# Combating Gender Bias in Modern Workplaces

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**Abstract**

Widely shared cultural beliefs about gender, as contained in stereotypes, continue to disadvantage women in workplace settings. Stereotypes include beliefs that women are less competent than men in many domains, which lead women to be held to higher performance standards, to face increased scrutiny and shifting criteria when being evaluated, to encounter likeability and motherhood penalties, and to lack access to powerful networks. As a result, women experience disadvantages at work, including biases in hiring, evaluation, and promotion decisions. Such biases often operate outside conscious awareness, in what some scholars term "implicit bias," "unconscious bias," or "second-generation bias" (Ibarra et al. in Harvard Bus Rev, 91:60–66, 2013). Organizations have engaged in bias-mitigation efforts, such as employee resource groups, unconscious bias training, and broad-scale diversity initiatives. However, such approaches to diversity can either fail or even backfire, exacerbating inequality. While some emerging research offers solutions for positive change, more research is needed to understand how organizations can decrease the effects of gender bias and achieve lasting equality in workplaces.

Despite many gains in gender equality, women continue to be underrepresented in high-status jobs and leadership positions. Women hold only 14% of executive officer positions, 17% of board seats, 18% of elected congressional offices, and 4.5% of Fortune 500 CEO positions (Catalyst, 2012; Sellers, 2012). In addition to holding fewer positions of power, women and men continue to be segregated into different types of jobs, with higher paying, higher status jobs in fields such as science and technology being more heavily occupied by men and lower paying, lower status jobs such as those involving caregiving being more commonly held by women (England, 2010).

One powerful cause of this continued disadvantage is gender bias. Gender bias occurs when widely held beliefs about gender affect how men and women are evaluated in achievement-oriented contexts such as school and work. As decades worth of research in the status characteristics theory and stereotyping traditions have shown, women are often believed to be less competent than men, particularly in male-dominated domains, leading women's accomplishments to be devalued relative to men's

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(e.g. see Berger, Fisek, Norman, & Zelditch, 1977; Correll & Ridgeway, 2003; Foschi, 1996, 2000; Heilman, 2001). Stereotypes about gender combine with stereotypes about race, class, sexuality, and other characteristics in ways that increase or decrease the amount of bias different types of women and men experience (Correll & Ridgeway, 2003; Galinsky, Hall, & Cuddy, 2013; Livingston, Shelby, & Washington, 2012; Richardson, Phillips, Rudman, & Glick, 2011; Ridgeway & Kricheli-Katz, 2013; Pedulla, 2014). However, substantially more research is needed to analyze how different status characteristics combine to create biased outcomes in the workplace.

This bias in how men and women's accomplishments are evaluated leads to disadvantages in the hiring, evaluation, advancement, and treatment of women in workplace settings (Clayman Institute, 2015). However, in present-day workplaces, such biases against women are often less overt, operating outside of conscious awareness, which makes them more difficult to detect. These biases are often referred to as either "implicit biases," "unconscious biases," or what Ibarra, Ely, and Kolb (2013) have termed "second-generation bias." According to the authors, "second-generation bias does not require an intent to exclude; nor does it necessarily produce direct, immediate harm to any individual. Rather, it creates a context—akin to 'something in the water'—in which women fail to thrive or reach their full potential" (6). Or, as Ridgeway (2011) explains, gender "frames" the interactions of men and women, much like a small weight on a scale, slightly elevating the evaluations of men and depressing the evaluations of women even when their objective performances are identical. While explicit and overt forms of bias certainly still occur in modern workplaces, unconscious biases present a critical problem and can be especially difficult to combat.

