Gendered white lies: Women are given inflated performance feedback compared to men

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Abstract

Are underperforming women given less truthful, but kinder performance feedback (“white lies”) compared to equally underperforming men? We test this hypothesis by using a “benchmark” of truthful (objective) evaluation of performance and then either manipulate (Study 1) or measure (Study 2) the extent to which the feedback given to women is upwardly distorted. In Study 1, participants were asked to guess the gender of an underperforming employee who had been given more or less truthful feedback. Participants overwhelmingly assumed that employees who had been told “white lies” were women. In Study 2, in a naturalistic feedback paradigm, participants first provided a quantitative evaluation of work in the absence of any gender information. After learning the worker’s gender, participants upwardly distorted their quantitative feedback and expressed more positive comments to women, but not men. The findings suggest that women may not receive the same quality of feedback as men.

Keywords: Gender, feedback, stereotypes, bias, white lies

Introduction

Most of us have likely told a spouse that their cooking tastes great, when in fact it doesn't, or told a friend we like their new partner, when in fact we don't. White lies are often told because we strive to maintain social bonds (Baumeister & Leary, 1995) and are driven by various interpersonal goals, such as the desire to avoid a negative reaction (Fisher, 1979; Turner, Edgley, & Olmstead, 1975), to help the recipient in some way (Erat & Gneezy, 2012; Gino, Ayal, & Ariely, 2013), to avoid harming the relationship or the other person (DePaulo & Bell, 1996; Lupoli, Jampol, & Oveis, 2017), or to present one's self in a positive light to others (Carver, Glass, & Katz, 1978) or themselves (Camden, Motley, & Wilson, 1984).

Although they may reflect benign intentions, white lies can be problematic when giving performance feedback. In professional contexts, the communication of performance information, even if it is negative, is important for improving future performance (Belschak & Den Hartog, 2009; Hillman, Schwandt, & Bartz, 1990). But communicating negative information is difficult (Cox, Marler, Simmering, & Totten, 2011; McKee & Ptacek, 2001). Despite intentions to be honest, upwardly distorted feedback (white lies) is fairly common in the workplace.

The present work focused on the question: is there a greater propensity to tell women, as compared to men, white lies during performance feedback? A lack of accurate developmental feedback could lead to continued poor performance (Dardenne, Dumont, & Bollier, 2007; Dumont, Sarlet, & Dardenne, 2010). Additionally, positive but inaccurate feedback, if detected, could exacerbate anxiety about one's standing in the organization or faith in management, which can undermine effective performance (Ashford & Cummings,

1983; Dweck & Gilliard, 1975; Lamarche, Seery, Kondrak, Saltsman, & Streamer, 2020). Clear and accurate performance feedback is likely especially important for members of marginalized groups, who are already subject to an unfair playing field at work (Correll & Simard, 2016). Thus, knowing whether women are less likely to receive accurate information about their performance has wide-ranging implications.

Although there is no empirical study that has directly examined the hypothesis that people tell more white lies to women during feedback, several findings provide indirect support. First, some studies show that personal or group-based characteristics of interaction partners affect the nature of communication. For example, Harber (1998) found that, after reading the same poorly written essay, White participants gave more positive feedback to Black (vs. White) students. Also relevant, people are likely to accentuate positive information and omit negative information when publicly describing people who are viewed ambivalently (e.g., high on warmth but low on competence), or of historically marginalized ethnicities (Bergsieker, Leslie, Constantine, & Fiske, 2012).

Importantly, a robust literature has shown gender differences in performance evaluations (Guillemin, Holmstrom, & Garvin, 1979; Madera, Hebl, & Martin, 2009; Schmader, Whitehead, & Wysocki, 2007). For example, women are described as less agentic than men in academic recommendation letters (Madera et al., 2009), praised for their work while being allocated fewer resources (Biernat & Vescio, 2002; Vescio, Gervais, Snyder, & Hoover, 2005), and described more warmly and with more positive words in narrative, written (i.e., not person-to-person) performance reviews, despite being evaluated more negatively on quantitative measures of competence (Biernat, Tocci, & Williams, 2012). Further hinting at the possibility that women may not be receiving accurate

feedback, women report receiving less negative feedback from managers (King et al., 2012).

Although these prior findings suggest that women may be given less accurate feedback, as far as we know, no study has directly examined whether the *accuracy* of direct, person-to-person feedback depends on recipient gender. For example, although a discrepancy between quantitative and qualitative feedback in performance reviews (e.g., Biernat, et al., 2012) could plausibly reflect white lies, it is also possible this discrepancy reflects using one set of criteria when making quantitative evaluations and a different set of criteria when making qualitative evaluations. Similarly, although work using self-reports suggest that women may receive less critical feedback (e.g., King et al., 2012), self-reports may not reflect what actually transpired, nor do they capture distortion or inaccuracy.

In the present work, our primary aim was to provide empirical evidence that there is a greater propensity to positively distort information, or tell white lies, to women during person-to-person feedback. To do so, each of our studies included a “benchmark” of truthful evaluation of performance, and then either manipulated (Study 1) or measured (Study 2) the extent to which the feedback given to women is upwardly distorted relative to this original evaluation. Additionally, past work suggests that gender differences in evaluations and communication may reflect gender stereotypes (Bergsieker et al., 2012; Biernat & Danaher, 2012). Thus, to explore possible mechanisms for a white lie bias towards women, in both studies, we explored the relationship between the white lies gender bias and the trait perceptions of those who are told white lies.

Study 1

As an initial empirical test of a gender bias in the telling of white lies, in Study 1, we sought to examine people's beliefs about the prevalence of white lies during feedback to women in a professional context. We asked participants to read about a (hypothetical) manager's assessment of an employee's (poor) performance, and subsequent feedback to the employee. We manipulated the accuracy of the feedback from harsh but truthful at one extreme to kind but less truthful at the other extreme. We thus operationalized a "white lie" as the *positive distortion* of the manager's original, objective evaluation to the feedback provided directly to the employee. Participants' task was simply to guess the gender of the underperforming employee as a function of this distortion. Because people are typically good at picking up on systemic or socially ingrained biases (e.g., Plant, Hyde, Keltner, & Devine, 2000), we reasoned that when the feedback was kinder but less truthful, participants would assume the employee was a woman. After guessing the employee's gender, participants were asked to indicate what they believed the manager had thought of the employee on the traits of *warmth*, *sincerity*, *competence*, and *confidence*. These measures were used to explore how assumptions of the manager's perceptions of the employee varied as a function of employee gender and feedback.

Methods

Both studies were approved by the university's Institutional Review Board and all participants provided informed consent. We have reported all manipulations and measures in the main text or in the Supplemental Materials and Appendix.

Participants and design. One hundred and eighty-five participants recruited in exchange for course credit. Three participants were excluded, because they failed to answer the gender assumption or the trait perception measure. Thus, the final sample size consisted

of 182 individuals (113 female). Data were collected in two separate samples. Because conclusions for both samples were the same (see Supplemental Materials), for the sake of brevity, we report results from the pooled analysis.

The experimental design consisted of a single factor (*feedback accuracy*) with six between-subject levels (ranging from extreme truth to extreme lie). The *ns* for each of the six feedback conditions were: $n_1=30$, $n_2=28$; $n_3=30$; $n_4=34$; $n_5=33$; $n_6=27$. Assuming a medium effect size (equivalent to an *r* of .3), $\alpha = .05$, and a two-tailed test, the statistical power to test our main hypothesis regarding the relationship between performance feedback and gender assumption using a chi-square test with five degrees of freedom is .90.

