sup>10</sup> Even among companies that provide great healthcare, parental leave, or childcare options, those benefits are often not mentioned.

**Job descriptions.** Within job descriptions, companies often use language likely to deter diverse candidates.<sup>11</sup> Using extreme or masculine words (“ninja,” “rockstar,” “hunter”), or requirements that are unnecessarily steep (e.g., “Expert skills” or “Top university” required) or vague (e.g., “Good product sense and intuition,” “Entrepreneurial experience”), can detract diverse candidates by lowering the perception that they would belong in the organization, contributing to a leaky (and often frustrating) diversity pipeline.<sup>12</sup>

**Sourcing strategy.** Sourcing candidates from only top tier (and often non-diverse) schools and a limited number of (equally non-diverse) companies severely constrains the candidate pool. Moreover, the common practice of hiring through referrals—which many companies prioritize over non-referral hiring—often perpetuates a homogenous workforce.<sup>13,14</sup>

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**External communications.** A company’s overall reputation, and specifically the external perception about how people from underrepresented backgrounds fare at the company, can be a significant factor in attracting diverse applicants. When the only company representatives to speak on panels and talk about the product are majority group members, it may send a subtle message to members of underrepresented groups that they do not belong in the company, and that people like them are unable to be successful there.<sup>15,16</sup>



The hiring process—from the early resume review stage through the hiring decision—is a prime setting for unconscious bias.

**Resume review.** A resume, often the first point of contact between a candidate and potential employer, provides limited useful information about the candidates. With limited information—the candidate’s name, where they went to school, where they previously worked, and what types of projects they worked on—and the need to make a quick decision, recruiters and hiring managers tend to take shortcuts, overemphasizing information that may not be relevant to a candidate’s qualification for the job.<sup>17,18</sup> These types of shortcuts are likely to be influenced by bias. Countless studies show that even just the name on a resume—whether it is male or female, or whether it is a prototypically white-sounding or prototypically black-sounding name—can have a significant impact on whether candidates get an interview.<sup>19,20</sup> Filtering candidates based on the prestige of their school or former company can also be influenced by bias, and can inadvertently filter out qualified candidates from all backgrounds. This type of bias occurs even with experienced, and otherwise highly objective, recruiters and interviewers.

**Interviews.** Bias is also a significant factor in interviews, from a simple recruiter phone screen to more in-depth onsite interviews. “Confirmation bias” and “similar to me” bias are two very common biases at this stage. Confirmation bias is the tendency to search for or interpret information in a way that confirms your existing beliefs.<sup>21</sup> An interviewer typically develops a first impression of a candidate within a few minutes or even a few seconds of meeting them; as a result of confirmation bias,<sup>22</sup> the interviewer may then spend the rest of the interview searching for information to confirm that first impression. Or more broadly, if we hold certain beliefs—for example, if we believe software engineers from Stanford have the best training in the world—we are likely to seek out and retain information that confirms those beliefs.

Research has also shown that interviewers have an unconscious tendency to favor people similar to them.<sup>23</sup> When you have things in common with a candidate

(things like where you're from, where you went to school, what area of town you live in), you may prefer that candidate over one with whom you don't share those types of similarities, regardless of who is better suited for the job. The "similar to me" bias is especially likely to have an impact on personality or "culture fit" interviews, which often allow interviewers to assess fit based on whether or not they think they would enjoy working with the candidate.

**Candidate evaluations.** The resume review, interview, and post-interview evaluation processes all influence the decision that ultimately gets made. Unconscious beliefs we have about particular groups can have a profound impact on the expectations we have for members of those groups, influencing the information we pay attention to in the interview process.<sup>24</sup> For example, research shows that men are more likely to be deemed a genius;<sup>25</sup> perhaps as a result, fields like physics and engineering that are associated with innate brilliance are dominated by men.<sup>26</sup> In qualitative reviews of candidate evaluations, Paradigm has found evidence for just that – men are more likely to be positively evaluated for innate abilities (e.g., "the candidate seems smart," "he's a intelligent guy") than women. Even when women are evaluated positively and given an offer, we have found that the factors that lead to their hire can be different than for men.

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Equally important as minimizing bias in the hiring process is creating an unbiased and inclusive approach for developing employees once they enter the organization. Development includes mentoring and sponsorship, career development opportunities (e.g., training programs, stretch opportunities), and performance reviews and promotions. Across all of these processes, employees who share similar backgrounds with their managers and company leaders (whether it's in terms of gender, ethnicity, culture, education, interests, etc.) are at a distinct benefit.<sup>27</sup>

**Mentorship/sponsorship.** Research shows that unconscious bias influences who we choose to mentor. In a 2014 study, researchers sent mock emails to professors in which students expressed interest in the professors' work and asked for a ten-minute meeting to discuss research opportunities.<sup>28</sup> Professors ignored requests from women and minorities at a higher rate than requests from white men – there was a 25-percentage-point gap in the response rate to white men versus women and minorities. When this dynamic plays out in organizations, it can lead to majority group members getting significantly better access to advancement opportunities.

