



## Promoting concern about gender bias with evidence-based confrontation



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### ABSTRACT

Whereas confrontations of racial bias prompt negative self-directed affect (e.g., guilt) and reduce bias, confrontations of gender bias are typically disregarded. We examined the effectiveness of an *evidence-based confrontation* in which participants received concrete evidence of their discriminatory gender-biased evaluations. Participants were confronted with evidence that they evaluated a female applicant for a lab manager position negatively, which would have resulted in her not being hired, and that their evaluations were more negative than an otherwise identical applicant who was male. Experiment 1 found that this confrontation activated greater guilt and, in turn, concern about expressing and regulating gender bias in the future (hereafter “future concern”), relative to participants who were confronted about gender bias but without concrete evidence of bias. Experiment 2 showed that confrontation with concrete evidence of gender bias activated guilt and future concern whether the bias was framed as viewing women as not belonging in science or as unintelligent. Experiment 3 showed that the positive effects of confronting gender bias with evidence were just as strong as a parallel confrontation of racial bias. Experiment 4 showed that the positive effects also held in a non-STEM domain, and that these effects were not dependent on the situational salience of norms opposing gender bias. Thus, a robust strategy for effective confrontation of gender bias was established. However, we discuss difficulties with implementing this strategy in many real world situations, along with implications for how best to curb gender bias through confrontation.

Unequal gender representation is commonplace across many science, technology, engineering, and mathematics (STEM) fields (National Science Foundation, 2017). Although many factors contribute to this disparity (Ceci & Williams, 2011), biases against women likely play a significant role (Knobloch-Westerwick, Glynn, & Huges, 2013; Reuben, Sapienza, & Zingales, 2014). For instance, gender bias was recently demonstrated experimentally in Moss-Racusin, Dovidio, Brescoll, Graham, and Handelsman's (2012) research. Male and female science professors at research-intensive universities were asked to evaluate the application of an undergraduate student seeking a science lab manager position. All faculty participants received an identical application, with the applicant specified as either male or female. Results revealed robust gender bias, in that the female applicant was rated as less competent and less desirable to mentor than the male applicant. She was also conferred a significantly lower starting salary and ultimately rated as less hireable. These results were framed in terms of the subtle operation of gender bias, and the authors suggested that many of the faculty likely were unaware that gender had influenced their evaluations. These findings are disturbing and demonstrate the profound impact gender

bias has on women's progress in STEM.

This research also begs the questions: What if people were made aware of the fact that they disadvantaged female applicants in this way? Would they become more concerned about their propensity for gender bias and monitor future behavior to guard against it? Within social psychology, these questions fall squarely into the study of people's reactions to being confronted about their intergroup biases. Confrontation can be a powerful tool for raising people's awareness of their proneness to subtle but consequential biases, thereby highlighting discrepancies between personal values and actual behaviors (Czopp, Monteith, & Mark, 2006; Rokeach, 1973). Confrontation also communicates that bias is unacceptable, which establishes situational norms opposing bias (Paluck, 2011). Thus, when people are confronted about things they have said or done that are biased, they experience self-reflective negative affect (e.g., disappointed with the self and guilt), become more concerned about their biases, and reduce subsequent biased responding (Czopp et al., 2006; Czopp & Monteith, 2003; Gulker, Mark, & Monteith, 2013). However, research to date suggests that confrontations of gender bias are not met with the same reactions as

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confrontations of racial bias; instead, they are often ignored (Czopp & Monteith, 2003; Gulker et al., 2013; Simon & O'Brien, 2015; Woodzicka, Mallett, Hendricks, and Pruitt, 2015). This is likely because norms against sexism are relatively weak (Fiske & Stevens, 1993), and people believe that their positive regard for women (the “women are wonderful” effect, see Eagly & Mladinic, 1989) protects against any possibility that they behave in sexist ways.

We sought to determine whether a new confrontation strategy could improve peoples' reactions to being confronted about their own gender bias. Importantly, as explained in greater detail below, past gender bias confrontation studies did not provide concrete evidence of participants' gender bias, and thus allowed people to dismiss or discount the confrontation. In contrast, we used an *evidence-based* gender bias confrontation strategy to investigate whether presenting people with concrete evidence that they discriminated against a female lab manager applicant would prompt concern and intentions to guard against future gender bias. Each experiment also examined potential moderating and mediating variables. Altogether, this research advances current understanding about the potential and limitations of evidence-based gender confrontation for curbing gender bias.

### 1. Raising awareness of STEM gender bias with scientific evidence

Educating people about the scientific evidence of gender bias is one potential method of raising awareness of the bias and inspiring personal change. Unfortunately, simply reporting experimental evidence of gender bias does not appear to be sufficient to eradicate it, likely because people are often motivated to justify the existing social system (Jost & Banaji, 1994) and rationalize or minimize evidence that contradicts their existing worldview (Darley & Gross, 1983). For example, researchers (Moss-Racusin, Molenda, & Cramer, 2015) content analyzed 831 comments written by members of the public in response to three popular press articles that summarized the original Moss-Racusin et al. (2012) manuscript results. The findings indicated that, after removing from consideration the general, frequent acknowledgment that sexism does exist, negative comments (e.g., denying the evidence, justifying gender bias, criticizing the researchers) were more than twice as common (423) as positive comments (194). Furthermore, men—who presumably are more motivated than women to maintain power and the status quo (e.g., Jost & Banaji, 1994; Rudman, Moss-Racusin, Phelan, & Nauts, 2012)—were more likely to write negative comments than women (see also Handley, Brown, Moss-Racusin, & Smith, 2015).