Procedures and measures. Overview. Participants read a hypothetical scenario in which a manager of a company assessed (an unnamed) employee as clearly underperforming and to whom they must now give feedback. Participants then read that the manager had chosen the feedback to give directly to the employee from six different qualitative feedback options (see Appendix for the wording of the scenario and six feedback options). The six options varied from Option 1, the most truthful statement, which was also the harshest, to Option 6, the least truthful statement, which was also the nicest. The most truthful statement (Option 1) most closely matched the manager's actual evaluation of the employee's poor performance, nearly word-for-word (e.g., "*The quality of your work is much worse than the other employees and we expect you to do much better and work much harder.*"). To ensure that participants considered the manager's feedback on a truth vs. lie dimension, participants saw all six feedback options. But crucially, participants were randomly assigned to an experimental condition wherein only one of the

six statements was clearly marked with a large check mark next to it, indicating that it was what the manager had chosen to say to the employee.

Assumption of employee gender measure. Based on the feedback that the manager had chosen to give, participants were asked to guess the gender (male or female)¹ of the employee.

Assumption of the manager's perception of the employee's traits measure. Next, for exploratory purposes, participants were asked to indicate what they believed the manager had thought of the employee on the traits of warmth (i.e., “warm,” “sincere”) and competence (i.e., “confident,” “competent”), and the perceived likelihood that the manager would assign an important task to the employee in the future (“future task”). Participants indicated their responses by marking an *x* on a continuous 12” line measure. Judgments of warm and sincere were strongly, but imperfectly, correlated ($r=.55$, $p<.001$), and judgments of confident and competent were even less correlated ($r=.17$, $p=.02$). In all our analyses, we examined each trait separately in our analyses.

Demographic survey. At the end of the study, participants provided their gender, age, political orientation, and completed the Benevolent Sexism Inventory (Glick & Fiske, 1996). None of these variables interacted with the main effect of feedback accuracy on assumptions of employee gender. Finally, participants were debriefed.

Data analytic method. We tested our focal hypothesis (i.e., participants would assume the employee who was lied to was a woman) using a chi-square test of linear association, as well as a logistic regression, with gender assumption (woman=1) as the outcome variable and feedback accuracy (1-6) as an ordinal predictor. To explore the role

¹At the time of these studies, we referred to gender (not sex) in a binary fashion (man/woman), though we recognize that gender is not binary.

of the manager's presumed trait perceptions, we examined each trait separately using linear regressions with gender assumption, feedback inaccuracy, and the interaction between the two entered simultaneously as predictors. In all models, the interaction between gender assumption and feedback inaccuracy was not statistically significant ($p > .195$), and therefore dropped from the model.² To account for performing multiple (5 tests) comparisons, we applied a Bonferroni correction to all results ($p < .01$).

Results

Assumptions of Gender Differences and White Lies. As predicted, people assumed that an underperforming employee who was given less accurate but kinder feedback (white lie) was a woman, $\chi^2(5, 181) = 45.33, p < .001$. As shown in Figure 1, as the manager's feedback went from more truthful but harsher (Option 1) to less honest but kinder (Option 6), participants were nearly twice as likely to assume that the underperforming employee was a woman, $B = .62, SE = .11, p < .001$; $\text{Exp}(B) = 1.86$, 95% CI [1.5, 2.3], $R^2 = .26$.³ Participant gender did not significantly moderate any of the results reported here (*ns*).

²Feedback inaccuracy and gender assumption were correlated ($r = .45, p < .001$), which simply reflects our main finding that inaccurate feedback predicts assuming a female gender. The variance inflation factors (VIF) were acceptable (< 10). Still, because observations across level of gender were not evenly distributed across level of feedback accuracy (e.g., employees who were given inaccurate feedback were assumed to be women), the statistical power for testing the interaction is low. Moreover, it is difficult to disentangle the effect of feedback inaccuracy and a female gender assumption on assumed trait judgments.

³To confirm that our conclusions are not dependent on the analytic approach reported here, we performed an ANOVA and a chi-square test. The conclusions remained the same (see Supplemental Materials).

Figure 1. The proportion of participants, within each feedback accuracy condition, assuming the employee was male or female. $N=182$ ($n_1=30$, $n_2=28$; $n_3=30$; $n_4=34$; $n_5=33$; $n_6=27$).

Assumptions of Manager's Perceptions of Employee's Traits. We also explored people's assumptions of the trait inferences made of the employee. Linear regressions with perceived employee gender and feedback entered simultaneously as predictors showed two independent effects of employee gender and feedback on trait perception. First, participants who inferred that the employee was a woman (vs. a man) also assumed that the manager perceived her to be less confident, $B=-.94$, $SE=.31$, $t=-3.03$, $p=.003$, 95% CI $[-1.55, -.33]$, partial $R^2=.05$. They also assumed that the manager perceived her as warmer, though this trend did not reach statistical significance, $B=.41$, $SE=.21$, $t=1.92$, $p=.056$, 95% CI $[-.004, .82]$, partial $R^2=.02$. There was no statistically significant effect of gender on competence, $B=-.34$, $SE=.25$, $t=-1.36$, $p=.176$, 95% CI $[-.83, .15]$, partial $R^2=.01$. Second, as feedback inaccuracy increased, participants inferred that the manager perceived the employee as significantly warmer, $B=.54$, $SE=.13$, $t=4.27$, $p<.001$, 95% CI $[.28, .80]$, partial $R^2=.09$.

The other trait judgments did not vary significantly as a function of gender assumption or feedback inaccuracy (Table S1).⁴

Discussion

Study 1 examined whether assumptions about an underperforming employee's gender could be predicted by the kind of feedback the employee had received. Participants overwhelmingly guessed that an underperforming employee who had been told a white lie was a woman. The findings provide initial empirical evidence documenting the presence of a gender bias in the telling of white lies in direct (person-to-person) performance feedback contexts.

Additionally, our analyses of the inferences about the manager's perceptions of the trait of the employee, although exploratory, were informative. Specifically, participants who assumed that the employee was a woman (vs. a man) also inferred that the manager perceived her as less confident. There were no other statistically significant differences as a function of gender on trait perceptions, including warmth and competence, which have in the past been implicated in gender biases in communication (Bergsieker et al., 2012; Biernat et al., 2012; Kray, Kennedy, & Van Zant, 2014). Moreover, as feedback veered towards a white lie participants inferred that the manager perceived the employee as warmer, which is consistent with past work showing that those who elicit compassion are more likely to be told white lies (Lupoli et al., 2017). We continue to explore the relationship between the white lies gender bias and the trait perceptions of those who are told white lies in Study 2.

⁴Feedback inaccuracy also affected judgments of the manager's view of the employee's confidence, but in a nonlinear fashion (test of quadratic effect: $B=.45$, $SE=.11$, $t=4.14$, $p<.001$, 95% CI [.23, .67], partial $R^2=.08$): Participants assumed the manager viewed the employee as most confident at either the harshest truth or the nicest, most blatant lie (Fig. S1).

Despite providing initial empirical evidence of the existence of a white lie bias to women, Study 1 is based on people's perceivers of another person's actions. But would people actually be more likely to tell white lies to an underperforming woman (compared to a man) in a real person-to-person feedback situation? This question was examined in Study 2.

Study 2

In Study 2, we examined whether in an educational context, people are more likely to actually tell a white lie to an underperforming woman (vs. man) when giving direct person-to-person performance feedback. We asked participants to grade two essays, which had been deemed by a separate, independent sample of judges to be of poor quality. Initially, the only information provided about the writers was their initials. Because the writers' gender was not known, participants' initial evaluation reflects their objective and most truthful evaluations. Immediately, after providing their initial evaluations of the two essays, participants were told that they would be providing feedback to each writer. At this point, the first name of the two writers was revealed, thereby, disclosing the writers' (presumed) gender: one was a man and one was a woman. When giving feedback to each writer, participants provided quantitative evaluations (on the same scales as their initial evaluation) and qualitative comments.

