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Feedback Receptivity From People in Power Reduces Gender, Sexual Orientation, and Disability Bias Concerns

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Seven preregistered studies (total $N = 2{,}443$) demonstrate that feedback receptivity of people in power, or their openness to feedback, reduces bias concerns among members of marginalized groups (marginalized group meta-analytic $d_z = 0.53$; nonmarginalized group meta-analytic $d_z = 0.10$). Study 1 finds that the extent to which engineering students and staff perceive their faculty advisors as receptive to feedback predicts women's lower concerns about facing gender bias and that this effect is weaker for men. Studies 2–4 show that reading about a person in power who is high in feedback receptivity (vs. no information about feedback receptivity) reduces women's gender bias concerns in male-dominated environments; lesbian, gay, and bisexual people's sexual orientation bias concerns at work; and disabled students' ability bias concerns in the classroom. Studies 3–6 find that perceptions of relational leadership, or perceptions that the person in power is caring, trustworthy, and uses power for good, explain why feedback receptivity reduces bias concerns. Study 7 introduces an important caveat: When people in power ask for but then explicitly ignore feedback, bias concerns are higher than when they do not solicit feedback. Feedback receptivity may not appear tied to social identity but may be a helpful tool for making academic and professional cultures more equitable.

Statement of Limitations

Although feedback receptivity is likely to be broadly beneficial, it may operate differently along axes of identity we did not investigate (e.g., race) and still needs to be investigated with more attention to intersectional identities. Furthermore, we demonstrated feedback receptivity's effects both in a real-world setting and through artificial experimental manipulations, but we did not experimentally test the effects of a feedback receptivity intervention in a field setting. We also do not know whether feedback receptivity messages produce long-lasting effects, the extent to which such messages may need to be repeated, and whether asking for feedback from subordinates varies in effectiveness and appropriateness across cultures.

Keywords: feedback receptivity, bias, identity safety, power, relational leadership

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Preregistrations, including power analyses for all studies, data, analysis code, and study materials are available at https://osf.io/yzkq8/?view_only=a9ddc0b52b9a4dbb89f43feee1ab2d12.

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Many teachers, leaders, and other people in power want to foster equitable cultures but are not sure how or where to start. The current work examines whether feedback receptivity from those in power—the act of conveying openness to feedback from subordinates—reduces bias concerns among people who belong to marginalized groups. We examine this phenomenon among women in male-dominated environments (e.g., engineers), LGB+ people, and disabled students.[1] This work provides evidence that feedback receptivity can reduce bias concerns in research labs, classrooms, and work teams across multiple axes of identity and further examines mechanisms and pitfalls of this potential equity strategy.

Feedback Receptivity

Social psychology research on feedback has largely focused on how feedback from those in power influences their subordinates' outcomes. For example, White teachers sometimes withhold critical feedback from Black but not White students, which can deprive Black students of equitable opportunities to improve (Harber, 1998, 2023; see also Crosby & Monin, 2007). Those in power can also influence outcomes through the content of their feedback. Feedback that is agentic (i.e., offering questions and suggestions instead of correction; Griffiths et al., 2023), future-focused (i.e., emphasizing what will make someone most effective going forward; Gnepp et al., 2020), and "wise" (i.e., accompanied by affirmations of capability; Cohen et al., 1999; Yeager et al., 2014) typically improves performance compared to feedback that lacks these qualities. General positive feedback (i.e., "Good job!") can also improve performance (Park et al., 2018, 2023), though such feedback can undermine subsequent motivation if interpreted as conveying that the goal is complete or nearly complete (Fishbach et al., 2010; Louro et al., 2007). Wise feedback can be particularly helpful in reducing racial gaps in bias perceptions and task motivation (Cohen et al., 1999; Yeager et al., 2014), and positive feedback can reduce gender gaps in math outcomes (Park et al., 2018). Social psychological findings have established how those in power can influence outcomes based on the type of feedback they provide.

In the current work, we examine what happens when feedback flows in the opposite direction, with those in power signaling that they are open to receiving feedback. Qualitative and correlational research in education and management has found benefits of feedback receptivity for students and employees. For example, interviews with students found that the opportunity to give feedback to teachers increases students' perceived agency, belonging, motivation, and engagement (Mitra, 2004). Teachers who give mid-course evaluations see improvements in students' final evaluations of their teaching (McGowan & Osguthorpe, 2011). In business, giving feedback to leaders predicts higher work-group task performance, especially when trust is high (Mackenzie et al., 2011), and predicts positive supervisor–employee relationships (Morrison, 2014). Feedback receptivity may be an effective general strategy for building relationships and improving performance.

Feedback receptivity may act as an identity safety cue (i.e., an indication that one's identity is valued; Davies et al., 2005) and could therefore be particularly impactful for members of marginalized groups. In education, some have theorized that feedback receptivity might help amplify the voices of those who are often relegated to the margins (Mansfield, 2014; Shields, 2004). We propose that soliciting feedback may be an equity tool that reduces disparities, extending past work on the protective power of identity safety cues (e.g., Davies et al., 2005; Emerson & Murphy, 2015; Hall et al., 2018). We hypothesize that feedback receptivity may lower members of marginalized groups' concerns about facing bias. While asking for feedback (e.g., "How can we improve the class environment?") appears identity-neutral, it may have powerful benefits for members of marginalized groups.

Bias Concerns

We define bias concerns as worries about being negatively stereotyped, devalued, and discriminated against due to one's social identity (Cheryan et al., 2020; Steele et al., 2002). These three components of bias concerns are sometimes studied separately, but they may also operate together at times. These components fit under the umbrella of social identity threats (Steele et al., 2002), though there are other social identity threats that do not constitute bias concerns (e.g., distinctiveness threat, morality threat; Branscombe et al., 1999).

The current work examines the bias concerns of members of three marginalized groups: women, LGB+ people, and disabled people. Marginalization is a multidimensional, dynamic process rooted in power imbalance and stemming from many contextual factors, including underrepresentation, stigma, and discrimination (Causadias & Umaña-Taylor, 2018). Decreasing bias concerns in members of marginalized groups is crucial to establishing more diverse, thriving schools and workplaces.

Not only do women in male-dominated fields (e.g., engineering, computer science, physics) often face negative stereotypes (Bloodhart et al., 2020; Eaton et al., 2020) as well as devaluation and discrimination (Moss-Racusin et al., 2012), they also have concerns about being subjected to these negative experiences (Bian et al., 2018; Cheryan et al., 2009; Pietri et al., 2018; Steele, 1997). These legitimate concerns can hinder women students' recruitment and entry (Bian et al., 2018; Cheryan et al., 2009), forcing women to ask themselves whether they are willing to endure gender bias at school and work. Gender bias concerns also demand precious attentional resources (Kaiser et al., 2006; Murphy et al., 2007) and invoke physiological stress responses that can harm performance and well-being (Schmader et al., 2008; Townsend et al., 2011). Gender bias concerns have crucial implications for women's entry, retention, and success in male-dominated fields.

A smaller selection of work on bias concerns about LGB+ and disabled identity has found similar patterns. Both groups commonly face bias in school and at work (Almeida et al., 2009; Bogart & Dunn, 2019; Sears et al., 2021) and have concerns about potential bias they may face (e.g., Alessi et al., 2017; Ball & Traxler, 2023; Conley et al., 2003; Dirth & Branscombe, 2018; Fingerhut et al., 2022; Silverman & Cohen, 2014). These concerns can manifest as feeling pressure to hide one's identities (Gardner & Prasad, 2022; Lynch & Gussel, 1996; von Schrader et al., 2014), and that pressure inflicts psychological burdens (Barreto et al.,

[1] "LGB+" refers to lesbian, gay, bisexual, and other marginalized sexual orientations (e.g., pansexual, queer). We use identity-first language (i.e., "disabled students" rather than "students with disabilities") when referring to members of the disabled community in accordance with the general preferences of disabled activists and community members (Gernsbacher, 2017; Taboas et al., 2023), though we acknowledge and respect community members' individual preferences when it comes to language around disability.

2006; Pachankis, 2007; Quinn & Earnshaw, 2011). Concerns about facing ability-related bias from teachers may reduce disabled students' likelihood of requesting accommodations—adjustments made to academic policies or environments to ensure students with disabilities have equal access (Mamboleo et al., 2020). Because the disability resources system relies on individual students advocating for their needs, reluctance to request accommodations can harm students' academic outcomes (Dong & Lucas, 2016; W. H. Kim & Lee, 2016). LGB+ and disabled people face bias concerns, and these concerns can impede their success.

Feedback receptivity may have a stronger impact on the bias concerns of marginalized-group members than dominant-group members. Dominant-group members generally do not need to be as vigilant to cues in the environment that may signal bias. While dominant-group members may experience bias in some situations, these situations are more likely to be isolated occurrences rather than a common part of everyday life. As a result, dominant-group members likely experience less of the habitual vigilance to bias seen in members of marginalized groups (Kaiser et al., 2006; Murphy et al., 2007), and by extension, may be less responsive to identity safety cues such as feedback receptivity.

Relational Leadership as a Mechanism

Feedback receptivity may reduce bias concerns by increasing perceptions of relational leadership. We define relational leadership as including three characteristics of the person in power: (a) that they care about their subordinates, including warmth and connection (Diekman et al., 2011; Fiske et al., 2002; Triandis & Gelfand, 1998); (b) that they are trustworthy (Terwel et al., 2010; Willis & Todorov, 2006); and (c) that they want to use their power for good (Moon et al., 2021). These three components may be closely related and perceived as operating together (see Study 5). Asking for feedback may communicate that the person in power wants to use subordinates' perspectives to improve their experiences. Perceptions of greater relational leadership could help to explain how feedback receptivity may reduce bias concerns.

The concept of relational leadership can be contrasted with traditional understandings of power in the psychological literature. Power has often been conceptualized as a corrupting influence that increases the stereotyping and devaluing of lower status others (Fiske, 1993; Kipnis et al., 1976). Power can decrease willingness to help others (Lammers et al., 2012; Righetti et al., 2015; van Kleef et al., 2008), empathic accuracy, and perspective-taking (Galinsky et al., 2006) and can increase feelings of social distance (Lammers et al., 2012; Magee & Smith, 2013). Power often harms people's ability to be attuned to others.

However, power can also be a force for relational good at times. Power increases other-oriented communication when combined with perspective-taking (Galinsky et al., 2014). Individuals primed with power are more likely to act with generosity if given the option to help others (i.e., contributing to a common resource) versus take from others (i.e., depleting a common resource; Galinsky et al., 2003). Those primed with power behave in a more socially responsible manner when they have other-oriented (i.e., communal) relationship styles (e.g., responding to the needs of others) than when they have transactional relationship styles (i.e., exchange; Chen et al., 2001). When those in power take others' perspectives and priorities into account, power can be used for the good of others.

