Perceived Misalignment of Professional Prototypes Reduces Subordinates' Endorsement of Sexist Supervisors

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Abstract

Despite decades of efforts, many organizations still have *sexist supervisors* – those in supervisory positions who define their profession by primarily stereotypically masculine features. As a result of their "masculine" professional prototypes, sexist supervisors see their work as a "man's job" in which women cannot succeed. Research suggests that one problem posed by sexist supervisors is that they may pass their biased views on to subordinates who endorse them as leaders. To make this less likely, we test in two experiments (N = 1,879) a strategy to reduce subordinates' endorsement of sexist supervisors. We do this by encouraging subordinates to see themselves as low in *perceived professional prototype alignment* (PPPA) – the extent to which a subordinate perceives their supervisor to share their beliefs about what it means to be a member of their profession – with sexist supervisors. Specifically, encouraging subordinates' to hold less masculine, more "balanced" professional prototypes, in which they see stereotypically feminine attributes as equally important to the job as stereotypically masculine ones, reduces PPPA with sexist supervisors. Lowering PPPA, in turn, reduces supervisor endorsement, even after accounting for the effects of other established mechanisms of supervisor endorsement. This research sheds new light on the psychology of followership and offers a new way to curb gender bias from the bottom up.

Keywords: Gender, Diversity, Leadership, Followership, Group Prototypes

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Minimizing bias against women in historically male-dominated[1] professions has been a focus of organizational research for decades (e.g., Colella et al., 2017). Most research in this area has aimed to reduce the impact of bias on individuals' decision-making and behavior (e.g., He & Kang, 2021; Joshi et al., 2015). Such efforts may be thwarted, however, in contexts where those in power cling to views and practices that are discriminatory to women (e.g., Cortina & Berdahl, 2008; Dobbin & Kalev, 2019). We identify *sexist supervisors* as those in supervisory positions who hold a "masculine" professional prototype (i.e., they define their profession by primarily stereotypically masculine features) and as a result, see their work as a "man's job" in which women cannot succeed.[2] Because of these biased views, sexist supervisors pose a direct threat to gender equality in the workplace. Equally troubling is the fact that sexist supervisors may transmit their bias to their subordinates. Subordinates who endorse sexist supervisors (i.e., see them are good leaders, worth following) are at risk of adopting their supervisor's views about women in their profession (Haslam, et al., 2011; Hogg, 2020). Although organizations can and should try top-down strategies to debias and disempower sexist supervisors (e.g., mandatory trainings, demotions), here we explore addressing this issue from the bottom-up by testing a novel strategy for reducing subordinates' endorsement of sexist supervisors in male-dominated professions.

[1] Although we use sex and gender interchangeably in this paper, they are distinct. We encourage future research to explore our findings through the eyes of non-cisgender people.

[2] Although it is possible to imagine sexist supervisors who are biased against men (i.e., those who see a certain profession as a "woman's job" in which men cannot succeed), our focus here is on the more pervasive problem of sexist supervisors who are biased against women. Similarly, although women may be sexist supervisors, we focus on the male sexist supervisors who are more prevalent in the male-dominated professions we are studying.

A defining aspect of sexist supervisors is that they see their professional prototype (the set of features that define what a member of their profession is and should be like; Mummendey & Wenzel, 1999; Turner et al., 1987) as comprised predominantly of stereotypically masculine features. Extensive research shows that when people hold masculine professional prototypes, they struggle to envision women succeeding within a given profession (e.g., Cheryan & Markus, 2020; Heilman & Caleo, 2018). We test if it is possible to discourage subordinate endorsement of sexist supervisors specifically on the basis of their masculine professional prototypes. Building on scholarship underscoring the importance of perceived subordinate-supervisor similarity (e.g., Liden et al., 1993) and shared group prototypes (e.g., Hogg, 2001), we propose that encouraging subordinates to see the masculine prototypes held by sexist supervisors as inconsistent with their own professional prototype will decrease their likelihood of endorsing sexist supervisors. We term this novel mechanism *perceived professional prototype alignment* (PPPA) – the extent to which subordinates feel that their supervisor shares their beliefs about what it means to be a member of their profession. In addition to the applied value of this research for curbing gender bias from the bottom up, introducing PPPA as a new mechanism of supervisor endorsement enriches our understanding of the complex psychological processes that shape followership (e.g., Uhl-Bien et al., 2014).