Thus, we operationalized a "white lie" as the *positive distortion* of people's quantitative assessments from their initial objective evaluations (i.e., before the writers' gender was known) to their quantitative feedback provided directly to the writer (i.e., after the writers' gender was revealed). Our critical test was whether people would be more likely to tell white lies when the writer of the poorly written essay was a woman than a

man. If so, this would provide further empirical support for the presence of a white lie gender bias. We also examined whether people would be aware of a gender bias in their feedback, or if, like many other biases in domains where being unbiased or fair is important, participants would exhibit a ‘bias blind spot’ (Pronin, Gilovich, & Ross, 2004). Finally, we continued to explore the relationship between the white lies gender bias and trait perceptions of recipients of white lies.

Method

Participants and design. We recruited a sample of 68 university undergraduate students using procedures similar to Study 1. Two participants were excluded from the analysis because one was a former research assistant in the lab, and the second person’s data was lost during a computer crash during the experiment. Thus, the final sample consisted of 66 participants (39 identified as female, 26 as male, and one as “other”).

The main study design was a 2×2 structure with gender of the writer (man vs. woman) and time (1 vs. 2) as within-subject factors. With an effect size of $\eta^2=.06$ ($f=.25$), a measure of association between repeated measures equivalent to an r of .5, $\alpha=.05$, and a two-tailed test, the statistical power to test our main hypothesis regarding an interaction between time and gender using a repeated measures ANOVA with 62 degrees of freedom is .98.

Procedures and measures. Overview. Participants were told that their task was to read and evaluate two short essays (see Supplemental Materials) on the topic of graduate school admission, written by other students in a ‘real time’ writing test. As one of the key elements of performance feedback is its socially stressful nature and we wanted the task to seem real, participants were told the other students (the writers) would be participating

remotely. In reality, all communications were pre-programmed using a chat prototype produced for the Qualtrics platform (North & Fiske, 2013). Seventy-five percent of the participants reported not being aware that the writers were actually not real people but rather programmed, suggesting high psychological realism (See supplementary Materials). Participants were told that the other two students (the writers) had four minutes in which to write their essays. During this time, participants were asked to read through a set of criteria to familiarize themselves with good writing (see Appendix). Throughout the chat, all communication (including essays) from these fake writers were identified only by initials “SB” and “AM.” Two essays were used and counterbalanced across (later disclosed) gender conditions.

Gender manipulation and essay evaluation measures (Time 1 & 2). For their first evaluations (Time 1), participants were asked to evaluate the quality of two essays (presented in randomized order) using 0-100% scales. These essays had been judged by a separate independent sample as below-average (see Supplemental Materials). At Time 1, participants had no information about the writer’s gender and made these evaluations privately (only to the researcher). After submitting their Time 1 evaluations, participants learned the gender of the writers via their names (“Sarah” instead of “SB” or “Andrew” instead of “AM” (Pittinsky, Shih, & Trahan, 2006). At this point, they were asked to provide their evaluations again (Time 2) to each writer as direct feedback using the same 0-100% scales. This design was intended to measure the change in participant’s quantitative evaluations, as a function of gender, and thus capture the white lie in action, as well as provide a qualitative measure to capture tone and content. To motivate participants to give truthful and helpful feedback to the writers, they were told that the writer had an

opportunity to revise the essay for submission in a competition and win a prize (motivation to be helpful was also assessed during debriefing).

At both times, participants evaluated the essays on the following dimensions modified from a writing assessment and evaluation rubrics guide (Glencoe/McGraw-Hill, 2005): Essay quality, writing criteria (focus, organization, logic, support, mechanics of the writing), and willingness to recommend the essay as exemplary (see Appendix). All dimensions were evaluated on a scale of 0 (*not at all*) to 100 (*completely*), except for quality, which was evaluated on a scale from 0 (*not good at all*) to 100 (*excellent*). All quantitative measures were correlated strongly with each other (α s: Time 1 = .94; Time 2 = .92). Thus, for each time point, we averaged the indices to create one composite measure (*Quality*), which we report here as the dependent measure (Table S2).

After their quantitative feedback at Time 2, participants were additionally asked to provide a few sentences of qualitative feedback to each essay writer. Three independent, trained coders, blind to the experimental condition and the hypothesis rated the qualitative feedback statements on several measures (7-point scales; α =.75), (see Supplementary Materials). The items were averaged into two composites: positivity (Cronbach's α =.95), and constructiveness (α =.93) (Table S3). The positivity composite was used to examine if the qualitative results echoed the positive change in the quantitative results and the constructiveness composite was to examine the extent to which participants offered helpful criticism. We also examined if there was more positivity but less constructiveness (a wider gap) for the female writer than for the male. As an additional measure, the coders were also asked what grade they thought the evaluator gave the essay writer, based on their

feedback statement to the writer (0-100%). This was to highlight another potential consequence: that people could make inferences about quality of work based on feedback.

Trait perception measures (Time 1 & 2). Participants were asked to evaluate the writer of each essay on a set of traits after their Time 1 evaluation of the essays and again after their Time 2 feedback provided directly to the letter writers. The items included traits that reflect the dimensions of warmth (i.e., *warm, agreeable*) and competence (i.e., *competent, confident, intelligent, dominant*) (Fiske, Cuddy, Glick, & Xu, 2002). We also included two additional measures of perceived future ability (“*optimism about the writer’s future*” and “*recommendability of work*”). Participants provided evaluations of both writers on each of the items using a scale of 0 (*not at all*) to 100 (*extremely*). We analyzed each trait separately, but also for the sake of brevity, identified potential underlying factors for the trait judgments in our study. Factor analyses revealed that judgments of individual traits reflected two factors: confidence/dominance (Factor 1: $r=.71$) and what we refer to as “general likeability” (i.e., warmth, agreeableness, optimism, intelligence, competence, and recommendability; Factor 2: $\alpha=.93$). The factor coefficients are reported in the results (see Table S5 for individual means and analyses).

Feedback accuracy motivation. At the end of the study, participants were asked if they had been motivated to be accurate when communicating their feedback to the writers (*yes, no, sort of*). Seventy-nine percent of the participants indicated they were motivated to be accurate (*yes*), while 13.4% were slightly motivated (*sort of*) and 7.5% were not motivated to be accurate (*no*). Motivation did not moderate the main results.

White lie awareness measures. To examine whether participants were aware of any tendency to lie to essay writers, they were asked “*Did you give inaccurate feedback*

during phase two?”, with “Yes,” “No,” or “Maybe” as response options. Additionally, participants were asked “*What percentage of the truth do you believe you told Sarah/Andrew?*” to see if participants were aware of a possible gender bias in their feedback.

Demographic measures. Participants answered a series of demographic questions, with the addition of ethnicity, religiosity, political ideology.

Hypothesis awareness check. We included a question asking participants to guess the hypothesis of the study, which none of them did.

Data analytic strategy. We analyzed the data using a linear mixed model (LMM), with Restricted Maximum Likelihood as the method for estimation. The data from the present study are multilevel in that participants, the level-2 units, made four judgments about essay quality, the level-1 units. Thus, our main focus was on the extent to which the level-1 variables predicted judgments of essay quality. Accordingly, quality was entered as the dependent variable. Time (1 & 2), gender of essay writer (male & female), and essay version (A & B) were entered as the level-1 predictors. Participant gender was a level 2 predictor. All predictors were treated as fixed effects and participant was treated as a random effect. Our initial model included all possible interactions among the four variables. Any higher order interactions that were not statistically significant were dropped from the model (time $\times$ gender of essay writer was the only statistically significant two-way interaction and included as a predictor).⁵ Planned paired and independent-sample *t*-tests were performed to follow-up any statistically significant effects.