These findings suggest that educating people about scientific evidence of gender bias, although potentially an important element of diversity interventions (e.g., Carnes et al., 2015; Moss-Racusin et al., 2014), is no silver bullet. If people discount, deny or disregard the scientific evidence, they will be unlikely to apply the findings to themselves. Furthermore, people generally think that others are more prone to cognitive and motivational biases than they are (Pronin, Gilovich, & Ross, 2004), so even those who accept the evidence may not become personally motivated to root out and self-regulate their own subtle gender biases. What may be needed to raise concerns about gender bias is an effective strategy for confronting people about their own biases.

### 2. Confronting people about their STEM gender bias

When people recognize that they are prone to responding in biased ways that conflict with their egalitarian personal standards, they often experience self-directed negative affect, such as guilt and disappointment with the self (e.g., Burns, Monteith, & Parker, 2017; Monteith, Devine, & Zuwerink, 1993; Monteith & Voils, 1998). This particular type of affect leads to reparative action (e.g., Tagney, Miller, Flicker, and Barlow, 1996). In the context of prejudice, negative self-directed affect activates a variety of self-regulatory processes that facilitate the monitoring, control and reduction of bias in the future (e.g., Amodio,

Devine, & Harmon-Jones, 2007; Monteith, 1993; Monteith, Ashburn-Nardo, Voils, & Czopp, 2002). When another person identifies one's biases through confrontation, do similar consequences occur? Past research in which non-Black participants were confronted about responding in biased ways toward Blacks has supported the efficacy of confrontation for curbing racial bias (Czopp & Monteith, 2003; Gulker et al., 2013) as mediated through negative self-directed affect (Czopp et al., 2006).

However, confrontation may not work as effectively for gender bias. For example, whereas participants who imagined engaging in race-biased behaviors felt negative self-directed affect, participants who imagined engaging in gender-biased behaviors felt amused (Czopp & Monteith, 2003). In other research (Gulker et al., 2013), participants read a persuasive article that addressed the prevalence and consequences of implicit bias either toward women or Blacks, and that called on people to work toward personal changes. Participants in the gender bias condition appeared to trivialize the confrontation message and were unpersuaded, compared to participants confronted in the race bias condition. Still other research has shown that racist jokes and statements were rated as more offensive and confrontation-worthy than sexist jokes and statements, and confronters of racism were liked more than confronters of sexism (Woodzicka, Mallett, Hendricks, and Pruitt, 2015). Finally, men initially confronted about a sexist comment expressed just as much gender prejudice later as men who were not initially confronted (Simon & O'Brien, 2015; but see Mallet & Wagner, 2011).

What underlies the marked ineffectiveness of gender bias confrontation? In general, beliefs about women are positive (Eagly, Mladinic, & Otto, 1991); indeed, the so-called “women are wonderful” effect reflects the fact that people often report liking women more than men (Eagly and Mladinic, 1989). Likely because of their role as caregivers, women are generally viewed as warm and likable (Fiske, Cuddy, Glick, & Xu, 2002), and many people hold benevolent (but nonetheless patronizing and restrictive) attitudes toward women (Glick & Fiske, 1996). Furthermore, Fiske and Stevens (1993) argued that the close, communal relationships between men and women, coupled with extensive contact with women regardless of one's own gender, gives prejudice toward women a unique character. At the societal level, these views of women can contribute to weak norms opposing sexism (Fiske & Stevens, 1993). At the individual level, people who believe they hold very positive attitudes about women may not believe they can be prone to sexism. These arguments are consistent with the finding that internal and external motivations to control one's bias are weaker for sexism than for racism (Klonis, Plant, & Devine, 2005, Study 2; see also Cowan & Hodge, 1996; Rodin, Price, Bryson, & Sanchez, 1990).

Because people may doubt that they could be sexist or that sexism is a societal problem, the effectiveness of confrontation of gender bias may hinge on presenting people with clear, conclusive evidence of their own gender bias and its negative consequences. Presenting people with direct evidence that they exhibited bias with discriminatory outcomes may be effective at prompting self-reflective affect and self-regulatory processes. Importantly, this type of *evidence-based* confrontation has not been used in past gender confrontation research, which gave people greater latitude to trivialize and dismiss the confrontations.

### 3. The present research

We utilized Moss-Racusin et al.'s (2012) pattern of results to investigate how people respond to being confronted with evidence of their own gender bias. Specifically, we examined participants' reactions to the news that they had provided gender biased evaluations of a female applicant for a lab manager position, relative to participants who were not confronted for gender-biased evaluations.

All four experiments examined whether an evidence-based confrontation about gender bias increased negative self-directed affect and, in turn, concern about gender bias and intentions to monitor one's

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