Supportive relational behaviors of those in power may produce better outcomes for subordinates, especially for those with marginalized identities. Students who perceive faculty to be supportive benefit from greater productivity (Lunsford, 2012; Tenenbaum et al., 2001), self-efficacy (Curtin et al., 2016), and belonging (Clark et al., 2016; Freeman et al., 2007). Teachers and leaders who display relational leadership may also be perceived as allies in resisting oppressive power structures. For example, those who are motivated to obtain power to help others are often perceived as more egalitarian (House & Howell, 1992). When people perceive those in power as relational, it may help improve their outcomes and mitigate disparities.

Alternative Mechanisms

Factors outside of relational leadership may alternatively explain feedback receptivity's capacity to reduce bias concerns. Feedback receptivity may increase perceptions of procedural justice, or fairness in the processes by which decisions are made (Blader & Tyler, 2003). Fairer teams may subsequently be perceived as less likely to be biased. Feedback receptivity could also increase members of marginalized groups' sense of belonging, which is an important factor in determining their outcomes (Walton & Cohen, 2007). Leaders high in feedback receptivity may also be perceived as lower in certain stereotypically masculine traits (e.g., dominance, egotism; Diekman & Eagly, 2000; Fast et al., 2014; Gerdes et al., 2018) and higher in certain stereotypically feminine traits (e.g., humility, being other-oriented; Zhou & Chen, 2022). Perceiving someone in power as less masculine could subsequently reduce gender and sexual orientation bias concerns because masculinity is associated with preference for traditional gender norms (Glick et al., 2015). Finally, perhaps feedback receptivity operates by reducing the perceived power difference between people in power and their subordinates. Encouraging students to give feedback on their educational experiences is often framed in terms of "redistributing power" between students and teachers by giving students more say in what happens in the classroom (e.g., Cook-Sather, 2006). If feedback receptivity does serve as a signal that power is being redistributed, perceptions of reduced power difference between the person in power and the subordinate could reduce bias concerns for members of marginalized groups. We include measures of each of these constructs to examine whether they better explain the effect of feedback receptivity on women's gender bias concerns than perceptions of relational leadership.

Response to Feedback From People in Power

How those in power respond to the feedback they receive may play an important role in determining outcomes. If people in power conspicuously ignore feedback, it may neutralize or even reverse the positive effects of feedback receptivity. Perceived hypocrisy of those in power—such as when leaders promote organizational values but fail to exemplify them—predicts employees' disenchantment (Cha & Edmondson, 2006) and intentions to leave (Greenbaum et al., 2015). In a longitudinal experiment, when leaders shared feedback they had received, subordinates' psychological safety improved over time, but there were no durable effects when leaders sought but did not share

feedback (Coutifaris & Grant, 2022). Follow-up interviews suggested that leaders' initial request for feedback was received positively but that their defensiveness and inaction over time countered the initial benefits (Coutifaris & Grant, 2022). Leaders who are perceived as ignoring feedback may be penalized.

Overview

Seven studies examine how feedback receptivity may be a tool for equity that reduces members of marginalized groups' bias concerns in academic and work environments. First, using a large sample from six U.S. universities, we investigate whether engineering researchers' perceptions of their faculty advisors' feedback receptivity predict lower gender bias concerns for women more than for men (Study 1). Next, we test whether feedback receptivity experimentally reduces bias concerns for women versus men in male-dominated fields, LGB+ versus straight employees, and disabled students (Studies 2–4). We then examine a potential mechanism, testing whether feedback receptivity's reduction of bias concerns is mediated by perceptions of relational leadership, and investigate several potential alternative mediators (Studies 3–5). Using the causal-chain approach (Spencer et al., 2005), we also investigate whether relational leadership experimentally reduces bias concerns (Study 6). Finally, we test a potentially important moderator: Signaling feedback receptivity may backfire if those in power conspicuously ignore the feedback they receive (Study 7). Feedback receptivity may be a powerful tool for making academic and professional cultures more equitable.

Transparency and Openness (All Studies)

We report all data exclusions, manipulations, and measures in each study. All studies' sample sizes, designs, hypotheses, and analyses were preregistered. Preregistrations, including power analyses for all studies targeting at least 90%–95% power for primary tests, and all data, analysis code, and study materials are linked within each study. Data were analyzed using R and SPSS, and all results reported in the article were independently verified by a second analyst.

Study 1: Feedback Receptivity and Gender Bias Concerns in Engineering Labs

Study 1 employs a large, cross-sectional sample of engineering researchers at six top engineering universities in the United States to examine how feedback receptivity operates in real-world environments in which women are marginalized. We hypothesize that the extent to which women engineering researchers perceive their faculty advisors to value their feedback will predict lower gender bias concerns. We further predict that this relationship will be weaker or absent for men. This study's preregistration, materials, data, and analysis code are available at https://osf.io/xh5je/?view_only=8288991b44c647a19e43002456bbada1.

Method

Participants

In line with our preregistration, we recruited members of engineering labs at six universities nationwide that were randomly selected from a U.S. News Top 20 Best Engineering Schools list (U.S. News, 2023). At each of these universities, all postgraduate members (i.e., graduate students, research staff, and postdocs) of mixed-gender labs whose faculty advisor had an appointment in the school of engineering and who had publicly available email addresses were invited to participate. Recruiting emails were sent to 6,088 researchers from 721 labs. Nine hundred fifty-five participants filled out our questionnaire, which met our preregistered target minimum recruitment goal of 950 participants before exclusions. In line with our preregistration, 17 participants who did not identify as women or men,[2] six participants who did not report their gender, four undergraduates, and three faculty were excluded from analyses. Our final sample size was 925 participants from 455 labs (63.2% men, 36.8% women; 99.6% cisgender, 0.4% preferred another term or unsure; 44.2% Asian/Asian American, 43.5% White, 8.0% Latinx/Hispanic/Latin American, 6.1% Middle Eastern/Middle Eastern American, 3.1% Black/African American, 0.9% another racial/ethnic group, 0.5% declined to answer, 0.2% Native American/American Indian/Alaskan Native, and 5.9% of the sample selected multiple racial/ethnic categories[3]). Positions included graduate students (81.9%), postdocs (12.0%), lab staff members (4.8%), and positions not listed (1.3%). The mean age was 27.97 years ($SD = 5.37$).

Procedure

Participants completed an online questionnaire in which they were asked to reflect on the principal investigator (PI) of their research lab. First, they responded to four questions assessing how much giving feedback about the lab is valued by the PI; how much the PI wants to improve the lab based on student feedback; how much they feel they can give the PI feedback if they want to; and how much the PI is open to feedback, on a scale ranging from 1 (*not at all*) to 7 (*very much*). We computed an overall average score of perceived faculty advisor feedback receptivity across the four items ($\alpha = .92$).

Next, to measure gender bias concerns, participants indicated to what extent they had concerns about negative gender stereotypes (Cohen & Garcia, 2005; Marx et al., 2005; four items), anticipated gender discrimination (Cheryan et al., 2020; two items), and anticipated gender devaluation (Cheryan et al., 2020; two items; phrased as gender valuation and recoded) in their lab, on a scale ranging from 1 (*not at all*) to 7 (*very much*). The items from these three scales were averaged together into a measure of gender bias concerns ($\alpha = .90$).[4] The questionnaire concluded with participant demographics and questions about the lab (e.g., faculty advisor gender).

[2] While we focus on women and men as a starting point for investigating how feedback receptivity may mitigate gender inequity, gender is not binary and is a fluid, socially constructed identity (e.g., Hyde et al., 2019). Inclusive leadership strategies should account for the diverse experiences of nonbinary individuals and should seek to increase their representation.

[3] We presented all race/ethnicity categories in a "select all" format. In all studies, we report the percentages of participants who selected each category, and we also report the percentage of the sample who selected more than one category. Because participants could select more than one category, percentages do not sum to 100%.

[4] See Supplemental Table S1 for main effects and interactions of key analyses broken down by subscale for all relevant studies. Thirty-eight of thirty-nine tests by subscale of the effects of condition or the interaction between condition and identity on bias concerns produced significant results, and one of thirty-nine produced a marginal ($p = .059$) result.

Results

In a multilevel linear model, we entered perceived faculty advisor feedback receptivity, gender (dummy-coded as 0 for men and 1 for women), and the interaction between feedback receptivity and gender as predictors with gender bias concerns as a dependent variable. Lab was entered as a random nesting factor, and continuous predictors were grand-mean centered. This model is described below:

Level 1: Students

$$y_{ij} = \beta_{0j} + \beta_{1j}FR + \beta_{2j}\text{Gender} + \beta_{3j}(\text{Gender} \times FR) + e_{ij}. \quad (1)$$

Level 2: Labs

$$\beta_{0j} = \gamma_{00} + u_{0j}. \quad (2)$$

$$\beta_{1j} = \gamma_{10}. \quad (3)$$

$$\beta_{2j} = \gamma_{20}. \quad (4)$$

$$\beta_{3j} = \gamma_{30}. \quad (5)$$

Women had average gender bias concerns of 2.08 ($SD = 1.29$) while men had average gender bias concerns of 1.44 ($SD = 0.65$). See Supplemental Table S2 for grand means and standard deviations of key measures across all studies. Holding all other predictors equal, being a woman (vs. a man) was associated with a 0.60 ($SE = 0.06$) point increase in gender bias concerns, $t(917.25) = 9.92$, $p < .001$, 95% CI [0.48, 0.72]. In addition, holding all other predictors equal, higher perceived feedback receptivity predicted lower gender bias concerns, $b = -0.14$, $SE = 0.03$, $t(908.25) = -5.33$, $p < .001$, 95% CI [−0.19, −0.09]. As predicted in our preregistration, there was a significant interaction between perceived feedback receptivity and participant gender, $b = -0.19$, $SE = 0.04$, $t(917.73) = -4.52$, $p < .001$, 95% CI [−0.27, −0.11][5] such that the relationship between perceived feedback receptivity and lower gender bias concerns was stronger for women, $b = -0.32$, $SE = 0.03$, $t(907.70) = -10.06$, $p < .001$, 95% CI [−0.39, −0.26], than men, $b = -0.14$, $SE = 0.03$, $t(908.25) = -5.33$, $p < .001$, 95% CI [−0.19, −0.09] (see Figure 1).

Next, in line with our preregistration, we ran a robustness check in which we added fixed effects of university to the above model. There was no evidence of variability among the universities in the effect of feedback receptivity on gender bias concerns. The main effect of gender, $b = 0.61$, $SE = 0.06$, $t(910.91) = 10.05$, $p < .001$, 95% CI [0.49, 0.73], the main effect of feedback receptivity, $b = -0.14$, $SE = 0.03$, $t(903.75) = -5.36$, $p < .001$, 95% CI [−0.19, −0.09], and the interaction between feedback receptivity and gender, $b = -0.18$, $SE = 0.04$, $t(910.39) = -4.44$, $p < .001$, 95% CI [−0.26, −0.10], all remained significant.