⁵Women gave higher overall evaluations than men, $F(1, 63)=5.27$, $p=.023$, consistent with past work showing that those who are concerned about social ties and are more agreeable, both characteristics of women (Weisberg, De Young, & Hirsh, 2011), are more likely to provide lenient ratings (Bernardin, Tyler, & Villanova, 2009; Cheng, Hui, & Cascio, 2017). However, participant gender did not significantly interact with time, *ns*, nor did it moderate the essay writer gender $\times$ time interaction, *ns*. Similarly, essay version also had an effect on the quality evaluations. Participants evaluated the two essays (A & B) as below average

For analyses using LMM, partial omega squared (ωp^2), which is less biased than partial eta squared (ηp^2) for smaller sample sizes (Olejnik & Algina, 2003), is reported, along with ηp^2 , both of which account for proportion of variance explained. All within-subject model effect sizes were calculated following standard procedures (Lakens, 2013). Where appropriate, Cohen's d is reported as an effect size.

Results

Are Women More Likely to be Given Upward Distorted Quantitative Feedback? Results from a linear mixed model provided empirical support for our hypothesis: participants were more likely to tell white lies to the female writer, reflected by a time $\times$ gender interaction, $F(1, 191)=5.49, p=.02, \omega p^2=.06, \eta p^2=.08$ ($M_{diff}=9.07, SE=3.19$), 95% CI [2.77, 15.36].⁶ Follow-up tests revealed that participants gave “Sarah” more favorable evaluations at Time 2 compared to their earlier, private evaluations of her work at Time 1 ($\Delta M_{female}=9.07, SE_{female}=3.19$), $p=.005$, 95% CI [2.77, 15.36], $d_{rm}=.44$, the equivalent to nearly a full letter grade difference (approximately 9% grade inflation). In contrast, participants provided “Andrew” with feedback at Time 2 that was statistically indistinguishable from their Time 1 evaluations ($\Delta M_{male}=-1.50, SE_{male}=3.19$), $p=.64$ (Fig. 2).

(Essay A: $M = 44.06, SD = 21.29$; Essay B: $M = 50.47, SD = 25.75$), $F(1, 191)=7.21, p=.008$, similar to the pretest results. But, importantly, essay version did not significantly moderate the time $\times$ gender interaction, *ns*.

⁶We report the raw means in the text and figure and parameter estimates from the linear mixed model.

Figure 2. Quantitative evaluation of the quality of the essays (0-100%) over time as a function of writer gender ($N = 66$). Means are displayed at the top of each bar, and error bars indicate $1 \pm$ standard error from the mean. At time 1 (dark bars), evaluations were made privately (to the experimenter) and before gender information about the writer was revealed. At time 2 (light bars), evaluations were made directly to the essay writer and after the writer's name and thus gender presumed.

Are Women Given More Positive Qualitative Feedback? Three independent coders who were blind to the gender of the writers and the hypothesis evaluated the qualitative feedback provided by participants. Complementing the quantitative findings, coders judged the feedback given to “Sarah” as more positive ($M=4.49$, $SD=1.35$) than the feedback given to “Andrew” ($M=4.07$, $SD=1.22$), $t(63)=-2.32$, $p=.02$, 95% CI $[-.79, -.06]$, $d_{rm}=-.33$. The constructiveness of the feedback did not differ significantly between “Sarah” ($M=3.88$, $SD=1.34$) and “Andrew” ($M=4.12$, $SD=1.27$), $t(63)=1.56$, $p=.12$, 95% CI $[-.07, .53]$. However, there was a statistically significant interaction between writer gender and type of feedback (positive vs. constructive), indicating a larger discrepancy in people's feedback to “Sarah” than to “Andrew,” $F(1, 63)=6.29$, $p=.02$, $d_{rm}=.29$. Finally, the coders guessed, based solely on the qualitative feedback, that “Sarah” must have performed better,

estimating that she had received a higher grade ($M=61.49$, $SD=10.84$) than “Andrew” ($M=58.10$, $SD=8.18$), $t(63)=-2.12$, $p=.03$, 95% CI [-6.50, -.27], $d_{rm}=-.35$.

Are Participants Aware of a White Lie Bias Towards the Female Writer? At the end of the study, the majority (65%) of participants reported that they had changed their initial evaluation when they had to provide direct feedback to the writers, reflecting an awareness of having lied. Importantly, however, people seemed unaware that their feedback differed as a function of the gender of the writer: When asked what percentage of their feedback was truthful, participants reported providing equally truthful feedback to “Sarah” ($M=78.0\%$) and “Andrew” ($M=75.9\%$), $t(54) = .70$, ns , $d = .09$.⁷ Moreover, actual lying (i.e., increases in evaluations from T1 to T2) were not related to reports of truthfulness in feedback (“Sarah”: $r=.007$, ns ; “Andrew”: $r=-.19$, $p=.169$) or with verbal indications of awareness of lying, ns (Table S4). Thus, although people realized that they had upwardly distort their feedback to some extent, they did not think they did so more to Sarah than to Andrew.

Trait Perceptions of the Writer. We explored trait perceptions of recipients of white lies. Specifically, we measured how perceptions of the writers’ confidence/dominance and general likability changed after learning the writer’s gender and giving direct feedback (T2), compared to having evaluated the work in the absence of the writers’ gender information (T1). Given our design, any change in trait judgments could be driven not only by stereotypes activated by learning the writer’s gender, but also as a function of the telling of white lies. Accordingly, we used LMM with the change in trait judgments as the dependent variable, the essay writers’ gender, the magnitude of the white

⁷This question was not mandatory so not all participants completed it, hence the lower *df*.

lie (Time 2 – Time 1 evaluations), and the interaction between the two as our main predictors.⁸ For consistency, we continued to include participant gender and essay version as covariates.

Learning the writers' gender did produce a change in perceptions of the writer's traits. Participants shifted judgments of "Sarah" lower for confidence/dominance traits ($\Delta M_{female} = -6.46$, $SE_{female} = 1.95$), but not "Andrew" ($\Delta M_{male} = -1.11$, $SE_{male} = 2.05$), as reflected by a statistically significant essay writer gender and time interaction, $F(1, 124) = 8.40$, $p = .004$, $b = 8.40$, 95% CI [2.66, 14.14], $d = .33$. There was no significant effect of gender on changes in the composite of general likability, $F(1, 124) = 1.88$, $p = .17$, $b = 3.09$, 95% CI [-1.37, 7.54], $d_{rm} = .18$, including the traits of warmth and competence (see Supplemental Materials).

Interestingly, the telling of white lies also produced a change in perceptions of the writer's traits. The more that participants had positively distorted their feedback, the more they upwardly shifted their judgments of all the writer's traits. This was the case for general likability, $F(1, 124) = 119.31$, $p < .001$, $B = .60$, $SE = .08$, 95% CI [.45, .75], as well as confidence/dominance, $F(1, 124) = 12.87$, $p < .001$, $B = .31$, $SE = .10$, 95% CI [.12, .50] (Fig. S2). The effect of white lies on changes in trait judgments did not differ as a function of writer gender (gender $\times$ evaluation change interactions were *ns*).