As we describe more fully below, gender stereotypes disadvantage women through multiple mechanisms. They lead gatekeepers, such as employers and teachers, to judge women by a harsher standard than men (Foschi, 2000), scrutinize their accomplishments (Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012), shift criteria to justify choosing men over women (Uhlmann & Cohen, 2005), prefer narrow leadership styles that favor men (Correll & Simard, 2016), and apply likeability and motherhood penalties to women (Correll, Benard, & Paik, 2007; Rudman & Glick, 2001). Stereotypes also affect women's access to networks that afford advancement and reward opportunities (Ibarra et al., 2013). Organizations have engaged in a number of efforts to reduce the effect of stereotypes on women's workplace outcomes (Dobbin, Schrage, & Kalev, 2015; Kalev, Dobbin, & Kelly, 2006). Ultimately, more research is needed designing and testing interventions that successfully mitigate or eliminate gender bias. Further, more research is needed to understand how the intersections of gender, race, class, and other characteristics affect the biases that different groups of women and men experience. In the following sections, we detail the mechanisms through which stereotypes lead to gender bias and discrimination, outline efforts of researchers and organizations to reduce the impact of such bias, and provide recommendations for future research directions.

## 1 Stereotypes and Unconscious Bias

Stereotypes about gender often include expectations that men are diffusely more competent at most things, as well as specific expectations that men are better at some particular tasks (e.g. technical tasks), while women are better at other tasks (e.g. nurturing tasks) (Conway, Pizzamiglio, & Mount, 1996; Correll & Ridgeway, 2003). People instantly and unconsciously categorize others by sex, and stereotypic expectations of behavior are attached to these unconscious assignments (Ito & Urland, 2003). For example, research using the Implicit Association Test (IAT) finds that individuals more quickly associate men than women with leadership attributes

(Eagly & Carli, 2007). Stereotypic expectations like these can lead to bias in how information is processed, ultimately influencing the evaluations, opportunities, and influence given to others (Ridgeway, 1993). Stereotypes function as cognitive shortcuts in decision-making, particularly when other information is scarce or the criteria are ambiguous (Correll, 2004; Reskin & McBrier, 2000; Ridgeway, 2011; Uhlmann & Cohen, 2005). In workplace settings, stereotypes can influence decisions made during recruitment, hiring, project assignment, day-to-day treatment, evaluations, promotions, compensation, and retention (Clayman Institute, 2015).

Researchers have demonstrated the mechanisms through which stereotypes contribute to bias, and the following sections describe some of these mechanisms.

## 1.1 Higher Bar and Increased Scrutiny

Stereotypes lead evaluators to scrutinize women's performance more harshly than men's and hold women to a higher standard (Biernat & Fuegan, 2001; Clayman Institute, 2015; Foschi, 1996, 2000; Heilman, 2001; Moss-Racusin et al., 2012; Steinpreis, Anders, & Ritzke, 1999). For example, in one experiment, psychology faculty from the United States were randomly assigned to evaluate one of two identical vitas for a person ostensibly applying for an assistant professor position, differentiated only by the gender of the candidate (Steinpreis et al., 1999). When asked if the candidate would be competitive for a tenure track position in their department, the faculty who evaluated the man's vita responded affirmatively 72% of the time, compared to just 44% for those evaluating the woman's vita. As is common in studies like these, men and women evaluators showed the same amount of bias. The authors also found that evaluators demonstrated extra scrutiny of the woman candidate's accomplishments, providing four times more doubt-raising statements such as, "I would need to see evidence that she had gotten these grants and publications on her own" and "It is impossible to make such a judgment without teaching evaluations" (page 523).

Similarly, a study of science faculty echoed these findings: stereotypes caused raters to judge women by a harsher standard than men and devalue or ignore their achievements (Moss-Racusin et al., 2012). In this study, science faculty from research-intensive universities rated the application materials of a student for a laboratory manager position. In one condition, the applicant was a man, and in the other condition, the applicant was a woman. Faculty participants rated the man as significantly more competent and hirable than the identical woman applicant, and they also offered a higher starting salary and more career mentoring to the man applicant. Gender of the faculty evaluators did not affect the level of gender bias they exhibited in their choices. Furthermore, the authors demonstrated that competence ratings mediated hiring choices, and preexisting subtle bias against women was associated with less support for the woman candidate but not the man candidate.

As a corollary to the increased scrutiny women face, men tend to encounter a leniency bias, where their skills and abilities are overrated relative to their performance (Steinpreis et al., 1999). Stereotypical gendered expectations negate the recognition of women's accomplishments, through the devaluing of their work and/or attribution of their success to something other than their own skill and ability (Heilman, 2001).