We then ran a preregistered set of four exploratory models, including: (a) faculty advisor gender and estimated percentage of women in the lab as predictors; (b) effect of participant gender on perceived feedback receptivity; (c) an intercept-only (or "empty") model examining feedback receptivity at the lab level; and (d) a random effect of slopes of feedback receptivity.

First, we examined whether the observed effect would persist when including faculty advisor gender (dummy-coded as 0 for men and 1 for women) and estimated percentage of women in the lab (dummy-coded categories, using the category with the smallest percentage of women as the reference group) as predictors. This model allowed us to identify whether women's representation in engineering labs, either overall or in leadership, moderates feedback receptivity's effect in predicting lower gender bias concerns. In this new model, main effects of gender, $b = 0.71$, $SE = 0.06$, $t(888.92) = 11.39$, $p < .001$, 95% CI [0.59, 0.83], and feedback receptivity, $b = -0.13$, $SE = 0.03$, $t(894.73) = -4.99$, $p < .001$, 95% CI [−0.18, −0.08], remained significant. The interaction between feedback receptivity and gender on gender bias concerns also remained significant, $b = -0.18$, $SE = 0.04$, $t(902.82) = -4.37$, $p < .001$, 95% CI [−0.26, −0.10], demonstrating that feedback receptivity reduced women's more than men's gender bias concerns in our sample even when accounting for faculty advisor gender and estimated percentage of women in the lab. A model that treated our categorical measure of estimated percentage of women in the lab as a continuous predictor produced similar results.

Next, we investigated whether women and men had different perceptions of their faculty advisors' feedback receptivity. A model examining the effect of participant gender on feedback receptivity with lab as a random nesting factor revealed no significant difference between genders in perceptions of feedback receptivity, though there was a trend such that women tended to perceive their faculty advisors as marginally lower in feedback receptivity than did men, $b = -0.19$, $SE = 0.10$, $t(896.58) = -1.95$, $p = .052$, 95% CI [−0.37, 0.001].

We then used an "empty" (intercept-only) model with perceived feedback receptivity as the outcome variable to evaluate the intraclass correlations, which indicate what fraction of variation in perceived feedback receptivity lies between labs. This model yielded an intraclass correlation of .246, suggesting that a substantial portion of the variation in perceived feedback receptivity (24.6%) is explained by differences between labs.

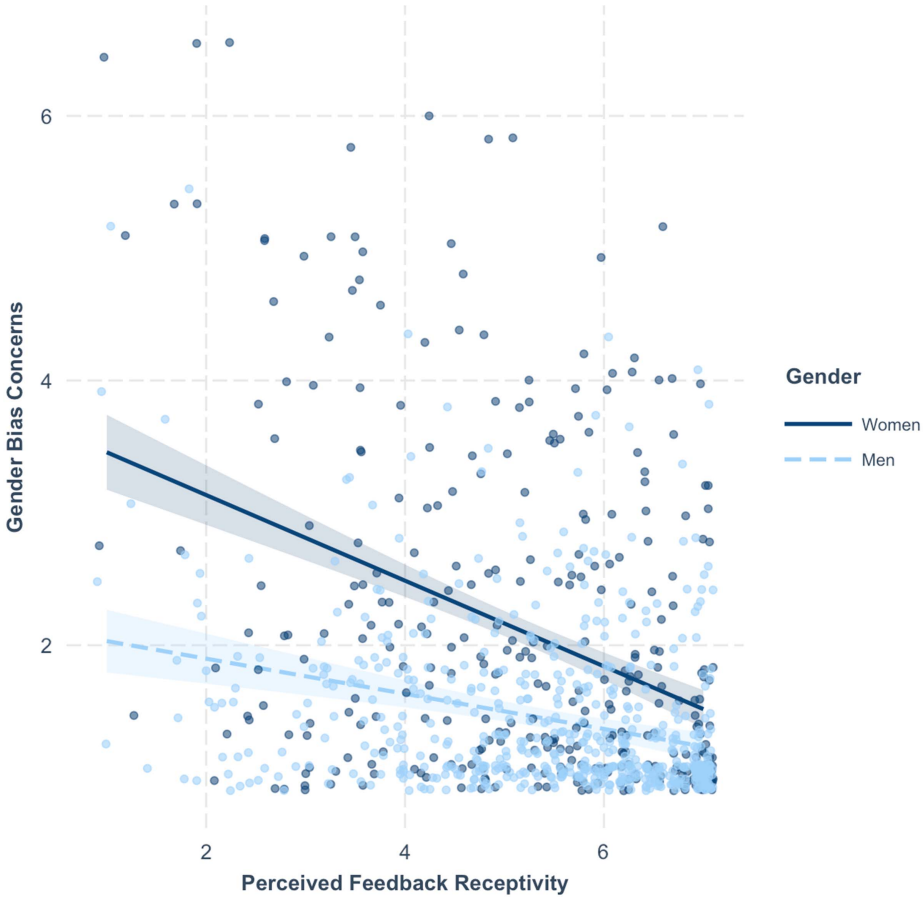
Our results so far have assumed a constant effect of gender and feedback receptivity and their interaction in predicting gender bias concerns, but we also wanted to examine whether our findings persist when accounting for lab-level variation in feedback receptivity. To probe this possibility, we ran a model including a random effect of slopes of feedback receptivity to allow the effect of feedback receptivity to vary across labs, but the model failed to converge.

Finally, we ran a series of nonpreregistered models to explore whether other aspects of social identity might affect how gender and feedback receptivity predict gender bias concerns. First, we included dummy-coded participant race categories for every category with $n > 30$ (White, Asian/Asian American, Latinx/Hispanic/Latin American, Middle Eastern/Middle Eastern American, and multiracial with White as the reference group; participants who identified with multiple races were categorized as multiracial and not included in other categories in this analysis). The interaction between feedback receptivity and gender remained significant when we

[5] Because our measure of gender bias concerns was not normally distributed, we also ran our core model through random effects block bootstrapping with 5,000 resamples and obtained a main effect of gender [0.50, 0.70], feedback receptivity [−0.18, −0.09], and the interaction effect [−0.25, −0.12]. These results suggest that effects hold with an analytic method that does not rely on a normally distributed outcome variable.

Figure 1

Perceived Faculty Advisor Feedback Receptivity Predicts Lower Gender Bias Concerns for Women Versus Men (Study 1)



Note. See the online article for the color version of this figure.

included these race categories as fixed effects, $b = -0.18$, $SE = 0.04$, $t(876.81) = -4.16$, $p < .001$, 95% CI [−0.26, −0.09].

Next, we examined participants' primary sexual orientation identifiers. We collapsed "bisexual," "pansexual," "queer," and the write-in response "bicurious" into one nonmonosexual queer identity group ($n = 80$), "gay" and "lesbian" into one monosexual queer identity group ($n = 38$), and treated the straight/heterosexual category as the reference group ($n = 753$). All other categories were $n < 30$ and not included. With these sexual orientation categories included as fixed effects, we found again that the interaction of gender and feedback receptivity on gender bias concerns remained significant, $b = -0.15$, $SE = 0.04$, $t(861.29) = -3.69$, $p < .001$, 95% CI [−0.24, −0.07].

Models that tested race (collapsed into participants of color vs. White participants) and sexual orientation (collapsed into LGB+ vs. straight) and included their interaction with gender and perceived feedback receptivity and the three-way interaction found no significant interaction between race or sexual orientation and any predictors on gender bias concerns. The interactions between gender and feedback receptivity on gender bias concerns remained significant in both models.

Discussion

The more women engineers perceived their faculty advisors to value their feedback, the less they worried about facing gender bias in their labs. This relationship was weaker for men. Feedback receptivity predicted reduced gender bias concerns for women regardless of whether their faculty advisor was a woman or a man and regardless of the estimated percentage of women in the lab. Accounting for participant race and sexual orientation did not appear to attenuate the interaction effect. Notably, we found real-world variability in how much faculty advisors are perceived to be open to feedback. This variability lays the foundation for subsequent experimental work in which we experimentally manipulate feedback receptivity.

Although these data suggest a robust relationship between feedback receptivity and gender bias concerns, this study was correlational, and other factors may play a role in explaining the observed effects. For example, faculty advisors that are high in feedback receptivity may also have other characteristics that reduce women's gender bias concerns (e.g., treat people more fairly). Next, we turn to experiments to isolate the effect of feedback receptivity on bias concerns.

Study 2: Feedback Receptivity and Gender Bias Concerns

In Study 2, we examine whether feedback receptivity causally reduces women's gender bias concerns. We further examine the effect of feedback receptivity in a new setting: hypothetical work teams. This study's preregistration, materials, data, and analysis code are available at https://osf.io/uvhtk/?view_only=20d6c653fc0f4898b63bf9729859c5a0.

Method

Participants

In line with our preregistration, we recruited 300 participants from Prolific. Three hundred one participants filled out the questionnaire. Three participants who did not identify as women or men and one participant who did not specify their gender were excluded from analyses in accordance with our preregistered inclusion requirements. Our final sample size was 297 (50.2% men, 49.8% women; 98.0% cisgender, 2.0% transgender; 70.0% White, 13.8% Asian/Asian American, 10.8% Black/African American, 9.1% Latinx/Hispanic/Latin American, 1.0% Native American/American Indian/Alaskan Native, 1.0% Middle Eastern/Middle Eastern American, 0.7% another race not listed, and 0.3% preferred not to disclose, with 6.7% of these participants identifying with multiple race/ethnicity categories). The mean age was 32.19 years (SD = 10.65). This met our preregistered target sample size of at least 280 participants.

Procedure

Participants completed an online questionnaire in which they were asked to imagine a hypothetical work team that was in their professional field. The team was described as 80% men and led by a man to ensure that effects were not driven by assumptions about different gender compositions across the two teams. Participants answered multiple-choice questions about the gender proportion and leader gender and could only proceed in the questionnaire once they had answered these questions correctly.

Participants were then shown one of two descriptions of the team. In the feedback receptivity condition, participants were told:

> In this work team, there are many opportunities for employees to give feedback on any issues in the work environment. The supervisor tells employees that feedback on the environment is valued. When people share their feedback, the team makes plans for how to improve the team culture. Then they follow through in making changes.

In the no feedback information condition, participants were told:

> In this work team, there are many opportunities for employees to work. The supervisor tells employees that work is valued. When people work, the team makes plans for how to do the work. Then, they follow through in completing work.

After reading the description, participants responded to the same scale of gender bias concerns as Study 1 (feedback receptivity α = .95, no feedback information α = .95). Participants then read about and filled out the gender bias concerns items for the other team. The order in which the teams were presented (and the order in which participants evaluated each team for all dependent measures) was counterbalanced.