Discussion

Study 2 bolstered the empirical support for our focal hypothesis that there is a gender disparity in the telling of white lies during performance feedback. In a realistic,

⁸We repeated the analyses including all possible interactions among the predictors. Our conclusions remained unchanged.

real-time performance feedback setting, individuals who provided improvement feedback to struggling writers showed an upward, positive distortion to female writers, but no such distortions to male writers. These distortions were reflected in both quantitative and qualitative feedback. Importantly, by measuring the change from people's original evaluations to the feedback they gave, the present study demonstrates that women were given distorted feedback, or told "white lies."

Additionally, we explored how perceptions of the writers changed after learning of the writer's gender, and the telling of white lies. When the writer was a woman, participants shifted their perceptions of the woman's confidence and dominance downward, and this was not the case when the writer was a man. Interestingly, there was no statistically significant gender difference in general likeability, including warmth and competence. It is also noteworthy that the telling of a white lie led to viewing the writers more favorably on all traits, irrespective of the writer's gender. We discuss the implications of these exploratory results assessing trait perceptions for understanding the white lie gender bias in the General Discussion.

General Discussion

Across two different contexts (work and educational) and using distinct methods (simulation and dyadic interaction), we documented evidence for a previously untested gender bias in the telling of white lies during performance feedback. In Study 1, we found that when people had witnessed a manager tell a white lie during workplace feedback to an employee, they overwhelmingly assumed the employee was a woman. In Study 2, we designed a realistic situation in which students gave peer-to-peer educational feedback. Evaluators rated the two essays as equally poor when they had no information about the

gender of the writers. But after learning the writers' gender, evaluators provided more positive, less accurate feedback to the woman, but not the man. Collectively, these results suggest that in situations where a woman is underperforming and where feedback is needed, she is less likely to be given accurate feedback about her performance, compared to a man.

The present work contributes to the substantial literature on gender differences in how women are evaluated and given feedback. Importantly, whereas past work has focused on differences in feedback to women using self-report or comparative measures (e.g., the difference between qualitative and quantitative feedback, or how qualitative feedback differs from men's), we measured the accuracy of feedback compared to an objective standard of "truth"; in Study 1, the manager's true evaluation of the employee's work was clearly disclosed to participants, and in Study 2, participants reported their evaluation of the work prior to learning information about the gender of the writer and giving him/her improvement feedback. By using a true evaluation as a standard, we provide compelling evidence that people are upwardly distort feedback to women, or tell "white lies."

What Accounts for Gender Differences of White Lies?

Although the primary aim of the present work was to demonstrate the presence of a gender bias in the telling of white lies, here we consider several theoretical accounts for why this effect occurs.

One reasonable explanation is that the telling of white lies reflects gender stereotypes—beliefs about members of a group that are activated automatically and often implicitly (Devine, 1989; Schneider, 2005; Stroessner, Haines, Sherman, & Kantrowitz, 2010). Although there are many gender stereotypes, according to the Stereotype Content

Model (SCM; Fiske, Cuddy, Glick, & Xu, 2002), women as a social group are viewed as warm, but low on competence, reflecting paternalistic stereotypes (Eckes, 2002; Fiske et al., 2002). Such gender stereotypical judgments have been shown to contribute gender differences observed in the communication of performance evaluation (e.g., Bergsieker et al., 2012; Biernat et al., 2012; Kray, Thompson, & Galinsky, 2001).

Thus, from a SCM perspective, the gender bias in the telling of white lies might reflect gender stereotypes, such that underperforming women are more likely to be told white lies because they are generally viewed as warm, and more likely to elicit benign, paternalistic responses. Although exploratory, the trait perception results were not fully consistent with this stereotyping hypothesis. Most relevant, in our studies, women were not necessarily judged as higher in warmth than men. Moreover, in neither study were women judged as less competent than men. Thus, overall, the trait perception data is not entirely consistent with a SCM account.

But gender stereotypes are more nuanced than the superordinate dimensions of warmth and competence. Research shows that stereotypes about women's agentic characteristics are particularly complex (Hentschel, Heilman, & Peus, 2019). Women may be perceived as equally competent as men, but also as less assertive (Hentschel et al., 2019) and less likely to be leaders. They are also perceived as more gullible (Kray, Kennedy, & Van Zant, 2014), and as having lower confidence in performance contexts (Heilman, Lucas, & Kaplow, 1990; Lenney, 1977; Stankov & Lee, 2008). It is revealing, then, that across both studies underperforming women were perceived as having lower confidence than men. Although speculative, this suggests that stereotypes about women's confidence played a role in prompting the telling of white lies. If people view underperforming women

as having low confidence, they may infer that the reason women perform poorly is not because women lack the skills or the motivation to perform well, but because they lack the self-confidence to realize their abilities. Given that negative feedback may be seen as undermining self-confidence (Brockner & Elkind, 1985; Cohen, Steele, & Ross, 1999; Ilgen & Davis, 2000; Kluger & DeNisi, 1996), feedback providers may not want to further undermine women's confidence and exacerbate the situation. Such inferences may lead them to provide support and encouragement, even if it means distorting information.

Although the trait perception data hints at the possibility that gender stereotypes about women's (lower) confidence may prompt the telling of white lies, it is worth noting that the white lie bias may occur in the absence of activating any gender stereotypes (Amodio & Devine, 2006; Crandall, Bahns, Warner, & Schaller, 2011; Park & Judd, 2005). People can enact patterns of behavior that reflects years of being imbued with norms that dictate appropriate behaviors based on gender roles (Eagly & Wood, 2012). Some behaviors, like holding the door for women, can occur without necessarily being reliant on the activation of target-specific stereotypes, but instead by established gender roles in interpersonal contexts (e.g., Renne & Allen, 1976). In situations where feedback and helping is required and the target happens to be woman, people may simply be kinder to women because being kind to women is a social norm. Still, from a social roles theory perspective, men and women often enact different gender roles (e.g., men are more likely to hold the door for women, than women are to hold the door for men or for each other). But, contrary to this expectation, in Study 2, both male and female participants were equally likely to tell white lies toward women.

Another explanation for a gender bias in white lies may lie in self-presentation concerns. In past work, researchers have found that people were more likely to omit negative information when describing low powered individuals to others, especially when the act was in a more public vs. personal setting (Bergsieker et al., 2012). Such omissions are motivated by the desire to not want to appear to denigrate individuals from low-powered groups. Most pertinent to our work is research on performance feedback to marginalized racial groups, where researchers found that White participants provided more positive feedback to Black (vs. White) students because they did not want to appear biased in their evaluation (Harber, 1998; Harber, Stafford, & Kennedy, 2010).

On the surface, our research showing a positive distortion in feedback given to women appears similar to past work showing a positivity bias in communication. Still, an analyses of our study and results are not completely consistent with a desire to appear less sexist or more egalitarian. In the work on feedback to Black students (Harber, 1998; Harber et al., 2010), the positivity bias is assumed to arise in part because White people are uncomfortable during interracial interactions (Mendes, Blascovich, Lickel, & Hunter, 2002; Richeson & Shelton, 2007; Stephan & Stephan, 1985). However, gender is likely not as salient as race or ethnicity, in part because interactions with women are much more frequent than those involving members of different ethnic or racial groups (Rudman & Goodman, 2004). Indeed, in Study 2, wherein feedback took place in a college setting, women make up about half of the student body, so interactions with women in educational settings are quite frequent, whereas interactions with members of different racial groups who are historically underrepresented in certain work and college settings, are not (Ashkenas, Park, & Pearce, 2017). Additionally, many of our participants were women,

and they also were more likely to tell white lies to women (ingroup) than to men (outgroup). For these reasons, it seems unlikely that a positivity bias, prompted by outgroup discomfort, explains the gender bias in white lies.