**Development opportunities.** Our unconscious beliefs about the type of people who succeed in leadership roles can affect who advances into leadership in an organization. Studies have found that women<sup>29</sup> and members of underrepresented racial and/or ethnic backgrounds are often deemed less suitable for leadership roles. For example, a 2008 study considered the interplay between race and leadership by asking participants to read a story about a male CEO and then to rate the CEO on his effectiveness as a leader.<sup>30</sup> When the CEO was described as white, he was perceived as a more effective leader than when he was described as black. Given that white men have had significantly greater access to leadership opportunities throughout much of our history, it makes sense that we subconsciously associate leadership with that demographic group. Even if we don't consciously believe white men are better suited for leadership roles, that unconscious association can influence who we see as competitive for these roles and affect how we choose employees for development opportunities.

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**Performance reviews and promotions.** It is important to actively monitor for and seek to minimize bias in performance reviews and promotions. Expectations and beliefs we have about particular groups can influence our assessment of performance by affecting the way we pay attention to and recall information.<sup>31</sup> When people don't adhere to expectations we have for how they should behave, for example, they are often penalized for that in their performance evaluations.<sup>32</sup> In a 2005 study researchers looked at the impact on men's and women's

performance reviews when they engaged in altruistic workplace behavior to help a colleague (“helping behavior”).<sup>33</sup> They found that when men engaged in helping behavior, they were rewarded for that behavior in their performance reviews. When women engaged in the same helping behavior, it didn’t affect their performance reviews at all. On the other hand, when women refused to help a colleague, their performance reviews suffered. When men refused, their reviews were unaffected. This study demonstrates that our gendered expectations about how people should behave lead us to hold the very same behavior to different standards.



**In order to continue to attract diverse employees and retain those already there, it is critical to build an inclusive environment in which all employees can thrive. Company cultures are typically created and cultivated by majority group members. These cultures may be unwelcoming, even in subtle ways, to people from underrepresented backgrounds, whether it’s women, racial or ethnic minorities, people with children or other caregiving responsibilities, cultural or religious minorities, or any other “other.” A wealth of research has looked specifically at why women leave the technical workforce at great rates than men, and culture is often the culprit.<sup>34,35,36</sup>**

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***Creating a safe and comfortable environment.*** At a cultural level, bias can create and perpetuate an environment that is less welcoming for underrepresented

employees. Policies and benefits are key to creating a culture where everyone is included. When companies don't have stringent, uniformly enforced policies against harassment and discrimination, for example, people from underrepresented backgrounds may feel unsafe at work.<sup>37</sup> Even the physical environment of the workspace, including the names of offices (for example, naming conference rooms after only male computer scientists) and images in and around the office, can send messages about who fits in and who does not.<sup>38</sup>

**Rewards and recognition.** Bias can have a significant effect on how people are rewarded and recognized. Female computer scientists, for example, are paid only 89% of what men make in the same profession controlling for age, race, hours and education.<sup>39,40</sup> Factors in how pay is set can unwittingly perpetuate pay inequity. For example, if a company determines starting salary using a candidate's previous salary, this can perpetuate and exacerbate gender pay gaps over the course of a woman's career. Moreover, research indicates that women often face a backlash when they attempt to negotiate their salary;<sup>41</sup> different perceptions of men and women in negotiations can have a significant impact on pay outcomes. Continually monitoring compensation data and ensuring that policies around setting compensation do not perpetuate bias can help a company identify, address, and avoid these issues.

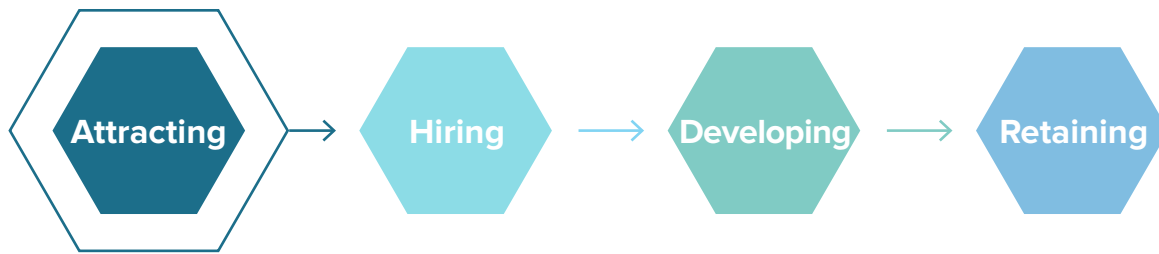
***Providing benefits that support underrepresented employees' needs.***