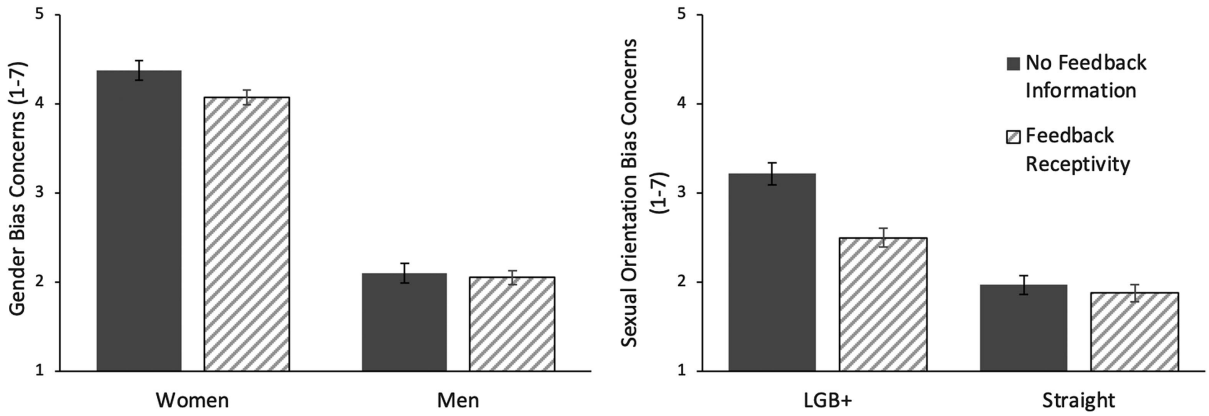
We included a multiple-choice attention check question at the end of each condition to assess whether participants remembered which team they were evaluating. Ninety-five percent of participants answered the feedback receptivity team check correctly, and 96% of participants answered the no feedback information team check correctly. Removing participants who failed either attention check generated similar results. The questionnaire concluded with demographic questions.

Results

A 2 (Gender; Between) × 2 (Condition; Within) analysis of variance (ANOVA) on gender bias concerns revealed a main effect of gender, $F(1, 295) = 284.38$, $p < .001$, $\eta_p^2 = .49$; a main effect of condition, $F(1, 295) = 14.62$, $p < .001$, $\eta_p^2 = .05$; and the predicted interaction, $F(1, 295) = 8.31$, $p = .004$, $\eta_p^2 = .03$ (see Figure 2). Simple effects tests further examined the effect of condition within women and within men with a Bonferroni-corrected α level (unadjusted

Figure 2

Effect of Feedback Receptivity on Bias Concerns (Studies 2 and 3)



Note. Error bars indicate standard errors.

p values compared to $\alpha = .05/2 = .025$). As predicted, women's gender bias concerns were reduced in the feedback receptivity condition ($M = 4.07$, $SD = 1.33$) compared to the no feedback information condition ($M = 4.37$, $SD = 1.33$), $F(1, 295) = 22.40$, $p < .001$, $d_z = 0.32$, $d_{av} = 0.23$. There was no difference in men's gender bias concerns between the feedback receptivity condition ($M = 2.05$, $SD = 0.97$) and the no feedback information condition ($M = 2.10$, $SD = 0.96$), $F(1, 295) = 0.44$, $p = .51$, $d_z = 0.07$, $d_{av} = 0.04$.

An exploratory analysis on order the team was presented revealed Order × Condition, $F(1, 293) = 8.34$, $p = .004$, $\eta_p^2 = .03$, and Gender × Order × Condition, $F(1, 293) = 5.46$, $p = .02$, $\eta_p^2 = .02$, interactions on gender bias concerns such that the effect of feedback receptivity was greater when the no feedback information condition was presented first.

Discussion

Reading about a male-dominated work team led by a man who values employee feedback and where feedback leads to changes reduced women's gender bias concerns compared to reading a description containing no information about feedback receptivity. There was no such difference for men. Feedback receptivity may be a leadership tool that can decrease gender bias concerns for women in male-dominated workplaces.

Study 3: Feedback Receptivity and Sexual Orientation Bias Concerns

In Study 3, we examine whether feedback receptivity reduces bias concerns in another group that is broadly marginalized in the workplace: another group that is broadly marginalized in the workplace: LGB+ people. This study's preregistration, materials, data, and analysis code are available at https://osf.io/sytg9/?view_only=bd3e3911f2f346e7af3896aea98da888.

Method

Participants

In line with our preregistration, we requested 220 participants from Prolific, and 219 participated. Eight participants who identified as both straight and LGB+ and two participants who declined to disclose their sexual orientation were excluded from analyses in accordance with our preregistered inclusion requirements. Our final sample size was 209 (50.2% straight, 49.8% LGB+; 91.9% cisgender, 6.7% transgender, 1.4% preferred another term/unsure; 58.9% women, 34.9% men, 7.2% nonbinary, 1.9% genderqueer, 0.5% agender, 0.5% bigender, 0.5% demigirl, 0.5% two spirit; 80.9% White, 11.5% Black/African American, 6.7% Latinx/Hispanic/Latin American, 4.8% Asian/Asian American, 1.4% another race not listed, 1.0% Native American/American Indian/Alaskan Native, 0.5% Native Hawaiian/Pacific Islander, with 6.7% identifying with multiple race/ethnicity categories). The mean age was 36.44 years ($SD = 12.53$). This met our preregistered target sample size of at least 208 participants.

Procedure

The procedure and dependent measures were identical to Study 2 except for the following modifications. First, both teams were described as led by a straight man, and participants were told that they did not know anyone who openly identifies as LGB+ on these teams. Second, to produce an even more tightly controlled manipulation, both teams were described as identical in terms of type of work, salary, and hours worked. Third, the "many opportunities to work" language in the no feedback information condition was shifted to "many opportunities to be involved in different projects" to soften any potential negative implications that this team required more work. Fourth, we replaced the word "gender" with "sexual orientation" when measuring bias concerns (feedback receptivity $\alpha = .92$; no feedback information $\alpha = .94$). Fifth, participants saw both teams side-by-side (left-to-right order counterbalanced) before responding to questions about each team. (See Supplemental Table S3 for a summary of counterbalancing procedures and order effects, as well as Supplemental Table S4 for exploratory between-subjects analyses, for all experiments.) There were no main effects of order or interactions of order with sexual orientation and condition on bias concerns, Fs < 2.51, ps > .11, η_p^2s < .01. Sixth, because we conducted this study after Study 5, we included measures and preregistered analyses to explore mediators and found that, consistent with Studies 4 and 5, relational leadership mediated the effect of feedback receptivity on bias concerns and was the strongest mediator; see Supplemental Figure S1 and Table S7 for details.

We included a multiple-choice attention check question at the end of each condition to assess whether participants remembered which team they were evaluating. Ninety-seven percent of participants answered the feedback receptivity team check correctly and 97% of participants answered the no feedback information team check correctly. Removing participants who failed or skipped either attention check generated similar results. The questionnaire concluded with demographic questions.

Results

A 2 (Sexual Orientation; Between) × 2 (Condition; Within) ANOVA on sexual orientation bias concerns revealed a main effect of sexual orientation, $F(1, 207) = 48.33$, $p < .001$, $\eta_p^2 = .19$; a main effect of condition, $F(1, 207) = 30.70$, $p < .001$, $\eta_p^2 = .13$; and the predicted interaction, $F(1, 207) = 19.09$, $p < .001$, $\eta_p^2 = .08$ (see Figure 2). Simple effects tests further examined the effect of condition within LGB+ participants and within straight participants with a Bonferroni-corrected α level (unadjusted p values compared to $\alpha = .05/2 = .025$). As predicted, LGB+ participants' sexual orientation bias concerns were reduced in the feedback receptivity condition ($M = 2.50$, $SD = 1.05$) compared to the no feedback information condition ($M = 3.22$, $SD = 1.28$), $F(1, 207) = 48.87$, $p < .001$, $d_z = 0.57$, $d_{av} = 0.61$. There was no significant difference in straight participants' sexual orientation bias concerns between the feedback receptivity condition ($M = 1.88$, $SD = 0.98$) and the no feedback information condition ($M = 1.97$, $SD = 1.09$), $F(1, 207) = 0.69$, $p = .407$, $d_z = 0.11$, $d_{av} = 0.08$.

Discussion

Reading about a leader who valued receiving feedback reduced LGB+ but not straight participants' sexual orientation bias concerns compared to receiving no information about the leader's feedback receptivity. This study demonstrates that the benefits of feedback receptivity extend to LGB+ people in majority-straight environments and may be a tool that those in power can use to reduce sexual orientation bias concerns.

Study 4: Feedback Receptivity and Disability Bias Concerns

Next, we return to the academic context and investigate whether instructors signaling feedback receptivity in the classroom can benefit disabled students. We only include disabled students in this study and examine their bias concerns and likelihood of requesting accommodations. This study's preregistration, materials, data, and analysis code are available at https://osf.io/crb6k/?view_only=62380ff3eb0948c39aa280ca211f2dea.

Method

Participants

As preregistered, we recruited students who identify as disabled through community recruitment methods (e.g., posting flyers, partnering with the disability resources office and student disability activism groups) and by utilizing the psychology participant pool, and we stopped posting recruitment materials when 100 students had responded. One hundred four participants filled out the questionnaire.[6] One participant who did not identify as a student and five participants who did not identify as disabled were excluded from analyses in line with our preregistered inclusion requirements. We also removed the second response from one participant who indicated they had completed the same questionnaire previously. Twelve participants selected "It depends/other" when asked whether they identified as disabled. After examining the write-in explanations of these participants, we included them in data analyses, as all descriptions fell under the umbrella of disability. Removing participants who selected "It depends/other" produced similar results.

Our final sample size was 97 (61.9% women, 22.7% men, 16.5% nonbinary, 6.2% genderqueer, 1.0% identified as "unlabeled"; 83.5% cisgender, 13.4% transgender, 3.1% preferred another term or were unsure; 72.2% White, 34.0% Asian/Asian American, 12.4% Latinx/Hispanic/Latin American, 4.1% Black/African American, 3.1% Native American/American Indian/Alaskan Native, 3.1% Middle Eastern/Middle Eastern American, 1.0% Native Hawaiian/Pacific Islander, with 23.7% identifying with multiple races/ethnicities), which met our preregistered minimum sample size of 64.

Participants described their disabilities in an open-response format, and responses were subsequently grouped into categories. The five most common categories of self-described disability were attention-deficit/hyperactivity disorder (35.1%), unspecified mental disability or neurodivergence (24.7%), anxiety disorders (21.6%), autism (16.5%), and depression (12.4%). Over one third (38.1%) of participants identified with more than one disability. The majority of participants (70.1%) reported disabilities that fell within the mental/psychological domain, and 32.0% of participants reported physical disabilities, with 14.4% reporting both. For all other self-described disability categories and percentages, see Supplemental Table S9. The mean age was 20.94 years (SD = 6.86).