One could still argue, however, that even in the absence of outgroup discomfort, people may still be concerned about the way others may perceive their actions towards a woman. If there is a social expectation of being nice to women (FeldmanHall et al., 2016; Viki, Abrams, & Hutchison, 2003), people may upwardly distort feedback to appear ‘nice,’ ‘chivalrous,’ or ‘egalitarian.’ But, again, according to social roles theory, this would be more likely a concern for men (Rosell & Hartman, 2001), and in Study 2, both women and men showed the white lies bias effect. Although it appears unlikely, our analysis does not rule out a self-presentation explanation, and future research should test self-presentation concerns more specifically.

Lastly, we consider whether a gender bias in white lies during performance feedback might be explained by a ‘shifting standards’ account whereby women are judged against stereotypes about their social group (Biernat & Kobrynowicz, 1997; Biernat & Manis, 1994). According to this account, once participants learned that an essay was written by a woman they shifted their original judgments upward because poor writing is okay “for a woman.” In other words, the gender discovery shifted the standard used to make the judgment, and therefore there was no distortion or white lie, just a changed evaluation.

For a few reasons, we believe that a shifting standards account is unlikely. First, in Study 2, if people were shifting their evaluations due to a perception that the essay was not bad “for a woman,” we might have also expected to see a subsequent upward shift in

competence and perhaps dominance and confidence for women (compared to men). But that was not the case. Second, in the domain of writing and verbal competency, which was the focal context of Study 2, women are viewed as more competent than men (Biernat & Manis, 1994b; Hyde & Linn, 1988; Swim, Borgida, Maruyama, & Myers, 1989). In this domain, a poorly written essay by a woman should shift perceptions of her competence *downwards* and elicit harsher feedback. This was in fact what we found in the pretest results for Study 2 (see Supplemental Materials): when the authors knew the writer's gender before evaluating the poorly written essay, women writers were evaluated more negatively than men writers, suggesting that women were judged against a higher standard than men. Thus, overall, a shifting standards account does not appear to account for the data from both studies.

Constraints on Generality

The exploratory trait perception data offers some preliminary evidence that gender stereotypes about confidence may play a role in the telling of white lies to women. Still, because trait perceptions in our paradigms were assessed after both the giving of feedback and the learning of gender information, it is not possible to disentangle the effect of gender from the effect of telling a white lie on trait perceptions. Thus, the present work demonstrating a gender bias in white lies sets the stage for several directions of future inquiry. One avenue is to clearly ascertain where in the act of telling white lies, gender and trait perceptions come into play. Interestingly, in Study 2, telling a white lie was associated with positively distorted assumptions of all traits, regardless of gender. It is possible that because of our design, where we inquired about trait perceptions *after* people had already lied (and most were aware of that), that the elevated trait evaluations reflect a justification

or cognitive dissonance resolution for having lied—people don't like to tell lies, even white lies (Erat & Gneezy, 2012) and having done a favor for someone leads to more positive feelings about them (Regan, 1971). Future work might focus on disentangling these effects.

Additionally, future research is needed to understand the measurable impact of white lies in the work place on women. Does receiving kinder, but less accurate feedback lead to continued poor performance in the future? To the extent that feedback is necessary for improvement, those who are given less clear and less accurate feedback would be expected to fare worse compared to those who are given clear, accurate feedback (Correll & Simard, 2016). Moreover, there may be unintended consequences. For example, if a woman perceives that performance feedback is inaccurate or patronizing, the unwarranted positive evaluation may ironically be demotivating due to resentment (Vescio et al., 2005), or if not recognized, result in a more traumatic emotional impact when criticism or decisions (e.g., firing) are made seemingly without warning (Larson, 1989). It is also possible that upwardly distorted feedback may be beneficial, if, for example, women interpret feedback more negatively than men (Biernat & Danaher, 2012) and are motivated by positive feedback. Regardless, feedback decisions that are based on demographic group membership are likely to lead to unequal treatment at the expense of individual needs. Further research should establish possible psychological and organizational consequences in either direction.

It is also important to note that the current findings may not generalize to all contexts. The present work focused on two important performance domains: organizational and educational contexts. It remains to be seen whether this effect would be found in other

domains, like medical or even relationship contexts. Study 2 was also specific to just one competency—writing (a domain women where might be perceived as competent). It is unclear whether in a male-dominated domain like engineering or finance, the effect would be amplified or reduced. Further studies are needed to establish the generalizability of the phenomenon to other domains.

Finally, “women” is a broad category, one that is often (and likely in this context) taken by participants to represent the dominant group—White, cis-gendered women. We did not examine the more intersectional and diverse breakdowns of gender in these studies, and do not know if this same effect would apply if we distinguished, say, women of color or trans women, from White, cis-gendered women. Because non-White women are stereotypically perceived as less warm and with more contempt, it is possible that instead of white lies about performance we might expect harsher feedback. On the other hand, as Harber and colleagues (2010) have shown, we might see a positive distortion effect but with a different explanatory mechanism, such as not wanting to appear racist. In short, further studies that take an intersectional lens are needed before claiming any effect on women, broadly speaking. More work is needed to understand why women may be told more white lies during feedback, how they apply outside this experimental context, and for people with intersecting, marginalized identities.

Our studies reveal a potential important obstacle for equality. Given that developmental performance feedback is a ubiquitous and important process in most workplaces and of many people’s working lives, access to fair and accurate feedback should be available to anyone needing improvement, regardless of his or her social group.

Here we have exposed one factor that may, to a certain degree, impede this access—being a woman.

References

- Amodio, D. M., & Devine, P. G. (2006). Stereotyping and evaluation in implicit race bias: Evidence for independent constructs and unique effects on behavior. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/0022-3514.91.4.652>
- Ashford, S. J., & Cummings, L. L. (1983). Feedback as an individual resource: Personal strategies of creating information. *Organizational Behavior and Human Performance*, 32(3), 370–398. [https://doi.org/10.1016/0030-5073\(83\)90156-3](https://doi.org/10.1016/0030-5073(83)90156-3)
- Ashkenas, J., Park, H., & Pearce, A. (2017). Even with Affirmative Action, Blacks and Hispanics are more underrepresented at top colleges than 35 years ago. *The New York Times*. Retrieved from nytimes.com/interactive/2017/08/24/us/affirmative-action.html
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529.
- Belschak, F. D., & Den Hartog, D. N. (2009). Consequences of positive and negative feedback: The impact on emotions and extra-role behaviors. *Applied Psychology*, 58(2), 274–303. <https://doi.org/10.1111/j.1464-0597.2008.00336.x>
- Bergsieker, H. B., Leslie, L. M., Constantine, V. S., & Fiske, S. T. (2012). Stereotyping by omission: Eliminate the negative, accentuate the positive. *Journal of Personality and Social Psychology*, 102(6), 1214–1238. <https://doi.org/10.1037/a0027717>
- Bernardin, H. J., Tyler, C. L., & Villanova, P. (2009). Rating level and accuracy as a function of rater personality. *International Journal of Selection and Assessment*. <https://doi.org/10.1111/j.1468-2389.2009.00472.x>
- Biernat, M., & Danaher, K. (2012). Interpreting and reacting to feedback in stereotype-relevant performance domains. *Journal of Experimental Social Psychology*, 48(1), 271–276. <https://doi.org/10.1016/j.jesp.2011.08.010>
- Biernat, M., & Manis, M. (1994). Shifting Standards and Stereotype-Based Judgments. *Journal of Personality and Social Psychology*, 66(1), 5–20. <https://doi.org/10.1037/0022-3514.66.1.5>
- Biernat, M., Tocci, M. J., & Williams, J. C. (2012). The language of performance evaluations: Gender-based shifts in content and consistency of judgment. *Social Psychological and Personality Science*, 3(2), 186–192. <https://doi.org/10.1177/1948550611415693>
- Biernat, M., & Vescio, T. K. (2002). She Swings, She Hits, She's Great, She's Benched: Implications of Gender-Based Shifting Standards for Judgment and Behavior. *Personality and Social Psychology Bulletin*, 28(1), 66–77. <https://doi.org/10.1177/0146167202281006>
- Brockner, J., & Elkind, M. (1985). Self-esteem and reactance: Further evidence of attitudinal and motivational consequences. *Journal of Experimental Social Psychology*, 21(4), 346–361. [https://doi.org/10.1016/0022-1031\(85\)90035-6](https://doi.org/10.1016/0022-1031(85)90035-6)
- Camden, C., Motley, M. T., & Wilson, A. (1984). White lies in interpersonal communication: A taxonomy and preliminary investigation of social motivations. *Western Journal of Speech Communication*, 48(4), 309–325. <https://doi.org/10.1080/10570318409374167>
- Carver, C. S., Glass, D. C., & Katz, I. (1978). Favorable Evaluations of Blacks and the