Influencing Subordinates' Perceived Professional Prototype Alignment

Recent research shows that professional prototypes can be conceptualized as a constellation of features varying in perceived importance (Danbold & Bendersky, 2020). For example, in the highly masculine profession of firefighting, stereotypically masculine features (e.g., physical strength, courage) are often perceived as more essential to success in the profession than legitimately important, but stereotypically feminine features (e.g., compassion,

patience) (Bendersky, 2018; Chetkovich, 1997). In contrast to a masculine professional prototype (e.g., seeing physical strength as more important than compassion), Danbold and Bendersky (2020) demonstrated that reminding people of the legitimate importance of stereotypically feminine features can make the professional prototype more balanced, such that people do not systematically value stereotypically masculine or feminine features over one another (i.e., they see compassion as equally important as physical strength), thereby neutralizing the otherwise positive association between masculinity and expected success in the profession.

We leverage this approach to balancing professional prototypes to test hypotheses about PPPA. We predict that subordinates can infer, based on words and actions, that a sexist supervisor holds a masculine professional prototype. When the subordinate also holds a masculine professional prototype, they would conclude that they and the sexist supervisor are on the same page about what it means to be a member of their profession and be high in PPPA. However, if we encourage that subordinate to hold a more balanced professional prototype, they would look at their sexist supervisor and conclude that they perceive their professional prototypes differently, thereby reducing PPPA. The same prototype balancing intervention should also increase the subordinates' PPPA with pro-gender diversity supervisors – those whose words and actions suggest they also hold balanced prototypes (Danbold & Bendersky, 2020).

H1: Subordinates holding a balanced (vs. a masculine) professional prototype will report a) less PPPA with sexist supervisors and b) greater PPPA with pro-gender diversity supervisors.

Perceived Professional Prototype Alignment as a Mechanism of Supervisor Endorsement

If, as predicted, balancing subordinates' professional prototypes decreases their PPPA with sexist supervisors (and vice versa with pro-gender diversity supervisors), we expect this to have a downstream negative effect on their endorsement of these supervisors (i.e., their

recognition of them as good leaders, worth following). This prediction is informed by two broad insights from the followership literature about the mechanisms of supervisor endorsement. The first is that prototypes play an important role in determining which supervisors that subordinates endorse as leaders. Extensive research shows that subordinates endorse those supervisors who they see as prototypical, or representative, of what they think that leaders are like (Lord et al., 1980). Although often sensitive to context (e.g. Lord et al., 1984), people hold a schema of the features (i.e., observable traits or attributes) of leaders in general, and endorse supervisors whose personal features match the features that comprise their general leader prototype (Epitropaki & Martin, 2004). Others have argued that the more relevant prototype is that of the shared group (Hogg, 2001; van Knippenberg, 2011). This research shows that subordinates also endorse supervisors based on the similarity between the supervisor's features and the features they see as defining their shared group (e.g., Barreto & Hogg, 2017; Steffens et al., 2020). Although PPPA is the distinct process of assessing the perceived similarity of two professional prototypes (cf. prototypicality judgments based on comparing the features of a supervisor against those of a prototype), these existing mechanisms indicate that prototypes are salient in subordinates' minds when making supervisor endorsement judgments.

The second stream of research that informs PPPA shows that subordinates positively evaluate supervisors who are similar to themselves. Although similarity in terms of attitudes (Engle & Lord, 1997; Liden et al., 1993), values (Hayibor, et al., 2011; Kemelgor, 1982), personality (Zhang et al., 2012), and goals (Bouckenooghe et al., 2015) are all associated with better supervisor-subordinate outcomes, this body of research also shows that the basis of similarity assessments matters. We propose that subordinates' perceptions that a supervisor holds a similar professional prototype (i.e., shares their beliefs about what it means to be a member of

their profession) is a similarity judgment that is distinctly influential from other aspects of similarity, given the importance of prototypes to a shared sense of professional identity. We predict, therefore, that PPPA will positively predict supervisor endorsement, such that there will be an indirect effect of our prototype manipulations on supervisor endorsement through PPPA.