Procedure

Participants read descriptions of two classes (presented together; up-down order counterbalanced). Both classes were described as identical in terms of academic subject, course material and difficulty, and amount of work. The instructor of each course was described as an able-bodied, neurotypical man. The feedback receptivity condition description read:

> In this course, there are many opportunities for students to give feedback on any issues in the classroom environment. The instructor communicates to students that feedback on the course is valued. The instructor makes plans for how to improve the course. Then he follows through in making changes.

The no feedback information condition description read:

> In this course, there are many opportunities for students to be involved in different assignments. The instructor communicates to students that work is valued. The instructor makes plans for how to grade student work. Then he follows through in completing grading.

(Note that we replaced "they follow through," used in the previous studies, with "he follows through" to disambiguate who is following through on feedback given).

The bias concerns scale was modified to measure ability bias concerns by using the language "your disability" (feedback receptivity $\alpha = .87$, no feedback information $\alpha = .90$). Participants also responded to a single-item question assessing how likely they would be to talk to the instructor about any accommodations they may need, measured on a scale from 1 *(not at all)* to 7 *(very much)*. Because we conducted this study after Study 5, we included measures and preregistered hypotheses for mediation. We found, consistent with Studies 3 and 5 and our preregistered prediction, that relational leadership mediated the effect of feedback receptivity on bias concerns; see Supplemental Figure S2 for details.

Finally, we included a multiple-choice attention check question at the end of each condition to assess whether participants remembered which course they were evaluating. Ninety-nine percent of participants answered the feedback receptivity condition check correctly, and 97% answered the no feedback information condition check correctly. Removing participants who failed either manipulation check generated similar results. The questionnaire concluded with demographic questions.

Results

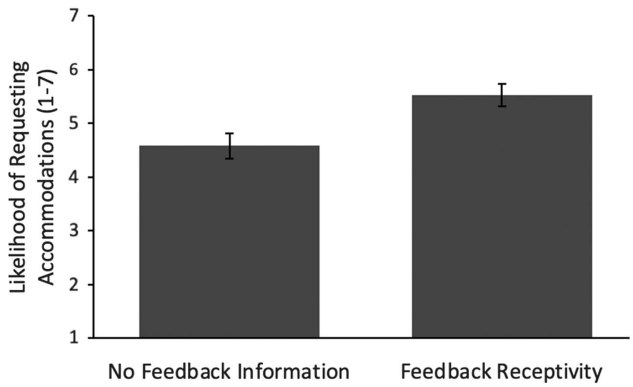
In line with our preregistered predictions, a dependent samples t test revealed that reading about the instructor who valued feedback reduced disabled students' ability bias concerns (M = 3.00, SD = 1.13) compared to reading about the instructor who did not explicitly mention feedback receptivity (M = 4.03, SD = 1.31), $t(96) = 7.14$, $p < .001$, $d_z = 0.72$, $d_{av} = 0.85$. Furthermore, participants reported that they would be more likely to talk to the instructor who values feedback ($M = 5.52$, $SD = 1.77$) than the instructor who values work ($M = 4.58$, $SD = 1.96$) about accommodations they may need, $t(96) = -4.54$, $p < .001$, $d_z = .46$, $d_{av} = 0.50$ (See Figure 3).

There was no main effect of order on disability bias concerns, $F(1, 95) = 1.23$, $p = .270$, $\eta_p^2 = .01$, but there was an Order × Condition interaction, $F(1, 95) = 8.16$, $p = .005$, $\eta_p^2 = .08$, such that the effect of feedback receptivity in reducing disability bias concerns was greater when the feedback receptivity (vs. no feedback information) condition was presented first. However,

[6] We inadvertently left the survey open after the intended close date, resulting in three additional responses. We report the results from the full data set here, but if we exclude those three participants, results are similar.

Figure 3

Effect of Feedback Receptivity on Likelihood of Requesting Accommodation (Study 4)



Note. Error bars indicate standard errors.

feedback receptivity significantly reduced disability bias concerns regardless of the order in which conditions were presented (see Supplemental Table S4 for details).

Discussion

Feedback receptivity from a professor benefits disabled students in the classroom, reducing their bias concerns and increasing their willingness to ask for accommodations compared to receiving no information about feedback receptivity. Asking for the accommodations they are legally entitled to is crucial for disabled students to have fair access to educational opportunities (W. H. Kim & Lee, 2016; Mamboleo et al., 2020). Signaling feedback receptivity is one way that instructors could reach out proactively to their students, reversing the standard dynamic in which the burden falls on disabled students to initiate communication around accommodations.

Study 5: Mediators of the Effect of Feedback Receptivity on Bias Concerns

Study 5 examines potential mediators of feedback receptivity's effect in reducing bias concerns for women in male-dominated environments. We also remove a potential alternate explanation for effects—evidence of follow through on feedback given—to examine whether the mere signal of feedback receptivity ameliorates women's bias concerns.

This was the first study we conducted with relational leadership, sense of belonging, perceptions of the leader's masculinity, and perceived power difference between self and leader as mediators, and we preregistered that perceived power difference would mediate the effect of feedback receptivity on gender bias concerns. However, we instead found that relational leadership was the strongest mediator (see below). We replicated this finding in Study 3 with the same set of mediators, and in Study 4, we preregistered and found that relational leadership significantly mediates the effect (see Supplemental Figure S2). This study's preregistration, materials, data, and analysis code are available at https://osf.io/3ke9n/?view_only=576162008d1f4b64b6d6f9921bcee1ef.

Method

Participants

Per our preregistration, we requested 450 participants from Prolific, and 448 participants participated. Three participants identified as neither men nor women and were excluded from analyses in line with our preregistered inclusion requirements. Our final sample size was 445 (50.3% women, 49.7% men; 99.3% cisgender, 0.7% transgender; 73.3% White, 11.2% Black/African American, 11.0% Asian/Asian American, 9.2% Latinx/Hispanic/Latin American, 1.1% Native American/American Indian/Alaskan Native, 0.4% Middle Eastern, 0.7% another race not listed, 0.2% Native Hawaiian/Pacific Islander, 0.2% prefer not to say, with 7.2% identifying with multiple race/ethnicity categories). The mean age was 39.21 years ($SD = 14.13$). This met our preregistered target sample size of at least 412 participants.

Procedure

Study 5 used the same team descriptions as Studies 3 and 4 except for one alteration. In previous studies, descriptions included both a signal of feedback receptivity (e.g., "there are many opportunities … to give feedback") and evidence of follow through (e.g., "then they follow through on making changes"). To test whether feedback receptivity confers benefits even before people in power respond, we removed information about follow through. The new descriptions read, "In this team, there are many opportunities for employees to give feedback on any issues in the work environment. The supervisor communicates to employees that feedback on the environment is valued" (feedback receptivity condition) and "In this team, there are many opportunities for employees to be involved in different projects. The supervisor communicates to employees that work is valued" (no feedback information condition).

Participants next responded to measures of gender bias concerns (see below). To explore potential mediators of the effect of feedback receptivity on gender bias concerns, we also assessed perceived relational leadership, procedural justice, sense of belonging, leader masculinity, and power difference between self and leader for each team (see below for specific measures and Table 1 for correlations). The questionnaire concluded with demographic questions. The left-to-right order in which the teams were presented (and the order in which participants evaluated each team for all of the dependent measures) was counterbalanced. There were no main effects or interactions of order with gender and condition on gender bias concerns, Fs < 3.30, ps $> .07$, η_p^2s $< .007$ (see Supplement Table S3 for more information on order effects).

Dependent Measures

Attention Check. We included a multiple-choice attention check question at the end of each condition to assess whether participants remembered which team they were evaluating. Ninety-eight percent of participants answered the feedback receptivity team check correctly, and 95% answered the no feedback information team check correctly. Removing participants who failed either attention check generated similar results.

Gender Bias Concerns. We measured gender bias concerns by averaging the same eight items used in Study 2. The scale had high reliability (feedback receptivity $\alpha = .94$, no feedback information

Table 1
Correlations Between Dependent Measures (Study 5)

Variable	1	2	3	4	5	6
1. Relational leadership	—	−.33**	.83**	.62**	.06	−.51**
2. Power difference	−.34**	—	−.29**	−.29**	.22**	.30**
3. Procedural justice	.79**	−.33**	—	.64**	.04	−.54**
4. Sense of belonging	.69**	−.34**	.70**	—	.06	−.59**
5. Leader's masculinity	−.02	.27**	−.11*	−.10*	—	.11*
6. Bias concerns	−.43**	.25**	−.52**	−.61**	.08	—

Note. Correlations for the feedback receptivity condition are reported above the diagonal, while correlations for the no feedback information condition are reported below the diagonal.
* $p < .05$. ** $p < .001$.

α = .95) and examining a scree plot revealed that a one-factor solution best fit the data.

Relational Leadership. We measured perceived relational leadership with 10 items that assessed perceptions that the leader would be warm toward them, connect with and care about them, and care about their well-being (four items; see Diekman et al., 2011; Fiske et al., 2002; Triandis & Gelfand, 1998); that the leader is trustworthy (two items; see Terwel et al., 2010; Willis & Todorov, 2006); and that the leader wants to use their power for good (four items; adapted from Moon et al., 2021).[7] We computed an overall average score across the 10 items (feedback receptivity α = .95, no feedback information α = .95).

Procedural Justice. Five items were averaged to measure how much participants perceived the team would have procedural justice (see Blader & Tyler, 2003, for previous reliability and validity of scale). Participants rated how often decisions would be made in fair ways, how fair decisions and processes would be, the overall fairness with which issues and decisions would be handled, the general sense among employees that things are handled in fair ways, and how much effort would be made to be fair to employees when decisions were made (1 = *not at all* to 7 = *very much*; feedback receptivity α = .97, no feedback information α = .97).

Because correlations between procedural justice and relational leadership were high (see Table 1 for Study 5 and Supplemental Table S5 for Study 3), we conducted an exploratory factor analysis with principal axis factoring and Promax rotation for the items in all our potential mediators on a combined data set (Study 5 and Study 3, both of which measured all potential mediators) to better understand which constructs are distinct (see Supplemental Table S6). The relational leadership items emerged as distinct from the procedural justice items, with no cross-loading between components, and this model better fit the data than one in which procedural justice and relational leadership were collapsed into one component. However, if we combine them into one scale, mediation results are similar to what we report below.