When gender stereotypes are made salient in a workplace or educational setting, they also lead women to hold themselves to a higher standard and experience stereotype threat, or the anxiety of expecting negative judgments (Correll, 2001; Fassiotto et al., 2016). In male-dominated fields, such as mathematics, even when men and women high school students receive equal objective scores on tests of mathematical ability, men tend to rate themselves higher in mathematical ability than women do (Correll, 2001). Furthermore, these self-assessments can shape future career aspirations and decisions (Correll, 2001). Shih, Pittinsky, and Ambady (1999) also demonstrate the contextual nature of stereotype threat. When Asian-American women were primed to think

about their ethnic identity, they performed better on a test of mathematical ability, but when they were primed to think about their gender identity, they performed worse, compared with a control group who had neither identity primed. Identities were primed by having participants complete different versions of a questionnaire about residential life at their university. When Asian stereotypes were salient, performance increased, whereas when gender stereotypes were salient, performance decreased. Thus depending on the identities salient in a given environment, stereotypes can affect performance differently.

### 1.2 Shifting Criteria

Stereotypes also shift the criteria evaluators use when judging individuals. For example, in an experiment where individuals evaluated a man and a woman candidate for a police chief position, evaluators consistently chose the man over the woman and shifted the criteria they used to justify their hiring decisions (Uhlmann & Cohen, 2005). In the first condition of the experiment, evaluators chose between two resumes that did not convey gender of the applicant, but varied on two dimensions: one applicant had more experience, and the other had more education. In this situation, raters generally preferred the candidate with more education. In other words, education was the more valued criterion when selecting a police chief.

In the second condition of the experiment, the researchers added names to the resumes to convey gender. When the man had more education and the woman had more experience, raters chose the man and justified their choice by noting that their preferred candidate (the man) had more education. However, in the third condition of the study, researchers gave the woman candidate more education and the man more experience. In this case, raters chose to hire the man more often than the woman even though the woman had more education. When asked to justify their decision, raters noted that the man had more experience. In other words, raters shifted the criteria for evaluation so that the man candidate appeared more qualified.

### 1.3 Preferring a Narrow Leadership Style

Psychologists have shown that stereotypes of leaders overlap with stereotypes of men, but not with stereotypes of women. Even though gender stereotypes vary cross-culturally, individuals in the US, UK, Germany, Japan, and China have been shown to "think manager, think male" (Schein, 2001), associating whatever traits that are associated with masculinity in a particular society with the traits necessary for effective leadership. As a result, decision-makers tend to prefer a narrow leadership style that is defined in terms of male stereotypes. This narrow definition leads men to be judged as more appropriate for leadership roles than women (Schein, 2001).

Research shows that effective leadership includes a wide spectrum of behaviors, involving both agentic and communal traits, and that men and women exhibit similar leadership behaviors (Eagly & Carli, 2007). Yet, in the US and other western societies, evaluators place more value on agentic leadership attributes that are more culturally associated with men, such as assertiveness, dominance, initiative, decisiveness, and independence (Clayman Institute, 2015; Correll & Simard, 2016; Eagly & Karau, 2002; Heilman, 2012; Rudman & Glick, 2001). Indeed, Kanter (1975) noted long ago that the image of top managers is the image of successful, forceful masculinity. Communal traits like collaboration and nurturing are more commonly associated with women, and such traits tend to be devalued in evaluations. By valuing agentic traits over communal ones, raters unconsciously advantage men, who are more likely to be seen as agentic than women.

### 1.4 Likeability Penalty

These narrow leadership expectations create a double-bind for women: women who conform to such agentic leadership expectations by behaving in dominant or assertive ways face a backlash effect (Rudman, 1998; Rudman & Glick, 2001). Displays of agentic behaviors violate stereotypic

expectations that women be nice, warm, and concerned about others. Yet women who display more feminine traits are judged as nice but less competent and capable (Rudman & Glick, 2001). Men do not face the same double-bind, as acting in agentic ways does not violate masculine stereotypes. Instead, "modest" men encounter backlash for violating expectations of masculine behavior (Moss-Racusin, Phelan, & Rudman, 2010).