Providing benefits that are important to underrepresented employees, like paid parental leave, work from home or workplace flexibility policies, and transgender-inclusive health benefits, are important to creating an environment where everyone can be successful.<sup>42</sup>

## TAKING ACTION: STRATEGIES TO MINIMIZE BIAS

Companies that want to effectively cultivate diverse, inclusive organizations should consider opportunities to minimize bias both at the structural level in company processes and policies, and at an individual level in employee attitudes and behaviors.





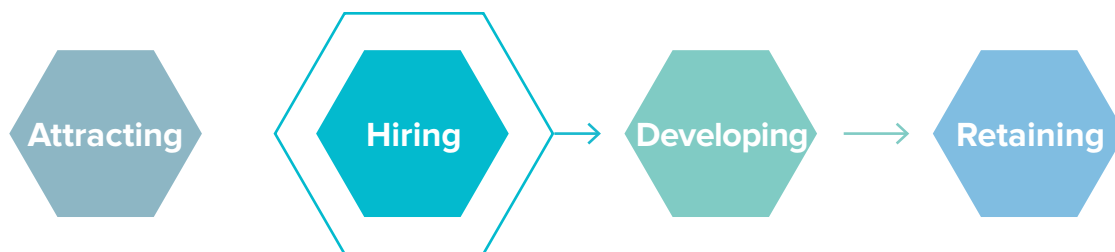
**Structural strategies**

- **Review and improve career sites.** Companies should review their career sites and make updates to depict a culture that is inclusive and welcoming to all employees. Including photos of employees from different backgrounds, highlighting inclusive perks and benefits, and explicitly referencing that the company values a diverse, inclusive culture are all best practices.
- **Review job descriptions for problematic language.** Reviewing job descriptions for problematic language and creating guidelines for future descriptions is a key strategy for attracting diverse applicants.
- **Engage in active sourcing to find candidates outside of the company’s referral network.** Given that referral candidates are very rarely diverse, companies should minimize the extent to which they prioritize referrals over other candidates, and should engage in active sourcing efforts to identify candidates outside of their own networks.
- **Support the careers of employees from underrepresented backgrounds.** Consciously and actively supporting the careers of employees from underrepresented backgrounds will send a message to potential applicants that yours is a company where everyone is included and has the opportunity to succeed. In particular, encouraging diverse employees to speak on public panels and develop their public profiles can help communicate to the community that all employees are valued and empowered.

**Individual strategies**

- **Encourage employees to diversify their networks and refer diverse candidates.** Encouraging employees to diversify their personal networks fosters a more diverse pool of potential referrals. Explicitly asking for referrals of people from underrepresented backgrounds can prompt employees to think about the great people they’ve worked with who would add diversity to the team.

- **Educate employees on how to talk about diversity and why it's important to the company.** Because candidates' first impressions about a company often arise through interactions with current employees, having a workforce that understands and is able to talk about diversity is important.
- **Empower employees to notice and call out unconscious bias.** Creating and maintaining a company culture that is attractive to a wide range of candidates is something all employees should take part in. Employees are stewards of the culture, and should be empowered to notice and call out subtle messages that could be deterring certain candidates (e.g., in job postings, at recruiting events).



### **Structural strategies**

- **Clearly articulate attributes for each role in advance.** Before beginning an interview process, the team responsible for the hiring decision should meet to outline and discuss all attributes that matter for that role, and determine who will be assessing for each attribute. Any attributes not determined to be important in this meeting should not be taken into account in the hiring decision. For example, if the prestige of a candidate's educational background is not determined to be an important attribute, where a candidate went to school should not be discussed in the decision-making process. To minimize cognitive load and reduce reliance on mental shortcuts, interviewers should be assigned to assess specific attributes during an interview, and they should be encouraged to provide roughly the same amount of feedback for all candidates.<sup>43,44</sup>
- **Define "culture fit."** Culture fit interviews, like all interviews, can be less biased when they are designed to assess for specific, predetermined factors that are relevant to the job (e.g., the candidate is collaborative, likes taking on challenges, is comfortable with a quickly changing environment).
- **Design interview questions to identify these attributes.** Each interview

question should be designed to assess for an attribute that is important for the role. This helps eliminate irrelevant and potentially biased questions. All candidates interviewing for a particular role should be asked the same questions.