Sense of Belonging. We measured how much participants felt they would belong on the team by averaging four items (see Cheryan et al., 2009, for previous reliability and validity of scale). Participants rated how similar they would be to others, how much they would belong, how well they would fit with the general environment, and how well they would fit in with the people on the team (1 = *not at all* to 7 = *very much*; feedback receptivity α = .95, no feedback information α = .96).

Leader's Masculinity. Perceived masculinity of the team leader was assessed with a single item: "How masculine would this supervisor be?"

Power Difference. We measured perceived power difference between the leader and participant by averaging four items (adapted from Dunbar et al., 2008; Felmlee, 1994). Participants indicated how power would be distributed (1 = *this supervisor and I would have equal power*, 7 = *this supervisor would have much more power than me*); how they would influence each other's behavior (1 = *this supervisor and I would equally influence each other*, 7 = *this supervisor would influence me much more*); how control over how things are done would be distributed (1 = *this supervisor and I would have equal control*; 7 = *this supervisor would have much more control than me*); and who would get their way (1 = *this supervisor and I would get our way equally often;* 7 = *this supervisor would get his way much more often than I would*). Reliability was high for both conditions (feedback receptivity α = .92, no feedback information α = .91).

Results

A 2 (Gender; Between) × 2 (Condition; Within) ANOVA on gender bias concerns revealed a main effect of gender, $F(1, 443) = 248.96$, $p < .001$, $\eta_p^2 = .36$; a main effect of condition, $F(1, 443) = 14.09$, $p < .001$, $\eta_p^2 = .03$; and the predicted interaction, $F(1, 443) = 16.94$, $p < .001$, $\eta_p^2 = .04$. Simple effects tests further examined the effect of condition within women and within men with a Bonferroni-corrected α level (unadjusted p values compared to α = .05/2 = .025). As predicted, women's gender bias concerns were reduced in the feedback receptivity condition ($M = 3.52$, $SD = 1.31$) compared to the no feedback information condition ($M = 3.98$, $SD = 1.39$), $F(1, 443) = 31.17$, $p < .001$, $d_z = 0.31$, $d_{av} = 0.35$. There was no significant difference in men's gender bias concerns between the feedback receptivity condition ($M = 2.17$, $SD = 1.13$) and the no feedback information condition ($M = 2.15$, $SD = 1.07$), $F(1, 443) = 0.07$, $p = .799$, $d_z = 0.02$, $d_{av} = 0.02$. The mere signal of a person in power's intention to value feedback can produce positive effects even before they build a reputation for responding to feedback well.

[7] Our preregistration specified that we would include these scales separately in a multiple mediation. However, trust in leader, perceptions of leader's desire to use power for good, and perceptions of leader's relationality were highly correlated and formed a single construct in factor analyses in the three studies that used these measures (see Supplemental Table S10). As a result, we report the results of that combined construct. Each of the three components also separately mediated effects of feedback receptivity on bias concerns in the three studies (see Supplemental Table S11–S13). Averaging across the three components (rather than 10 individual items) produces similar mediation results.

A within-subjects mediation analysis with bootstrapping using the Mediation and Moderation for Repeated Measures macro developed by Montoya (2019) was used to investigate whether greater perceptions of relational leadership mediate the relationship between feedback receptivity and lower gender bias concerns and whether this mediation is significantly moderated on the *b* path by gender such that the mediation is stronger for women than for men (Model 16). Results are similar for a model in which both the *a* path and *b* path are allowed to vary by gender (see Supplemental Figure S3). We report component paths of the indirect effect per recommendations by Yzerbyt et al. (2018).

Participants perceived relational leadership more in the feedback receptivity condition than the no feedback information condition, $b = 0.75$, $SE = .06$, $t(444) = 11.71$, $p < .001$, 95% CI [0.62, 0.87], and greater perceptions of relational leadership were subsequently related to lower gender bias concerns for women, $b = -0.74$, $SE = .04$, $t(441) = -17.11$, $p < .001$, 95% CI [−0.82, −0.65], and men, $b = -0.21$, $SE = .05$, $t(441) = -4.15$, $p < .001$, 95% CI [−0.31, −0.11]. Examining the conditional indirect effect for each gender with 10,000 bootstrap samples revealed that perceptions of relational leadership mediated the relationship between feedback receptivity and gender bias concerns, and the indirect effect was greater for women, $b = -0.55$, bootstrap $SE = .06$, 95% bootstrap CI [−0.68, −0.43] than for men, $b = -0.16$, bootstrap $SE = .04$, 95% bootstrap CI [−0.24, −0.08], index of moderated mediation = −0.39, bootstrap $SE = .06$, 95% bootstrap CI [−0.52, −0.27]. Approximately 40% of the variance in gender bias concerns was accounted for by the model ($R^2 = .40$).

Finally, we examined alternative mediators. As preregistered, we included each alternative mediator in separate within-subjects moderated mediation analyses to determine which mediators should be included in our multiple mediation analysis; all mediators met our preregistered requirements (see Supplemental Table S7) and were included in a multiple mediation model on women. The indirect effect of perceived relational leadership was the strongest predictor in this model, $b = -0.37$, bootstrap $SE = .09$, 95% percentile bootstrap CI [−0.56, −0.21]. No other mediators were significant (see Supplemental Table S8 for detailed results). Approximately 57% of the variance in women's gender bias concerns was accounted for by the model ($R^2 = .57$).

Discussion

Women had lower gender bias concerns after reading about a leader who valued feedback than after reading about a leader who did not explicitly signal feedback receptivity, while there was no significant difference in men's gender bias concerns across conditions. This effect was mediated by perceptions of relational leadership such that reading about the feedback receptive leader increased both women's and men's perceptions of the leader's relational leadership, and those perceptions of relational leadership subsequently predicted lower gender bias concerns for women more than for men. Perceptions of relational leadership remained the strongest mediator of the effect for women when considered alongside procedural justice, sense of belonging, and the leader's perceived masculinity. These results suggest that relational leadership may help explain why feedback receptivity reduces gender bias concerns.

Study 6: Experimentally Manipulating Relational Leadership

In Study 6, we employ the causal-chain approach to mediation (Bullock & Green, 2021; Spencer et al., 2005) to examine whether relational leadership reduces women's gender bias concerns. To isolate the effect of relational leadership, no information on feedback receptivity is provided in either condition. This study's preregistration, materials, data, and analysis code are available at https://osf.io/t35ak/?view_only=46618b3eedba4e998a5bbae73d4effd3.

Method

Participants

In line with our preregistration, we requested 250 participants from Prolific, and 251 participants responded. Two participants who identified as both women and men and one who identified as neither were excluded from analyses in accordance with our preregistered inclusion requirements. Our final sample size was 248 (50.8% men, 49.2% women; 98.8% cisgender, 1.2% transgender; 76.6% White, 10.1% Asian/Asian American, 9.7% Black/African American, 8.5% Latinx/Hispanic/Latin American, 2.8% Native American/American Indian/Alaskan Native, 0.8% declined to disclose, and 0.4% another race not listed, with 8.1% identifying with multiple race/ethnicity categories). The mean age was 38.55 years ($SD = 12.68$). This met our preregistered target sample size of at least 238 participants.

Procedure

The introduction to the task was similar to previous studies (i.e., two hypothetical 80% men, man-led work teams identical in work tasks, hours, and salary). Participants were then told that both teams' supervisors had recently undergone a mandatory Leadership and Team Culture evaluation in which team members answered questions about what it is like to work for their supervisor. Participants were told that both supervisors were rated as equally fair and productive and were shown the percentages (side-by-side; left-to-right order counterbalanced) of each team that had agreed with the following three statements: "My supervisor uses his power to help others," "My supervisor cares deeply about employees," and "I have a great deal of trust in my supervisor." In one team, 81%, 82%, and 78% of team members agreed with these statements (high relational leadership condition). In the other team, 40%, 44%, and 33% of team members agreed with these statements (low relational leadership condition).

Gender bias concerns were measured by averaging the same eight items used in the previous studies. The scale had high reliability (low-rated $\alpha = .94$, high-rated $\alpha = .94$). The left-to-right order in which the teams were presented (and the order in which participants evaluated each team for all of the dependent measures) was counterbalanced. There was a main effect of order, $F(1, 244) = 14.55$, $p < .001$, $\eta_p^2 = .06$, such that when averaging across gender and condition, those who first answered questions about the high relational leadership leader (vs. low relational leadership leader) had higher gender bias concerns. This main effect of order did not emerge in other studies. There were no significant interactions involving order on gender bias concerns, Fs < 3.61, ps $> .059$, η_p^2s $< .015$.

We also included a multiple-choice attention check question at the end of each condition to assess whether participants remembered which team they were evaluating. Ninety-eight percent of participants

answered the high-rated leader check correctly, and 96% answered the low-rated leader check correctly. Removing participants who failed either manipulation check generated similar results. The questionnaire concluded with demographic questions.

Results

A 2 (Gender; Between) × 2 (Condition; Within) ANOVA on gender bias concerns revealed a main effect of gender, $F(1, 246) = 118.49$, $p < .001$, $\eta_p^2 = .33$; a main effect of condition, $F(1, 246) = 391.19$, $p < .001$, $\eta_p^2 = .61$; and the predicted interaction, $F(1, 246) = 19.85$, $p < .001$, $\eta_p^2 = .07$.

Simple effects tests further examined effects of condition within women and within men with a Bonferroni-corrected α level (unadjusted p values compared to $\alpha = .05/2 = .025$). As predicted, women's gender bias concerns were reduced when the leader was high in relational leadership ($M = 2.80$, $SD = 1.26$) compared to when the leader was low in relational leadership ($M = 5.08$, $SD = 1.25$), $F(1, 246) = 288.98$, $p < .001$, $d_z = 1.38$, $d_{av} = 1.82$. Men's gender bias concerns were also lower when the leader was high in relational leadership ($M = 1.91$, $SD = 0.85$) than when the leader was low in relational leadership ($M = 3.35$, $SD = 1.39$), $F(1, 246) = 119.32$, $p < .001$, $d_z = 1.11$, $d_{av} = 1.25$.

Discussion

Women's, and to a lesser extent men's, gender bias concerns were reduced when reading about a leader high in relational leadership compared to one low in relational leadership. These results suggest that relational leadership is not only associated with but can *cause* lower bias concerns, providing additional evidence in support of our theoretical model. Relational leadership is broadly beneficial (i.e., affects both women and men), but it appears especially important for women in this male-dominated experimental setting. An additional preregistered study manipulating only the "uses power to help others" component of relational leadership produced similar results; see Supplemental Study for details. Relational leadership may explain why feedback receptivity reduces women's gender bias concerns.

Study 7: Response to Feedback

Finally, Study 7 examines an important potential caveat to our findings thus far. Ignoring feedback may counteract the salubrious effects of signaling feedback receptivity. Soliciting feedback but not acting on it could produce worse outcomes than making no initial feedback request, especially for members of marginalized groups. In addition, we manipulate feedback receptivity through a new channel: course evaluations written by peers. This study's preregistration, materials, data, and analysis code are available at https://osf.io/vabxh/?view_only=7cc18e501cd244d78d66a7f6120f50ee.