In her ethnographic study of men and women litigators, Pierce (1996) found that men litigators who displayed forceful, assertive behaviors at work were admired. In contrast, when women litigators displayed the same agentic behaviors, they were vehemently disliked. If women litigators instead conformed to gendered expectations that they be nice, they were more liked by their colleagues and subordinates, but they were seen as less competent as litigators. In other words, gender stereotypes put women in a double-bind, making it hard to be seen as simultaneously competent and likeable. As Rudman (1998) has shown experimentally, men who display agentic, self-promoting behaviors are more likely than more modest men to be recommended for hire, since their agentic behavior leads them to be viewed as both competent and likable. Women who engage in the exact same agentic behaviors are no more likely to be hired than modest women. The former are viewed as less likable and the latter, less competent.

These stereotypes about femininity and masculinity also vary by race and class (Galinsky, Hall, & Cuddy, 2013; Ridgeway & Kricheli-Katz, 2013). In a theoretical paper, Ridgeway and Kricheli-Katz (2013) take an intersectional approach to understanding gender biases and review studies consistent with that approach. For example, black women may receive less backlash than white women when demonstrating agentic traits, whereas Asian woman may receive more backlash (Livingston et al., 2012; Richardson et al., 2011; Ridgeway & Kricheli-Katz, 2013). Because Black women are seen as less stereotypically feminine than white or Asian women, they face cultural expectations that may disadvantage them in feminized workplace contexts and advantage them in assertive or dominant job contexts (Galinsky et al., 2013; Ridgeway & Kricheli-Katz, 2013; Wilkins, Chan, & Kaiser, 2011). In contrast, Asian men may face a disadvantage when being considered for leadership positions (Chen, 1999). Further, in an audit study, Rivera and Tilcsik (2016) found that higher-class men were more likely to be called back for a job than were otherwise equal lower-class men, higher-class women, and lower-class women. In a subsequent survey experiment and interviews with lawyers, they found that while evaluators preferred higher-class men due to their high level of perceived "fit" with the company culture, higher-class women were viewed as less committed to work, and this commitment penalty offset any class-based advantages these applicants would otherwise receive. Each of the above examples illustrates how gender intersects with other status characteristics (race, ethnicity, social class) to create novel expectations for different groups of women—expectations that lead to differences in how different groups of women are evaluated in the workplace. More research is needed to more fully understand how different status characteristics and group identities intersect to influence the amount and type of biases women and men experience.

## 1.5 Motherhood Penalty

Women who are mothers face additional biases in the workplace. Mothers face a persistent penalty in wages and other organizational rewards compared to fathers and people without children. Mothers earn about 5 percent less per child compared to other workers controlling for demographic, human capital, and occupational variables (Budig & England, 2001). Correll and colleagues (Correll et al., 2007; Benard & Correll, 2010) show that stereotypes about mothers lead to a bias against mothers, which results in fewer organizational rewards. More specifically, stereotypes about mothers include beliefs that mothers are less committed to work than non-mothers. As a result, decision-makers rate

them as less deserving of hire in both lab experiments and audit studies (Correll et al., 2007). In contrast, fathers are not penalized for being a father and sometimes receive higher evaluations than childless men (Correll et al., 2007). If mothers attempt to overcome these stereotypes by making their commitment to work highly visible by working longer hours or being willing to drop other responsibilities whenever a work need arises, they are viewed as selfish and unlikable, which leads decision-makers to rate them as less hirable and promotable (Benard & Correll, 2010). A study based on interviews with female graduate students in four elite science and engineering programs finds evidence that even woman without children can face negative evaluations on the basis that they may become mothers in the future (Thébaud & Taylor, 2016).

As research on the likeability penalty and the motherhood penalty makes clear, women cannot overcome biases simply by engaging in behavior stereotypically associated with men and masculinity, since such behaviors result in a backlash. Instead, change must occur at the organizational level, as we discuss below.

### 1.6 Lack of Access to Networks

Due to inequalities in the organizational roles and daily interactions of men and women, women are often excluded from professional networking relationships considered essential for success (Ibarra, 1997; Ibarra, Carter, & Silva, 2010, Ibarra et al., 2013; Smith-Lovin & McPherson, 1993). Men are more likely than women to possess powerful mentors, and men's networks provide more benefits than women's do (Ibarra et al., 2013). For example, men's networks connect them to important developmental opportunities and sponsorship for promotion (Ibarra et al., 2013). In contrast, women tend to have fewer sponsors willing to advocate for them (Ibarra et al., 2010). Women's weaker network connections act as an important barrier to advancement and influence.