- **Create a rubric to assess answers to interview questions.** Developing a rubric to define what great answers, decent answers, and poor answers look like for each question ensures that all candidates are held to the same standard. In addition to minimizing bias, this type of structured process has been shown to produce the most effective hiring decisions.<sup>45,46</sup>

### **Individual strategies**

- **Train employees on the impact of bias on hiring.** Training employees to recognize bias and understand its negative impact on interviewing and hiring can remind them to question their assumptions, slow down, and seek out additional information when making decisions.
- **Use prompts to keep bias top of mind.** While an effective unconscious bias training can spark engagement around bias minimization strategies, timely reminders reinforce the importance of minimizing bias in decision making and help employees remember to engage in efforts to reduce bias. Setting a calendar alert to remind interviewers of common biases before an interview, or including reminders about bias on candidate feedback forms, are examples of strategies that keep bias, and the importance of minimizing it, top of mind.



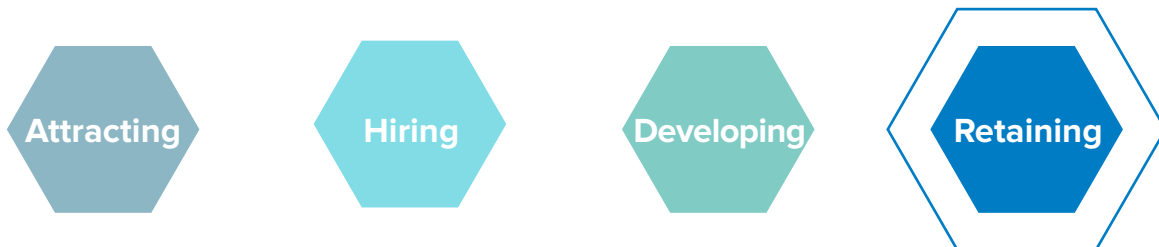
### **Structural strategies**

- **Add structure to formal processes like performance evaluations and promotions.** Adding structure to these processes produces fairer and more objective outcomes.<sup>47,48</sup> For example, developing job level expectations and rubrics for assessing performance minimizes bias; it also makes these processes easier and produces better outcomes overall.

- **Monitor for bias in performance and promotion processes.** Monitoring for bias allows a company to identify and address disparities quickly. For example, one Paradigm client observed that women were less likely to nominate themselves for promotion than men, resulting in a lower promotion rate. In response, the company redesigned the process to encourage managers to be involved in self-nomination decisions and reduce the hesitation that led female employees to under-self-promote.
- **Create career-development programs for employees from underrepresented backgrounds.** Because bias can lead to better mentoring and development opportunities for majority group members, programs aimed at developing employees from underrepresented backgrounds can help close that gap and ensure that all employees have access to the resources and opportunities they need to succeed.

*Individual strategies*

- **Remind employees about common biases specific to performance reviews and promotion.** Because employees play a key role in reviewing performance and making promotion decisions, it is important to educate employees about common biases, like those that lead us to hold different people to different standards.
- **Encourage employees to build networks and mentoring relationships with people from underrepresented backgrounds (both within and outside the organization).** This can help mitigate the extent to which informal relationships overly and unfairly benefit employees who are part of the majority group, while giving employees greater access to counter-stereotypical information (e.g., members of underrepresented groups in leadership roles).<sup>49</sup> A 2007 study found that individuals exposed to counter-stereotypical information are less likely to demonstrate bias in decision making.<sup>50</sup>



- **Survey employees.** Employee surveys offer a great opportunity to monitor culture and identify potential issues around employee perceptions of inclusiveness or fairness. Asking questions about employees' perceptions, and their intent to stay at the company, give companies an idea of where they stand and where they should seek to improve. Survey results are particularly instructive when broken down by demographic groups, which allows companies compare the experience of diverse and majority-group employees.
- **Monitor pay outcomes.** Regularly reviewing pay across the organization can help avoid bias and ensure equity. Reviewing compensation policies and monitoring for bias at each stage in compensation-setting is helpful for uncovering the source of inequities, if they do exist.
- **Ensure that benefits are attractive to all employees.** This can be as simple as having a feedback loop for employees. Many larger tech companies formally meet with members of diverse groups to ensure that internal policies are meeting their needs, a practice that led Google to lead the industry in transgender benefits starting in 2011.<sup>51</sup>

### ***Individual strategies***

- **Educate employees about how bias can affect company culture.** Increasing awareness of bias and arming employees with the skills and confidence to call out bias when they see it is important. Being thoughtful about the physical workspace—for example, removing posters that could be offensive to colleagues or planning events that are enjoyable for all team members—is another important step all employees can take to create a more inclusive environment.
- **Encourage employees to participate in diversity efforts.** Creating an inclusive culture depends on the behavior of individual employees. Engaging employees in company diversity efforts sends the message that building a diverse, inclusive organization is everyone's responsibility.