Method

Participants

As preregistered, we requested 250 undergraduate student participants from Prolific, and 256 participated. One participant did not consent, three participants did not identify as men or women, and four participants did not indicate their gender; these participants were excluded in line with our preregistered inclusion requirements. Twenty-five participants were not in their first through fourth year of undergraduate study and were also excluded in accordance with our preregistration; results are similar if these participants are retained. Our final sample size was 222 (50.0% women, 50.0% men; 96.8% cisgender, 2.3% transgender, 0.9% preferred another term/unsure; 64.9% White, 16.2% Asian/Asian American, 15.8% Black/African American, 10.4% Latinx/Hispanic/Latin American, 2.3% Middle Eastern/Middle Eastern American, 0.9% Native American/American Indian/Alaskan Native, 0.5% Native Hawaiian/Pacific Islander, with 10.4% identifying with multiple race/ethnicity categories). The mean age was 24.8 years ($SD = 6.13$). This met our preregistered target sample size of at least 182 participants.

Procedure

Participants responded to questions about three different hypothetical Introduction to Computer Science courses. As a baseline control condition, participants first read and responded to a course in which the instructor was a man. No student evaluation was provided in this baseline control condition. Next, participants read about two other courses in counterbalanced order (one after the other; not side-by-side) in which the instructors were also men and anonymous student evaluations were provided. In the response condition, the student evaluation read:

> The instructor sent us a feedback form in the middle of the term and asked us for suggestions to improve the course. After we took the survey, he made several changes to the course. It was clear he really listened to us.

In the ignore condition, the student evaluation read:

> The instructor sent us a feedback form in the middle of the term and asked us for suggestions to improve the course. After we took the survey, he didn't make any changes to the course. It was clear he really didn't listen to us.

Immediately after reading about each course, participants reported gender bias concerns about that course using the same eight questions used in the previous studies (control $\alpha = .93$; response $\alpha = .91$; ignore $\alpha = .95$). As a manipulation check, participants responded to a scale of perceived feedback receptivity from Study 1 (control $\alpha = .91$; response $\alpha = .93$; ignore $\alpha = .88$). There were no main or interaction effects of order (Fs < 2.03, ps $> .16$, η_p^2s $< .009$).

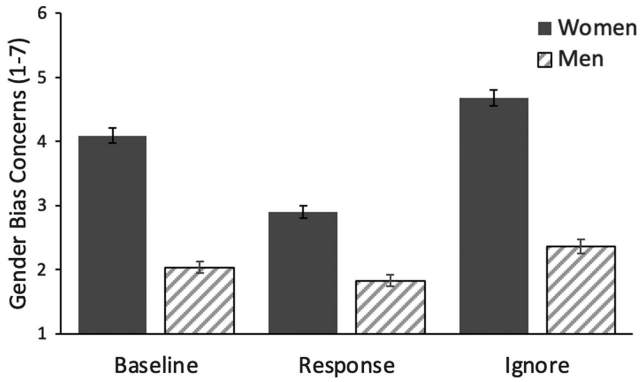
Results

Participants perceived the instructor in the response condition to be more receptive to feedback ($M = 6.25$, $SD = 0.96$) than the baseline control ($M = 4.43$, $SD = 1.30$), $t(221) = 18.69$, $p < .001$, $d_z = 1.25$, $d_{av} = 1.59$, indicating that the course evaluation excerpt successfully manipulated perceived feedback receptivity. In addition, participants perceived the instructor in the ignore condition ($M = 1.99$, $SD = 1.21$) to be less receptive to feedback than the baseline control, $t(221) = -22.86$, $p < .001$, $d_z = 1.53$, $d_{av} = 1.95$.

Our preregistered 2 (Gender; Between) × 3 (Condition; Within) mixed-model ANOVA on gender bias concerns revealed a main effect of condition, $F(1.83, 402.85) = 159.53$, $p < .001$, $\eta_p^2 = .42$; a main effect of gender, $F(1, 220) = 196.80$, $p < .001$, $\eta_p^2 = .47$; and the predicted interaction, $F(1.83, 402.85) = 49.80$, $p < .001$, $\eta_p^2 = .18$

Figure 4

Effect of Response to Feedback on Gender Bias Concerns (Study 7)



Note. Error bars indicate standard errors.

(see Figure 4). Note that Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 21.19$, $p < .001$, so degrees of freedom were corrected with the Greenhouse–Geisser estimate of sphericity ($\varepsilon = .92$).

We ran planned simple contrasts to identify differences between conditions within each gender, comparing p values to a Bonferroni-adjusted α level of .05/6 = .008 to control familywise error rate. Consistent with the previous studies, women reported significantly lower levels of gender bias concerns when reading about an instructor who responded to feedback ($M = 2.90$, $SD = 1.08$) than the baseline control with no feedback information ($M = 4.09$, $SD = 1.30$), $F(1, 220) = 188.89$, $p < .001$, $d_z = 1.03$, $d_{av} = 1.00$. In addition, women's gender bias concerns were lower when reading about an instructor who responded to feedback than one who ignored feedback ($M = 4.68$, $SD = 1.28$), $F(1, 220) = 284.08$, $p < .001$, $d_z = 1.29$, $d_{av} = 1.51$, and were even higher than the baseline control when they read about the instructor who ignored feedback, $F(1, 220) = 49.48$, $p < .001$, $d_z = 0.56$, $d_{av} = 0.46$. Replicating the previous studies, there was no significant difference (comparing to $\alpha = .008$) in men's gender bias concerns after reading about the instructor who responded to feedback ($M = 1.83$, $SD = 0.94$) and the baseline control instructor ($M = 2.04$, $SD = 0.91$), $F(1, 220) = 5.95$, $p = .015$, $d_z = 0.37$, $d_{av} = 0.23$. However, adding the ignore condition produced a new pattern: Men had lower gender bias concerns after reading about the instructor who responded to feedback than one who ignored feedback ($M = 2.37$, $SD = 1.12$), $F(1, 220) = 26.27$, $p < .001$, $d_z = 0.71$, $d_{av} = 0.52$, and higher gender bias concerns when the instructor ignored feedback than the baseline control, $F(1, 220) = 15.46$, $p < .001$, $d_z = 0.50$, $d_{av} = 0.32$.

Discussion

Signaling feedback receptivity can backfire when instructors ask for feedback but conspicuously ignore it. Women students had higher gender bias concerns when a professor asked for but then ignored feedback than when they did not ask or when they asked and followed through. Men students also had the highest gender bias concerns when a professor asked for but ignored feedback, but this effect was less extreme than for women. While asking for feedback generally has favorable effects, when it is not paired with appropriate follow through, it can be worse than not asking in the first place. Those in power who want to use feedback receptivity as a tool to reduce bias concerns should be careful not to give the impression of ignoring feedback.

General Discussion

Feedback receptivity from people in power helps reduce bias concerns for those with marginalized identities. These effects emerged across seven preregistered studies, three marginalized populations (women in male-dominated environments, LGB+ people, and disabled students), three settings (classrooms, engineering labs, and work teams), and three methods of signaling feedback receptivity (naturalistic in engineering labs, expressing that one values feedback, and student testimonials in course evaluations). Effects were absent or lesser for members of dominant groups. Feedback receptivity is a powerful tool that reduces bias concerns for women, LGB+ people, and disabled people.

Feedback receptivity reduced bias concerns by increasing perceptions of relational leadership. Perceptions of relational leadership explained the relationship between feedback receptivity and bias concerns for women in male-dominated fields, LGB+ people, and disabled students, and it remained a significant mediator even when accounting for alternative mediators (e.g., sense of belonging, procedural justice). Manipulating the mediator had causal effects on bias concerns. Relational leadership synthesizes existing psychological work on relationship quality with work on power and helps explain why feedback receptivity reduces bias concerns.

Importantly, when leaders asked for but then conspicuously ignored feedback, bias concerns were higher than when they did not ask. This finding establishes a boundary condition for the benefits of feedback receptivity that may help to explain why real-world attempts to ask for feedback are not always effective. When paired with appropriate follow through, asking for feedback is a potentially flexible and powerful leadership strategy for improving equity.

Theoretical Contributions

Our findings provide several key contributions to work in social psychology. First, our work extends the literature on feedback in social psychology (e.g., wise feedback; Cohen et al., 1999) by demonstrating that the ways people in power solicit, not just give, feedback can influence equity outcomes.

Second, these findings advance our understanding of bias concerns in workplace and educational environments, extending past work on stereotype threat and the protective power of identity safety cues (e.g., Davies et al., 2005; Emerson & Murphy, 2015; Hall et al., 2018). Thus far, work on how those in power can increase identity safety in subordinates has focused on ideas such as mindsets of intelligence (Canning et al., 2019, 2022; Muenks et al., 2020), identity-paired role models (e.g., Pietri et al., 2019; Stout et al., 2011), and improving physical spaces (e.g., Cheryan et al., 2009; Master et al., 2016). Feedback receptivity moves beyond the foundations of identity safety theory to establish another kind of identity safety cue from leaders.

Furthermore, past work on identity safety cues has often used cues that explicitly reference identity, such as gender-inclusive policies (Hall et al., 2018), reporting one's gender pronouns (Johnson et al., 2021), and explicit statements valuing marginalized groups (Maimon et al., 2023; Moser & Branscombe, 2022; Purdie-Vaughns et al., 2008). Our findings contribute to a growing body of work on identity

safety cues that are identity-neutral on the surface but help close equity gaps, such as mentoring programs (Dobbin & Kalev, 2018), treating others as respected work partners (Muragishi et al., 2024), and supportive work/life organizational policies (Kalev & Dobbin, 2022).

Third, we join an expanding area of research investigating how, contrary to traditional understandings that power makes people less attuned to others' needs (e.g., van Kleef et al., 2008), power can at times be leveraged for the good of others (Chen et al., 2001; Galinsky et al., 2014; Moon et al., 2021). We introduce relational leadership as a construct that demonstrates how power can produce prosocial outcomes. How power was used, rather than the extent to which a power difference was perceived, emerged as the key mediator of positive outcomes in our studies. Power can be a force for good when leaders are committed to building strong relationships.

Fourth, being heard in organizational settings is often linked to procedural justice (Blader & Tyler, 2003; Lind et al., 1990), but we introduce relational leadership as a novel mechanism that moves beyond perceptions of fairness to examine how perceptions of care, trustworthiness, and the use of power for good are shaped by feedback receptivity and, in turn, shape bias concerns. Furthermore, relational leadership combines multiple closely related constructs, suggesting that factors that have been seen as distinct (e.g., warmth, trust) may operate similarly in some contexts.