## 2 Organizational Efforts

Organizations have engaged in numerous efforts to remove gender bias and improve diversity outcomes. Some of the earliest efforts featured the creation of employee resource groups, or volunteer groups based around a common identity, such as gender or race (Thomas & Creary, 2009). Such groups were intended to empower people who were otherwise marginalized in the workplace. Employee resource groups often host trainings, networking events, and other developmental activities intended to benefit the members. The underlying assumption guiding these efforts is that members of these groups lack the skills, social support, or the network connections necessary to advance in the workplace as currently organized.

Eventually, organizations began to discover that employee resource groups, while helpful, were not sufficient. These groups helped women and underrepresented minorities conform to and succeed within existing organizational structures, but existing structures often contain biases built within them (Acker, 1990; Williams, Muller, & Kilanski, 2010). To reduce bias and resulting inequalities, the underlying structural issues also need to be addressed. In addition, employee resource groups tend to emphasize "bonding capital," or within-group solidarity, rather than "bridging capital," or strengthening ties across groups (Putnam, 2000). Without bridging capital, employee resource groups can remain isolated from the rest of the organization (Yoshino & Smith, 2013).

In response to increasing awareness about the role of gender stereotypes in limiting the entry and advancement of women, many companies have begun offering unconscious bias trainings (UBT). Some companies hire consultants or academics to offer these trainings, and others, such as Facebook and Google, have created their own training videos (see videos available on the companies' websites). Such trainings are intended to educate managers and other high-level

employees about their own biases so they can be more vigilant when hiring, evaluating, promoting, and firing their employees. The hope is that, as a result of the training, managers will engage in conscious efforts to block biases from affecting their evaluations of men and women at the point of hire, promotion, and at other points where employees are evaluated.

There is some evidence that, when done right, UBT produces positive outcomes, at least in the short term. At the Stanford School of Medicine, for example, department heads received unconscious bias training and then developed and delivered their own version of the training to faculty in their departments. This training reduced implicit biases about women in science (Fassioto et al., 2016). Since implicit biases are often harder to change than explicit biases, this result is encouraging. However, what is less clear is whether one-shot, stand-alone trainings can produce sustainable change or whether the effect will simply wear off. Devine, Forscher, Austin, and Cox (2012) argue that such trainings need to be coupled with a multifaceted intervention and show that, with a sample of college students, a multifaceted bias reduction intervention can produce longer-term change.

However, recent experimental research by Duguid and Thomas-Hunt (2015) finds that unconscious bias training can even exacerbate inequality by normalizing bias. At a more macro level, Kalev, Dobbin, and Kelly (2006) find that without engagement and buy-in from managers, diversity initiatives fail to achieve their intended outcomes. High levels of resistance to diversity initiatives have been observed among those in power. Diversity messages can feel threatening to majority group members, and feelings of threat can lead to resistance. For example, a recent experiment found that white men college students who were randomly assigned to perform a mock interview for a company that they learned was pro-diversity performed worse on the mock interview and experienced more cardiovascular threat compared with white men assigned to interview with a company that made no mention of its diversity policies (Dover, Major, and Kaiser, 2016). Martin, Phillips, and Sasaki (2016) similarly find that an emphasis on the benefits of gender differences (a common approach of diversity initiatives) increases men's stereotyping and disrespectful treatment of women.

As the research reviewed above suggests, organizational interventions that are designed to help individual women navigate their careers within existing organizational structures or to help decision-makers be less biased via training are likely necessary but not sufficient for producing sustainable change. Sustainable change will require changing organizations themselves.

## 3 Creating Sustainable Change

An extensive body of research documents how gender bias operates, and some emerging research demonstrates how conventional approaches to eliminating bias can be short-lived or even backfire. However, we have fewer examples where researchers and/or organizations have intervened successfully in the bias process to produce long-term change.