# TAKING THE FIRST STEP

For companies that want to begin to address unconscious bias, training can be an effective first step. An effective training should raise awareness of bias, create a common language around the topic, and articulate the importance of minimizing bias and encouraging inclusion. A common challenge with any training is translating that experience into meaningful and lasting change.<sup>52</sup> While well-designed trainings are a great first step, they are only a first step. Once employees understand the impact of bias, they will be more receptive to structural efforts to minimize it.

Managing unconscious bias yields more objective decision-making, and ultimately enables companies to cultivate a more diverse, inclusive, and effective workforce. There are many great reasons to care about diversity – diverse teams are smarter,<sup>53</sup> they make better decisions,<sup>54</sup> and they solve problems more effectively,<sup>55,56</sup> while enabling businesses to better understand the needs of a broader set of customers. Managing unconscious bias at both a structural and an individual level should be a core strategy for any company committed to becoming more diverse, inclusive organization.

\* Throughout this Paper we use many different terms to discuss diverse groups. We draw much of our language and terminology from the specific research on which we rely. We understand that identities are complex and that for many people our language may at some points feel inadequate. While we draw our language from social science research, we acknowledge its limitations, and we recognize the existence and importance of intersectional identities.

# REFERENCES

1. **Wilson, T. D. (2004).** *Strangers to ourselves.* Harvard University Press. Available at <https://books.google.com/books?id=W4yzugYjz08C>
2. **Chaiken, S., & Trope, Y. (Eds.). (1999).** *Dual-process theories in social psychology.* Guilford Press.
3. **Greenwald, A. G., & Banaji, M. R. (1995).** Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychological Review*, **102(1)**, 4-27. Available at <http://faculty.smu.edu/chrisl/courses/psyc5351/articles/implicitSOCALCOP.pdf>
4. **Cheryan, S., Plaut, V. C., Davies, P. G., & Steele, C. M. (2009).** Ambient belonging: how stereotypical cues impact gender participation in computer science. *Journal of Personality and Social Psychology*, **97(6)**, 1045-1060. Available at [http://depts.washington.edu/sibl/Publications/Cheryan,%20Plaut,%20Davies,%20&%20Steele%20\(2009\).pdf](http://depts.washington.edu/sibl/Publications/Cheryan,%20Plaut,%20Davies,%20&%20Steele%20(2009).pdf)
5. **Cohen, G. L., Steele, C. M., & Ross, L. D. (1999).** The mentor's dilemma: Providing critical feedback across the racial divide. *Personality and Social Psychology Bulletin*, **25(10)**, 1302-1318. Available at [http://www.foothill.edu/attach/1474/critical\\_feedback.pdf](http://www.foothill.edu/attach/1474/critical_feedback.pdf)
6. **Uhlmann, E. L., & Cohen, G. L. (2007).** "I think it, therefore it's true": Effects of self-perceived objectivity on hiring discrimination. *Organizational Behavior and Human Decision Processes*, **104(2)**, 207-223. Available at <http://www.socialjudgments.com/docs/Uhlmann%20and%20Cohen%202007.pdf>