- Handicapped: Positive Prejudice, Unconscious Denial, or Social Desirability? *Journal of Applied Social Psychology*. <https://doi.org/10.1111/j.1559-1816.1978.tb00768.x>
- Cheng, K. H. C., Hui, C. H., & Cascio, W. F. (2017). Leniency bias in performance ratings: The Big-Five correlates. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2017.00521>
- Cohen, G. L., Steele, C. M., & Ross, L. D. (1999). The Mentor's Dilemma: Providing Critical Feedback Across the Racial Divide. *Personality and Social Psychology Bulletin*, 25(10), 1302–1318. <https://doi.org/10.1177/0146167299258011>
- Correll, S., & Simard, C. (2016). Vague Feedback Is Holding Women Back. *Harvard Business Review*.
- Cox, S. S., Marler, L. E., Simmering, M. J., & Totten, J. W. (2011). Giving feedback: Development of scales for the mum effect, discomfort giving feedback, and feedback medium preference. *Performance Improvement Quarterly*, 23(4), 49–69. <https://doi.org/10.1002/piq.20094>
- Crandall, C. S., Bahns, A. J., Warner, R., & Schaller, M. (2011). Stereotypes as justifications of prejudice. *Personality and Social Psychology Bulletin*. <https://doi.org/10.1177/0146167211411723>
- Dardenne, B., Dumont, M., & Bollier, T. (2007). Insidious dangers of benevolent sexism: consequences for women's performance. *Journal of Personality and Social Psychology*, 93(5), 764–779. <https://doi.org/10.1037/0022-3514.93.5.764>
- DePaulo, B. M., & Bell, K. L. (1996). Truth and investment: Lies are told to those who care. *Journal of Personality and Social Psychology*, 71(4), 703–716. <https://doi.org/10.1037/0022-3514.71.4.703>
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56(1), 5–18. <https://doi.org/10.1037/0022-3514.56.1.5>
- Dumont, M., Sarlet, M., & Dardenne, B. (2010). Be too kind to a woman, she'll feel incompetent: Benevolent sexism shifts self-construal and autobiographical memories toward incompetence. *Sex Roles*, 62(7–8), 545–553. <https://doi.org/10.1007/s11199-008-9582-4>
- Dunlap, W. P., Cortina, J. M., Vaslow, J. B., & Burke, M. J. (1996). Meta-analysis of experiments with matched groups or repeated measures designs. *Psychological Methods*. <https://doi.org/10.1037/1082-989X.1.2.170>
- Dweck, C. S., & Gilliard, D. (1975). Expectancy statements as determinants of reactions to failure: Sex differences in persistence and expectancy change. *Journal of Personality and Social Psychology*, 32(6), 1077–1084. <https://doi.org/10.1037/0022-3514.32.6.1077>
- Eagly, A. H., & Wood, W. (2012). Social role theory. In *Handbook of Theories of Social Psychology*. <https://doi.org/10.4135/9781446249222.n49>
- Eckes, T. (2002). Paternalistic and envious gender stereotypes: Testing predictions from the stereotype content model. *Sex Roles*, 47(3–4), 99–114. <https://doi.org/10.1023/A:1021020920715>
- Erat, S., & Gneezy, U. (2012). White Lies. *Management Science*, 58(4), 723–733. <https://doi.org/10.1287/mnsc.1110.1449>
- FeldmanHall, O., Dalgleish, T., Evans, D., Navrady, L., Tedeschi, E., & Mobbs, D.

- (2016). Moral Chivalry: Gender and Harm Sensitivity Predict Costly Altruism. *Social Psychological and Personality Science*, 7(6), 542–551. <https://doi.org/10.1177/1948550616647448>
- Fisher, C. D. (1979). Transmission of positive and negative feedback to subordinates: A laboratory investigation. *Journal of Applied Psychology*, 64(5), 533–540. <https://doi.org/10.1037/0021-9010.64.5.533>
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878–902. <https://doi.org/10.1037//0022-3514.82.6.878>
- Gino, F., Ayal, S., & Ariely, D. (2013). Self-Serving Altruism? The Lure of Unethical Actions that Benefit Others. *Journal of Economic Behavior & Organization*, 93. <https://doi.org/10.1016/j.jebo.2013.04.005>
- Glencoe/McGraw-Hill. (2005). *Glencoe writer's choice : grammar and composition. Grade 9*. Glencoe/McGraw-Hill.
- Guillemin, J., Holmstrom, L. L., & Garvin, M. (1979). Judging Competence: Letters of Recommendation for Men and Women Faculties. *The School Review*, 87(2), 157–170.
- Harber, K. D. (1998). Feedback to minorities: evidence of a positive bias. *Journal of Personality and Social Psychology*, 74(3), 622–628. <https://doi.org/10.1037/0022-3514.74.3.622>
- Harber, K. D., Stafford, R., & Kennedy, K. a. (2010). The positive feedback bias as a response to self-image threat. *The British Journal of Social Psychology / the British Psychological Society*, 49(Pt 1), 207–218. <https://doi.org/10.1348/014466609X473956>
- Hedges, L. V. (2007). Effect sizes in cluster-randomized designs. *Journal of Educational and Behavioral Statistics*. <https://doi.org/10.3102/1076998606298043>
- Heilman, M. E., Lucas, J. A., & Kaplow, S. R. (1990). Self-derogating consequences of sex-based preferential selection: The moderating role of initial self-confidence. *Organizational Behavior and Human Decision Processes*. [https://doi.org/10.1016/0749-5978\(90\)90029-9](https://doi.org/10.1016/0749-5978(90)90029-9)
- Hentschel, T., Heilman, M. E., & Peus, C. V. (2019). The multiple dimensions of gender stereotypes: A current look at men's and women's characterizations of others and themselves. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2019.00011>
- Hillman, L. W., Schwandt, D. R., & Bartz, D. E. (1990). Enhancing Staff Members' Performance through Feedback and Coaching. *Journal of Management Development*, 9(3), 20–27. <https://doi.org/10.1108/02621719010135110>
- Hyde, J., & Linn, M. C. (1988). Gender differences in verbal ability: A meta-analysis. *Psychological Bulletin*, 104(1), 53–69. <https://doi.org/10.1037/0033-2909.104.1.53>
- Ilgen, D. R., & Davis, C. (2000). Bearing Bad News: Reactions to Negative Performance Feedback. *Applied Psychology*, 49(3), 550–565. <https://doi.org/10.1111/1464-0597.00031>
- King, E. B., Botsford, W., Hebl, M. R., Kazama, S., Dawson, J. F., & Perkins, A. (2012). Benevolent Sexism at Work: Gender Differences in the Distribution of Challenging Developmental Experiences. *Journal of Management*, 38(6), 1835–1866. <https://doi.org/10.1177/0149206310365902>

- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119(2), 254–284. <https://doi.org/10.1037/0033-2909.119.2.254>
- Kray, L. J., Kennedy, J. A., & Van Zant, A. B. (2014). Not competent enough to know the difference? Gender stereotypes about women's ease of being misled predict negotiator deception. *Organizational Behavior and Human Decision Processes*, 125(2), 61–72. <https://doi.org/10.1016/j.obhdp.2014.06.002>
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, 863. <https://doi.org/10.3389/fpsyg.2013.00863>
- Lamarche, V. M., Seery, M. D., Kondrak, C. L., Saltsman, T. L., & Streamer, L. (2020). Clever girl: Benevolent sexism and cardiovascular threat. *Biological Psychology*. <https://doi.org/10.1016/j.biopsycho.2019.107781>
- Larson, J. R. (1989). The Dynamic Interplay Between Employees' Feedback-Seeking Strategies and Supervisors' Delivery of Performance Feedback. *Academy of Management Review*, 14(3), 408–422. <https://doi.org/10.5465/amr.1989.4279075>
- Lenney, E. (1977). Women's self-confidence in achievement settings. *Psychological Bulletin*, 84(1), 1–13. <https://doi.org/10.1037/0033-2909.84.1.1>
- Lupoli, M. J., Jampol, L., & Oveis, C. (2017). Lying because we care: Compassion increases Prosocial lying. *Journal of Experimental Psychology: General*, 146(7), 1026–1042. <https://doi.org/10.1037/xge0000315>
- Madera, J. M., Hebl, M. R., & Martin, R. C. (2009). Gender and letters of recommendation for academia: agentic and communal differences. *The Journal of Applied Psychology*, 94(6), 1591–1599. <https://doi.org/10.1037/a0016539>
- McKee, T. L. E., & Ptacek, J. T. (2001). I'm Afraid I Have Something Bad to Tell You: Breaking Bad News From the Perspective of the Giver1. *Journal of Applied Social Psychology*, 31(2), 246–273. <https://doi.org/10.1111/j.1559-1816.2001.tb00196.x>
- Mendes, W. B., Blascovich, J., Lickel, B., & Hunter, S. (2002). Challenge and threat during social interactions with White and Black men. *Personality and Social Psychology Bulletin*. <https://doi.org/10.1177/0146167202028007007>
- North, M. S., & Fiske, S. T. (2013). Act Your (Old) Age: Prescriptive, Ageist Biases Over Succession, Consumption, and Identity. *Personality and Social Psychology Bulletin*, 39(6), 720–734. <https://doi.org/10.1177/0146167213480043>
- Olejnik, S., & Algina, J. (2003). Generalized Eta and Omega Squared Statistics: Measures of Effect Size for Some Common Research Designs. *Psychological Methods*, 8(4), 434–447. <https://doi.org/10.1037/1082-989X.8.4.434>
- Park, B., & Judd, C. M. (2005). Rethinking the link between categorization and prejudice within the social cognition perspective. *Personality and Social Psychology Review*. https://doi.org/10.1207/s15327957pspr0902_2
- Pittinsky, T. L., Shih, M. J., & Trahan, A. (2006). Identity cues: Evidence from and for intra-individual perspectives on positive and negative stereotyping. *Journal of Applied Social Psychology*, 36(9), 2215–2239. <https://doi.org/10.1111/j.0021-9029.2006.00101.x>
- Plant, E. A., Hyde, J. S., Keltner, D., & Devine, P. G. (2000). The Gender Stereotyping of Emotions. *Psychology of Women Quarterly*, 24, 81–92.

- Pronin, E., Gilovich, T., & Ross, L. (2004). Objectivity in the eye of the beholder: divergent perceptions of bias in self versus others. *Psychological Review*, 111(3), 781–799. <https://doi.org/10.1037/0033-295X.111.3.781>
- Regan, D. T. (1971). Effects of a favor and liking on compliance. *Journal of Experimental Social Psychology*. [https://doi.org/10.1016/0022-1031\(71\)90025-4](https://doi.org/10.1016/0022-1031(71)90025-4)
- Renne, K. S., & Allen, P. C. (1976). Gender and the ritual of the door. *Sex Roles*. <https://doi.org/10.1007/BF00287249>
- Richeson, J. A., & Shelton, J. N. (2007). Negotiating interracial interactions: Costs, consequences, and possibilities. *Current Directions in Psychological Science*. <https://doi.org/10.1111/j.1467-8721.2007.00528.x>
- Rosell, M. C., & Hartman, S. L. (2001). Self-presentation of beliefs about gender discrimination and feminism. *Sex Roles*. <https://doi.org/10.1023/A:1012294129547>
- Schmader, T., Whitehead, J., & Wysocki, V. H. (2007). A Linguistic Comparison of Letters of Recommendation for Male and Female Chemistry and Biochemistry Job Applicants. *Sex Roles*, 57(7–8), 509–514. <https://doi.org/10.1007/s11199-007-9291-4>
- Schneider, D. J. (2005). *The Psychology of Stereotyping (Distinguished Contributions in Psychology)*. <https://doi.org/10.1097/01.nmd.0000180748.87223.92>
- Stankov, L., & Lee, J. (2008). Confidence and Cognitive Test Performance. *Journal of Educational Psychology*. <https://doi.org/10.1037/a0012546>
- Stephan, W. G., & Stephan, C. W. (1985). Intergroup Anxiety. *Journal of Social Issues*. <https://doi.org/10.1111/j.1540-4560.1985.tb01134.x>
- Stroessner, S. J., Haines, E. L., Sherman, J. W., & Kantrowitz, C. J. (2010). Stereotype Relevance Moderates Category Activation: Evidence From the Indirect Category Accessibility Task (ICAT). *Social Psychological and Personality Science*, 1(4), 335–343. <https://doi.org/10.1177/1948550610372144>
- Swim, J., Borgida, E., Maruyama, G., & Myers, D. G. (1989). Joan McKay versus John McKay: Do gender stereotypes bias evaluations? *Psychological Bulletin*, 105(3), 409–429. <https://doi.org/10.1037/0033-2909.105.3.409>
- Turner, R., Edgley, C., & Olmstead, G. (1975). Information control in conversations: Honesty is not always the best policy. *Kansas Journal of Sociology*, 11(1). Retrieved from <http://psycnet.apa.org/psycinfo/1976-26015-001>
- Vescio, T. K., Gervais, S. J., Snyder, M., & Hoover, A. (2005). Power and the creation of patronizing environments: the stereotype-based behaviors of the powerful and their effects on female performance in masculine domains. *Journal of Personality and Social Psychology*, 88(4), 658–672. <https://doi.org/10.1037/0022-3514.88.4.658>
- Viki, G. T., Abrams, D., & Hutchison, P. (2003). The “True” Romantic: Benevolent Sexism and Paternalistic Chivalry. *Sex Roles*, 49(9–10), 533–537. <https://doi.org/10.1023/A:1025888824749>
- Weisberg, Y. J., De Young, C. G., & Hirsh, J. B. (2011). Gender differences in personality across the ten aspects of the Big Five. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2011.00178>