One example is a study by Goldin and Rouse (2000) analyzing whether the representation of women hired to top orchestras in the U.S. increased when they began putting up a screen during auditions so that judges could not see the musician who was auditioning. Professional orchestras have historically been male-dominated, with men holding approximately 88% of the positions in the top orchestras. Rather than auditioning in front of a team of evaluators, starting in the 1970s and 1980s, orchestras gradually began switching to blind auditions. Applicants began to audition behind a screen, which prevented evaluators from seeing the musicians. This natural experiment allowed researchers to assess whether women are more likely to be hired when their gender is unknown. The researchers found that 25% more women were hired after orchestras switched to gender-blind auditions. When the raters could not see the musician, gender bias in hiring decisions decreased.

While this study is encouraging, it is hardly scalable to every hiring or advancement decision

made in organizations. After all, employees cannot be expected to work exclusively behind screens. However, some technology companies are experimenting with blind auditions at the first stage of their hiring process as a replacement for resume screening. Companies create a problem or set of problems for applicants to solve, and the solutions are sent to hiring managers with no information on the gender, race, or other characteristics of the applicant. One company that administers these blind auditions, called GapJumpers, reports that 60% of the top performers on the technology screening tests are women. (See the company's website for more information). More research is needed to understand whether and how new technologies for screening and evaluating employees can remove biases.

The research reviewed above suggests other targets for organizational change. These include making criteria for evaluation explicit and clear before evaluating individuals, holding decision-makers accountable for their decisions, broadening the definition of success, and reducing the salience of gender in workplaces.

One successful intervention involved changing the definition of success in the local environment to increase the representation of women in male-dominated fields, particularly in STEM (science, technology, engineering, and mathematics) fields. Carnegie Mellon University increased the percentage of women undergraduate computer science majors from 7 to 42% in just 5 years by broadening the image of a successful computer science student, changing the entry requirements, and emphasizing the real-world impacts of the field (Margolis & Fisher, 2002). Faculty members were encouraged to challenge the pervasive image of computer scientists as narrowly obsessed with computing by highlighting the field's real-world value and connections to other disciplines. Instead of encouraging women to fit existing stereotypes about computer science, the university changed the cultural image of computing.

Similarly, Cheryan, Plaut, Davies, and Steele (2009) found that simply changing the objects in a computer science classroom increased women's interest in the field. By displaying gender-neutral objects, rather than objects associated with geeky masculinity, the salience of gender was decreased, and women's interest in persisting in computer science increased. Wynn and Correll (2018) also find that when technology companies use more gender-neutral approaches in their recruiting sessions on college campuses, women demonstrate more engagement and ask more questions than when companies use masculine behavior and images. In this way, organizations can change the images in the local environment to reduce the salience of gender and be more welcoming to women.

Scholars also find that organizations can intervene during the decision-making process itself by making evaluative criteria more explicit. When criteria are explicit, individuals are less likely to rely on stereotypes as a cognitive shortcut in their decision-making. For example, in Uhlmann and Cohen's (2005) study of police chief hiring, discussed earlier, the researchers were able to reduce the effect of gender bias by asking raters to commit to the decision criteria *before* evaluating candidates. When they stated that education was their most important criterion up-front, raters consistently chose the candidate with more education whether it was a man or woman. This study suggests that establishing clear criteria before evaluation can reduce the impact of gender bias. Other studies with non-experimental data also find that more formalized procedures to reduce the influence of stereotypes associated with race, gender, and other characteristics generally improve diversity outcomes, such as the percentage of women in management (Bielby, 2000; Dobbin et al., 2015; Reskin, 2000).

In addition, providing raters with more information about candidates can also outweigh biases. For example, in the study by Steinpreis et al. (1999), discussed earlier, gender biases emerged when hiring for an entry-level assistant professor position but not for a more senior tenured faculty position. When raters have more information about candidates, they are less likely to rely on stereotypes as a shortcut. Therefore, organizations can help combat gender bias by increasing the amount of information available to raters and

establishing clear criteria for evaluation in advance of decision-making.