7. **Goldin, C., & Rouse, C. (1997).** Orchestrating impartiality: The impact of "blind" auditions on female musicians. *National Bureau of Economic Research*, **715-741**. Available at <http://public.econ.duke.edu/~hf14/teaching/povertydisc/readings/goldin-rouse99.pdf>
8. **Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2012).** Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences*, **109(41)**, 16474-16479. Available at <http://www.pnas.org/content/109/41/16474.full.pdf+htm>
9. **Davison, H. K., & Burke, M. J. (2000).** Sex discrimination in simulated employment contexts: A meta-analytic investigation. *Journal of Vocational Behavior*, **56(2)**, 225-248. Available at [http://www.researchgate.net/profile/Michael\\_Burke5/publication/222587227\\_Sex\\_Discrimination\\_in\\_Simulated\\_Employment\\_Contexts\\_A\\_Meta-analytic\\_Investigation/links/54aec87f0cf29661a3d3acf5.pdf](http://www.researchgate.net/profile/Michael_Burke5/publication/222587227_Sex_Discrimination_in_Simulated_Employment_Contexts_A_Meta-analytic_Investigation/links/54aec87f0cf29661a3d3acf5.pdf)
10. **Cheryan, S., Meltzoff, A. N., & Kim, S. (2011).** Classrooms matter: The design of virtual classrooms influences gender disparities in computer science classes. *Computers & Education*, **57(2)**, 1825-1835. Available at [http://depts.washington.edu/sibl/Publications/Cheryan%20Meltzoff%20Kim%20Computers%20and%20Education%20\(2011\).pdf](http://depts.washington.edu/sibl/Publications/Cheryan%20Meltzoff%20Kim%20Computers%20and%20Education%20(2011).pdf)
11. **Gaucher, D., Friesen, J., & Kay, A. C. (2011).** Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology*, **101(1)**, 109-128. Available at <http://www.hw.ac.uk/documents/gendered-wording-in-job-ads.pdf>
12. **Ibid Cheryan et al., 2011.**
13. **McPherson, J. M., Popielarz, P. A., & Drobnic, S. (1992).** Social networks and organizational dynamics. *American Sociological Review*, **153-170**. Available at [http://hbanaszak.mjr.uw.edu.pl/TempTxt/GranovetterWeakTies/McPhersonEtAl\\_1992\\_SocialNetworksAndOrganizationalDynamics.pdf](http://hbanaszak.mjr.uw.edu.pl/TempTxt/GranovetterWeakTies/McPhersonEtAl_1992_SocialNetworksAndOrganizationalDynamics.pdf)
14. **Waldinger, R. & Bailey, T. (1991).** The continuing significance of race: Racial conflict and racial discrimination in construction. *Politics & Society*, **19(3)**, 291-323. Available at [http://www.sscnet.ucla.edu/soc/faculty/waldinger/pdf/The\\_A19.pdf](http://www.sscnet.ucla.edu/soc/faculty/waldinger/pdf/The_A19.pdf)
15. **Cheryan, S., & Plaut, V. C. (2010).** Explaining underrepresentation: A theory of precluded interest. *Sex Roles*, **63(7-8)**, 475-488. Available at [http://depts.washington.edu/sibl/Publications/Cheryan%20Plaut%20Sex%20Roles%20\(2010\).pdf](http://depts.washington.edu/sibl/Publications/Cheryan%20Plaut%20Sex%20Roles%20(2010).pdf)
16. **Cheryan, S., Siy, J. O., Vichayapai, M., Drury, B. J., & Kim, S. (2011).** Do female and male role models who embody STEM stereotypes hinder women's anticipated success in STEM?. *Social Psychological and Personality Science*, **2(6)**, 656-664.