Fifth, we examine the role of response to feedback in shaping outcomes. We disaggregate the feedback receptivity cue into two parts—signal and follow through—and find that the mere signal of feedback receptivity is enough to confer initial benefits even before evidence of follow through is present. However, under certain circumstances (i.e., conspicuously ignoring feedback given), giving the cue of feedback receptivity can backfire. Much of the existing literature has positioned feedback receptivity as predominantly promoting positive outcomes (e.g., Cook-Sather, 2006; Fast et al., 2014; Mansfield, 2014; Morrison, 2014), but our work introduces a nuanced understanding of how feedback receptivity can produce both positive and negative outcomes depending on follow through. These findings extend prior work on how some identity safety and diversity cues can result in harm (Georgeac & Rattan, 2023; Germano et al., 2021; Kroeper et al., 2022), such as when leaders are perceived as hypocritical (Greenbaum et al., 2015).

Finally, this work examines the experiences of populations that are typically understudied (e.g., disabled students, LGB+ employees) in psychological research on diversity and identity safety cues (Kruk & Matsick, 2021). Including understudied groups is crucial to building a more complete understanding of how identity safety cues function across contexts, expanding generalizability, and avoiding unintentional harm to vulnerable populations.

Implications for Culture Change

Our findings establish that feedback receptivity reduces bias concerns. Centering subordinates' feedback may help those in power enact transformative, context-appropriate culture change that could contribute to more equitable environments. Feedback receptivity interventions give subordinates a role in equity reform and can help identify the most urgent areas to address. Listening to feedback could also help those in power tailor equity interventions to their particular context (e.g., Yeager & Walton, 2011). In addition, because the simple act of asking for feedback does not explicitly reference identity, it may be particularly helpful for reducing bias concerns while eliciting less resistance from dominant-group members than targeted diversity efforts. Feedback receptivity does not appear to harm dominant-group members; across all studies, feedback receptivity did not increase dominant-group members' bias concerns. Finally, even if members of marginalized groups are not equally represented in a field or in positions of leadership, people in power who are motivated to create inclusive cultures can begin to reduce bias concerns by signaling that they are open to feedback. This is particularly important because it prioritizes not simply getting more marginalized students and workers "into the door" or "through the pipeline" but also creating positive cultures where they can thrive with less fear of bias. Feedback receptivity can be a useful and practical strategy for fostering more welcoming cultures.

How should feedback receptivity be implemented in educational institutions and workplaces? One strength of feedback receptivity is that it can be integrated at multiple levels of culture and signaled through multiple methods. Feedback receptivity could be communicated through person-to-person interactions (e.g., an instructor expressing that they value feedback), artifacts (e.g., syllabi), and behaviors (e.g., evidence of change in response to feedback). Institutional policies could encourage feedback receptivity by establishing formal feedback mechanisms (e.g., surveys) and methods for following up on feedback. By integrating feedback receptivity across organizations, people in power could maximize its reach and impact.

Strengths and Limitations

The present work has several strengths (see Table 2). We investigate feedback receptivity both in a large-scale field study and experimentally. We observe the phenomenon in multiple contexts (e.g., labs, classrooms, work teams), among three different marginalized populations, and across multiple domains of feedback requests (i.e., soliciting feedback "on the team culture"; "on the work/classroom environment"; "about the lab/group"; and "suggestions to improve the course"). We also investigate mechanism through both mediation analyses and controlled experimental manipulations. Finally, we examine the separate effects of signaling openness to and responding to feedback, and we identify a boundary condition on the effectiveness of signaling feedback receptivity (i.e., conspicuously ignoring feedback given).

Feedback receptivity may operate differently along axes of identity we did not investigate (e.g., race) and still needs to be investigated with more attention to intersectional identities. Furthermore, we demonstrated feedback receptivity's effects both in a real-world setting and through artificial experimental manipulations, but we did not experimentally test the effects of feedback receptivity intervention in a field setting. We also do not know whether feedback receptivity messages produce long-lasting effects, the extent to which such messages may need to be repeated, and whether soliciting feedback from subordinates varies in effectiveness and appropriateness across cultures. Finally, we do not know whether feedback receptivity reduces disparities in other outcomes, such as retention, well-being, and performance.

Future Directions

Future work could explore who is encouraged to give feedback and whose voices are heard. Some methods of soliciting feedback

Table 2
Assessment of Strengths and Limitations

Dimension	Assessment
Internal validity	
Is the phenomenon examined with experimental methods?	Yes (Studies 2–7)
Were manipulations validated (e.g., with manipulation checks or pretest data)?	Yes (All studies)
Were alternative explanations ruled out?	Yes (Studies 1, 3, and 5 included measures for alternative explanations)
Were potentially confounding variables addressed?	Yes (Studies 2–7 used tightly controlled experiments)
Are boundary conditions examined?	Yes (Study 7)
Is there consistency in moderators? (i.e., where the effect is *not* observed?)	Yes (Across all studies that tested whether identity moderated the effect, dominant-group members showed absent or lesser effects.)
Is the phenomenon's mechanism examined, including addressing the limitations of mediation analyses?	Yes (Mediation in Studies 3, 4, and 5; experiment manipulating proposed mechanism in Study 6 to address limitations of mediation and establish causal pathway)
Statistical validity	
Were sample sizes, study designs and measures, hypotheses, and data analysis plans preregistered?	Yes (All studies)
Was the statistical power at least 80%?	Yes (All studies)
Were the reliability and validity of all dependent measures established (here or elsewhere)?	Yes (In all studies, dependent measures were either adapted from existing valid scales or had validity explored with factor analysis. Reliability is reported for all scales.)
Is multicollinearity among predictors/mediators addressed?	Yes (Discussed in all studies featuring correlated predictors)
Were the distributional properties of variables examined (e.g., for normality assumptions?)	Yes (All studies)
Generalizability and ecological validity	
Were different experimental methods used?	Yes
Were methods artificial/hypothetical?	No (Study 1) Yes (Studies 2–7)
Was the phenomenon assessed in a field setting?	Yes (Study 1)
Are the results generalizable to different identity groups?	Yes (three identity groups: gender, sexual orientation, disability)
Are the results generalizable across different contexts/settings?	Yes (three contexts: labs, classrooms, work teams)
Are the results generalizable across different cultures/countries?	Unsure (not tested)
Are the results generalizable across different time/historic periods?	Unsure (not tested)
Is the phenomenon examined in terms of intersectional identity?	Yes (S1 examined intersections between gender, race, and sexual orientation in predicting gender bias concerns.)
What are the main limitations in generalizability?	Limitations on generalizability based on the current data include potential effects of time (i.e., longitudinal), age, and culture. In addition, we do not know whether feedback receptivity reduces disparities in other outcomes, such as retention, well-being, and performance.

may risk unintentionally reinforcing existing inequities by centering the perspectives of the subordinates with the most power and privilege. For instance, asking a class to share public verbal feedback could favor members of dominant groups (e.g., H. S. Kim, 2002). Members of marginalized groups may face additional barriers to providing feedback; giving those in power critical feedback may be particularly challenging due to valid fears of silencing and retaliation. Once feedback is solicited, those seeking to foster equitable cultures should ensure that all subordinates have a fair opportunity to share their feedback and be heard. Our work suggests that asking for feedback is a promising first step, but creating an environment in which members of marginalized groups feel comfortable giving feedback about sensitive topics is likely to require building trust over time.

Examining how feedback receptivity operates when the people in power are members of marginalized groups is another important future direction. For example, feedback receptivity could be weaponized against teachers and other leaders with marginalized identities (see Kreitzer & Sweet-Cushman, 2022 for a review of evidence on bias in student evaluations of teaching). Future research could also investigate how feedback receptivity operates when the person in power and subordinate are members of different marginalized groups (e.g., LGB+ employees' perceptions of a straight woman leader).

The content of feedback given is another interesting area of study. Some requests for feedback could operate differently than others. For instance, perhaps a leader who solicits feedback about a work product may be less effective at reducing subordinates' bias concerns than one who solicits feedback about the group's environment.

Future work could also examine what leaders do after feedback is received. Some leaders may have the impulse to reject useful feedback: Research could examine how to reduce defensiveness in leaders and help them successfully implement change. Conversely, not all feedback is helpful or actionable, and sometimes problems require solutions that are different from those that subordinates suggest. Research should investigate whether leaders can offset the potential backlash of choosing not to act on feedback by explaining the reasoning behind their decisions. Future work could explore how those in power can navigate the process of responding to feedback in a way that facilitates a more equitable culture.

Relational leadership also sparks a series of future research questions. Research could examine other interventions to increase perceptions of relational leadership; could investigate why relational leadership reduces bias concerns and whether it affects other relevant outcomes (e.g., interest, performance); and could disentangle perceptions of relational leadership from broader liking or positive feelings toward the person in power. Future work could also examine relational leadership in naturalistic contexts to better understand how perceptions of relational leadership emerge and shape real-world outcomes.

Could traditionally dominant groups ever benefit as much from feedback receptivity as traditionally marginalized groups? We hypothesize that there may be times when members of dominant groups experience similar or more benefit from feedback receptivity. First, dominant-group members may experience reduction in bias concerns in situations in which they feel marginalized. For example, among men who work on majority-women work teams, potential cues of bias may be more salient. As a result, they may show a reduction in bias concerns in response to feedback receptivity like the effect we observed in women. Furthermore, bias concerns are not the only relevant outcome of feedback receptivity. Dominant-group members may still prefer leaders high in feedback receptivity and could experience other benefits (e.g., performance, recruitment, perceived authenticity of leader). Future work could examine when feedback receptivity and relational leadership narrow disparities between marginalized and dominant-group members and when they may be broadly beneficial across groups.

Conclusion

The actionable leadership strategy of requesting feedback reduces bias concerns for women in male-dominated workplaces, LGB+ workers, and disabled students. This effect is mediated by increased perceptions of relational leadership, suggesting that members of marginalized groups perceive people in power who value feedback as more attuned to others in their leadership decisions and subsequently less likely to foster a biased environment. However, when those in power conspicuously ignore feedback after requesting it, bias concerns spike higher than if there is no initial feedback request. Taken together, these results demonstrate that positive outcomes for marginalized-group members are shaped by whether those in power are willing to receive, not just give, feedback.

Citation Diversity Statement

Research has found that scholars from groups marginalized in academia tend to be under-cited compared to their nonmarginalized peers (e.g., Borsuk et al., 2009; King et al., 2017). To measure progress toward our goal of the References section that reflects the diversity of scholars and journal outlets addressing the topics examined in this article, we conducted a citation audit using a procedure created by Azpeitia et al. (2022); results are available from the first author. We are committed to supporting more equitable and cumulative citing behaviors in psychology, including working to diversify the author identities and journal outlets represented in our References.

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