In addition to lab studies, research partnering with actual companies can vastly increase our understanding of how to mitigate gender bias in real-world settings. For example, by partnering with a large private company, Castilla (2015) found that increasing accountability and transparency in performance evaluations reduced "performance reward bias." Prior to the intervention, men received higher rewards than women even when they had equal performance evaluation scores. The intervention involved appointing a performance-reward committee to monitor reward decisions, training all senior managers how to follow the performance-reward process and use the criteria when making pay decisions, and providing all senior managers and high-level leaders with information about the pay decisions made concerning employees in their work units. By increasing accountability and transparency in the evaluation process, the organization reduced the gender pay gap. While this study was conducted in one organization—a private-sector service company with over 20,000 employees—it has encouraging implications for reducing gender bias in the workplace.

In these ways, researchers have begun to develop and test interventions that address the problem of biases in the workplace. However, more work is needed to help develop robust solutions that combat bias in a variety of contexts. Social scientists have well-charted the causes of bias, but we have more work to do to understand how to eradicate bias and improve diversity outcomes.

## 4 Future Research Directions

What is needed are studies that develop and evaluate solutions across the life course (e.g. engaging girls and young women, job recruitment, hiring, treatment in the workplace, evaluation, promotion, and retention), in multiple industries and organizational types. How can interventions avoid many of the pitfalls identified in previous research? Future research must also examine how interventions impact different groups of women and men and apply an intersectional lens to combating gender bias. While interventions may help certain groups of women, they may also exclude other groups on the basis of race, socioeconomic status, gender identity, disability, age, and other dimensions of inequality. For example, emerging research notes that white women and racial minorities tend to respond differently to diversity approaches (Apfelbaum, Stephens, & Reagans, 2016; Martin et al., 2016). Apfelbaum et al. (2016) find that emphasizing differences and awareness of bias reduces attrition among white women, while emphasizing equality and fairness reduces attrition among Black individuals. Emphasizing both approaches risks diluting the message and erasing any positive effects on attrition. At the same time, Martin et al. (2016) warn that emphasizing differences can increase men's stereotyping and disrespectful treatment of women. Therefore, how should diversity initiatives proceed, given the differential ways the same approach can impact various groups? More research is needed to explore this question.

Scholars of diversity can look to the work-life literature for examples of the kind of research needed. Research conducted within workplaces, like studies by Kelly, Ammons, Chermack, and Moen (2010), Kelly, Moen, and Tranby (2011) and Moen, Kelly, Fan, Lee, Almeida, Kossek, and Buxton, (2016) provide insight into how interventions can practically improve inequality. By designing and testing a work-life initiative in an organization, the researchers established one way of improving work-life conflict while benefitting the organization and its workers. As a result of the initiative, work-life conflict and turnover decreased, employee satisfaction increased, and health outcomes improved. The initiative, Results Only Work Environment (ROWE), aimed to shift the organizational culture so flexibility became the norm rather than the exception. Employees attended interactive sessions designed to teach them a different view of flexibility. The initiative was not billed as a gender initiative, but as one that would benefit all employees by giving them more control over their schedule. And indeed the initiative

benefited all employees, since all employees had been experiencing some work-family conflict. But since women often experience more work-life conflict due to greater family responsibilities, the implications are especially important for women. Diversity scholars could use similar methods to develop and evaluate approaches to decreasing the effects of bias in organizations.

For example, researchers at the Clayman Institute are currently conducting research intervening in companies' performance evaluation process (Correll, 2017). The intervention begins with unconscious bias training to provide a framework for creating change. Then, working with managers involved in evaluating employees' performance, researchers and managers develop a clear list of measurable criteria for assessing performance. By establishing clear criteria ahead of time and involving managers in the process, companies may be able to reduce bias in evaluations leading to promotions, raises, and other organizational rewards.

One interesting debate among those working on organizational changes to improve gender outcomes is whether to label the change effort as a gender intervention (as the Clayman Institute is doing) or not (as in Kelly and Moen's research). The advantage of the latter is that it likely increases buy-in from men managers and decreases their resistance. The advantage of making gender explicit is that doing so potentially provides employees with a framework for ensuring that gender biases do not get imported into the new programs and procedures being developed. Research is needed to assess which approach is ultimately most effective.

By partnering with organizations to develop and evaluate effective interventions, researchers can not only identify the sources of inequality—they can also help organizations successfully intervene in reducing bias.

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