Available at <http://depts.washington.edu/sibl/Publications/Cheryan%20Siy%20et%20al.%20Role%20Models%20SPPS%20in%20press.pdf>

17. **Bertrand, M. & Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *The American Economic Review*, 94(4), 991-1013.** Available at [http://www2.econ.iastate.edu/classes/econ521/orazem/Papers/bertrand\\_emily.pdf](http://www2.econ.iastate.edu/classes/econ521/orazem/Papers/bertrand_emily.pdf)
18. **Rivera, L. A. (2015). *Pedigree: How elite students get elite jobs*. Princeton University Press.** Available at <https://books.google.com/books?id=H9LyBQAAQBAJ>
19. **Ibid Bertrand & Mullainathan, 2004.**
20. **Ibid Moss-Racusin et al., 2012.**
21. **Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2(2), 175-220.** Available at <http://www.uvm.edu/~pdodds/teaching/courses/2009-08UVM-300/docs/others/1998/nickerson1998a.pdf>
22. **Dougherty, T. W., Turban, D. B., & Callender, J. C. (1994). Confirming first impressions in the employment interview: A field study of interviewer behavior. *Journal of Applied Psychology*, 79(5), 659-665.** Available at [https://business.missouri.edu/sites/default/files/publication/dougherty\\_turban\\_callender\\_1994\\_jap.pdf](https://business.missouri.edu/sites/default/files/publication/dougherty_turban_callender_1994_jap.pdf)
23. **Greenwald, A. G., & Pettigrew, T. F. (2014). With malice toward none and charity for some: Ingroup favoritism enables discrimination. *American Psychologist*, 69(7), 669-684.** Available at [http://faculty.washington.edu/agg//pdf/AGG&TFP.With%20malice%20toward%20none.AP\\_online.24Mar2014.pdf](http://faculty.washington.edu/agg//pdf/AGG&TFP.With%20malice%20toward%20none.AP_online.24Mar2014.pdf)
24. **Bodenhausen, G. V., & Lichtenstein, M. (1987). Social stereotypes and information-processing strategies: The impact of task complexity. *Journal of Personality and Social Psychology*, 52(5), 871-880.** Available at <http://psycnet.apa.org/?fa=main.doiLanding&doi=10.1037/0022-3514.52.5.871>
25. **Edelman Berland, 2015. Described in *Fast Company* (2015), Americans think geniuses are men: Inside our contradictory attitudes on brilliance.** Available at <http://www.fastcoexist.com/3042773/americans-think-geniuses-are-men-inside-our-contradictory-attitudes-on-brilliance>
26. **Leslie, S. J., Cimpian, A., Meyer, M., & Freeland, E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. *Science*, 347(6219), 262-265.** Available at <http://www.washingtonpost.com/news/speaking-of-science/wp/2015/01/15/gender-gap-women-welcome-in-hard-working-fields-but-genius-fields-are-male-dominated-study-finds/>
27. **Cohen, L. E., Broschak, J. P., & Haveman, H. A. (1998). And then there were more? The effect of organizational sex composition on the hiring and promotion of managers. *American Sociological Review*, 711-727.** Available at [http://www.researchgate.net/profile/Heather\\_Haveman/publication/245403785\\_And\\_Then\\_There\\_Were\\_More\\_The\\_Effects\\_of\\_Organizational\\_Sex\\_Composition\\_on\\_Hiring\\_and\\_Promotion/links/0a85e533f373186e28000000.pdf](http://www.researchgate.net/profile/Heather_Haveman/publication/245403785_And_Then_There_Were_More_The_Effects_of_Organizational_Sex_Composition_on_Hiring_and_Promotion/links/0a85e533f373186e28000000.pdf)
28. **Milkman, K. L., Akinola, M., & Chugh, D. (2015). What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology*.** Available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2063742](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2063742)
29. **Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109(3), 573-598.** Available at [http://web.pdx.edu/~mev/pdf/Eagley\\_Karau.pdf](http://web.pdx.edu/~mev/pdf/Eagley_Karau.pdf)
30. **Rosette, A. S., Leonardelli, G. J., & Phillips, K. W. (2008). The White standard: racial bias in leader categorization. *Journal of Applied Psychology*, 93(4), 758-777.** Available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.830&rep=rep1&type=pdf>
31. **Word, C. O., Zanna, M. P., & Cooper, J. (1974). The nonverbal mediation of self-fulfilling prophecies in interracial interaction. *Journal of Experimental Social Psychology*, 10(2), 109-120.** Available at [https://www.uni-muenster.de/imperia/md/content/psyifp/aeechterhoff/sommersemester2012/schluesselstudiendersozialpsychologiea/the\\_nonverbal\\_mediation\\_of.pdf](https://www.uni-muenster.de/imperia/md/content/psyifp/aeechterhoff/sommersemester2012/schluesselstudiendersozialpsychologiea/the_nonverbal_mediation_of.pdf)
32. **Heilman, M. E., Wallen, A. S., Fuchs, D., & Tamkins, M. M. (2004). Penalties for success: reactions to women who succeed at male gender-typed tasks. *Journal of Applied Psychology*, 89(3), 416-427.** Available at <http://search.committee.module.rutgers.edu/pdf/>



Heilman%20adn%20Wallen%202004.pdf

33. Heilman, M. E., & Chen, J. J. (2005). Same behavior, different consequences: reactions to men's and women's altruistic citizenship behavior. *Journal of Applied Psychology*, *90*(3), 431-441. Available at <http://www.uccs.edu/Documents/dcarpent/altruism.pdf>
34. Snyder, K. (October 2, 2014). Why women leave tech: It's the culture, not because 'math is hard'. *Fortune*. Available at <http://fortune.com/2014/10/02/women-leave-tech-culture/>
35. Hewlett, S. A., Buck Luce, C., Servon, L. J., Sherbin, L., Shiller, P., Sosnovich, E., & Sumber, K. (2008). The Athena factor: Reversing the brain drain in science, engineering, and technology. *Harvard Business Review*. Available at <http://documents.library.nsf.gov/edocs/HD6060-A84-2008-PDF-Athena-factor-Reversing-the-brain-drain-in-science,-engineering,-and-technology.pdf>
36. Lien, T. (February 22, 2015). Why are women leaving the tech industry in droves?. *The Los Angeles Times*. Available at <http://www.latimes.com/business/la-fi-women-tech-20150222-story.html>
37. Dobbin, F., & Kelly, E. L. (2007). How to stop harassment: Professional construction of legal compliance in organizations. *American Journal of Sociology*, *112*(4), 1203-1243. Available at <http://core.ac.uk/download/pdf/28931647.pdf>
38. Ibid Cheryan et al., 2009.
39. Goldin, C. (2014). A grand gender convergence: Its last chapter. *The American Economic Review*, *104*(4), 1091-1119. Available at [http://scholar.harvard.edu/files/goldin/files/goldin\\_aeapress\\_2014\\_1.pdf](http://scholar.harvard.edu/files/goldin/files/goldin_aeapress_2014_1.pdf)
40. Cain Miller, C. (April 24, 2014). For women in tech, pay gap is unusually small. *The New York Times*. Available at <http://www.nytimes.com/2014/04/25/upshot/flexibility-is-the-reason-for-a-smaller-pay-gap-in-tech-work.html>
41. Riley Bowers. (2014). Why women don't negotiate their job offers. *Harvard Business Review*. Available at <https://hbr.org/2014/06/why-women-dont-negotiate-their-job-offers/>
42. Hall, D. T., & Parker, V. A. (1993). The role of workplace flexibility in managing diversity. *Organizational Dynamics*, *22*(1), 5-18. Available at <http://psycnet.apa.org/psycinfo/1993-47427-001>
43. Bartholow, B. D., Dickter, C. L., & Sestir, M. A. (2006). Stereotype activation and control of race bias: cognitive control of inhibition and its impairment by alcohol. *Journal of Personality and Social Psychology*, *90*(2), 272-287. Available at <https://wesfiles.wesleyan.edu/courses/PSYC-317-jwellman/Week%209%20-%20Event-Related%20Potential/Bartholow%20et%20al.%2C%202006.pdf>
44. Macrae, C. N., Hewstone, M., & Griffiths, R. J. (1993). Processing load and memory for stereotype-based information. *European Journal of Social Psychology*, *23*(1), 77-87. Available at <http://psycnet.apa.org/psycinfo/1993-28258-001>
45. Bragger, J. D., Kutcher, E., Morgan, J., & Firth, P. (2002). The effects of the structured interview on reducing biases against pregnant job applicants. *Sex Roles*, *46*(7-8), 215-226. Available at <http://link.springer.com/article/10.1023/A:1019967231059>
46. Brecher, E., Bragger, J., & Kutcher, E. (2006). The structured interview: Reducing biases toward job applicants with physical disabilities. *Employee Responsibilities and Rights Journal*, *18*(3), 155-170. Available at <http://link.springer.com/article/10.1007%2Fs10672-006-9014-y#page-1>
47. Ibid Bragger et al., 2002.
48. Ibid Bretcher et al., 2006.
49. Drury, B. J., Siy, J. O., & Cheryan, S. (2011). When do female role models benefit women? The importance of differentiating recruitment from retention in STEM. *Psychological Inquiry*, *22*(4), 265-269. Available at <http://depts.washington.edu/sibl/Publications/Drury%20Siy%20Cheryan%20Psych%20Inquiry%202011.pdf>
50. Kawakami, K., Dovidio, J. F., van Kamp, S., (2007). The impact of counterstereotypic training and related correction processes on the application of stereotypes. *Group Processes & Intergroup Relations*, *10*, 139-156. Available at [http://www.yale.edu/intergroup/Kawakami\\_Dovidio\\_van\\_Kamp\\_2007.pdf](http://www.yale.edu/intergroup/Kawakami_Dovidio_van_Kamp_2007.pdf)

51. **Zillman, C. (July 16, 2015). Google, Airbnb air transgender ads during ESPYs. Time Magazine.** Available at <http://time.com/3960683/google-airbnb-transgender-espys/>
52. **Bezrukova, K., Jehn, K. A., & Spell, C. S. (2012). Reviewing diversity training: Where we have been and where we should go. Academy of Management Learning & Education, 11, 207-227.** Available at <http://webpages.scu.edu/ftp/bezrukova/bezrukova2012AMLE.pdf>
53. **Phillips, K. (Sept. 16, 2014). How diversity makes us smarter. Scientific American.** Available at <http://www.scientificamerican.com/article/how-diversity-makes-us-smarter/>
54. **Phillips, K. W., Liljenquist, K. A., & Neale, M. A. (2009). Is the pain worth the gain? The advantages and liabilities of agreeing with socially distinct newcomers. Personality and Social Psychology Bulletin, 35(3), 336-350.** Available at [http://insight.kellogg.northwestern.edu/article/better\\_decisions\\_through\\_diversity](http://insight.kellogg.northwestern.edu/article/better_decisions_through_diversity)
55. **Dreifus, C. (January 8, 2009). In professor's model, diversity = productivity. The New York Times.** Available at [http://www.nytimes.com/2008/01/08/science/08conv.html?\\_r=0](http://www.nytimes.com/2008/01/08/science/08conv.html?_r=0)
56. **Page, S. E. (2008). The difference: How the power of diversity creates better groups, firms, schools, and societies. Princeton University Press.** Available at <https://books.google.ca/books?hl=en&lr=&id=hJRu4O8q1xwC&oi>