H2: a) Encouraging a balanced (vs. a masculine) professional prototype for subordinates will lead to a significant negative indirect effect on their endorsement of sexist supervisors through PPPA, and b) encouraging a balanced (vs. a masculine) professional prototype for subordinates will lead to a significant positive indirect effect on their endorsement of pro-gender diversity supervisors through PPPA.

We display our full theoretical model in Figure 1. Although we hypothesize that PPPA will impact evaluations of both sexist and pro-gender diversity supervisors, we are especially interested in it as a practical tool to discourage the endorsement of sexist supervisors so as to disrupt the perpetuation of gender bias in male-dominated professions. Therefore, we test our hypotheses in the context of the U.S. professional fire service, which has persisted in having more than 94% men despite several decades of gender diversity efforts (Bendersky, 2018; Bureau of Labor Statistics, 2020). We verify in a pilot study that sexist supervisors hold more masculine professional prototypes than do pro-gender diversity supervisors, and there are sexist supervisors present in the fire service. We then test our hypotheses in two vignette experiments using large samples of general population members.

Pilot Field Study

Before testing our hypotheses, we surveyed 76 fire service professionals in supervisory positions to test our assumption that sexist supervisors hold masculine professional prototypes (see Appendix A of the Supplemental Materials for full results). We first asked them to rate the

perceived essentiality of 14 traits for success in the fire service (e.g., physical strength, courage, ability to work in teams, patience, empathy). Following Danbold and Bendersky (2020), we represented professional prototypes as the relationship between these essentiality ratings and stereotypical masculinity ratings of each trait independently rated by a separate MTurk sample (N = 304). A positive relationship between trait masculinity and essentiality represented a masculine professional prototype, and a neutral relationship between them represented a balanced professional prototype.

Overall, our sample held a masculine professional prototype with a significantly positive association between trait masculinity and essentiality (B = 0.24, 95% Confidence Interval = [0.14, 0.34], $p < .001$, $\eta^2 = 0.02$). Consistent with our theorizing, however, this effect was moderated by the extent to which supervisors endorsed sexist attitudes. Supervisors who reported low support for gender diversity efforts, low valuation of inclusion and tolerance, and high valuation of tradition, held the most masculine professional prototypes (Bs range from .40 to 1.04, all ps < .001). More pro-gender diversity supervisors (i.e., those high in support for gender diversity efforts, high in valuing inclusion and tolerance, and low in valuing tradition), in contrast, held more balanced professional prototypes (Bs range from -.13 to .09, all ps ≥ .162). This pilot study confirms our definition of sexist supervisors as holding masculine professional prototypes.

Studies A & B

We developed a vignette experiment about the fire service with a 2x2 experimental design. First, we manipulated participants' (the subordinates') professional prototypes to be either balanced or masculine. Second, we manipulated whether the supervisor being evaluated (a

Captain in a fire department) was either sexist or pro-gender diversity. We tested this across two high-powered samples, with Study B functioning as a preregistered replication of Study A.

Transparency and Openness

All data, syntax, output (https://osf.io/z5r2s/?view_only=a4432f185669422d9f2029250cf57162), and preregistration (https://osf.io/esjhz/?view_only=9ae3df41f166402cb7c8706f331c8cf1) are available on OSF. Verbatim research materials are provided in the Supplemental Materials. The research protocol, "#16-001631: Examining Inclusive Leadership in the Fire Service," was approved by the UCLA Research Administration's IRB. Analyses were conducted in Stata 16 and comply with the JAP methods checklist.

Method

Samples and Participants

Study A. 999 US-based participants recruited through Prolific (Peer et al., 2017) participated in our study and were paid $2.00. The study was advertised as about their perceptions of a leader in the field of firefighting. G*Power predicted a sample size of 787 to detect a small effect (.10), and we oversampled given our planned exclusion criteria described below. Fifty-four percent were women,[3] they were 33.32 years old on average (*SD* = 11.70), and 68 percent were White Americans.

Study B. Recruitment and payment of 1189 participants was identical to Study A. Participants from Study A were not allowed to participate in Study B. Power analysis using a simulation (Lane et al., 2018) based on preliminary results from Study A suggested that for .80

[3] Although preregistered as a potential control, analyses of participant gender revealed that it did not affect patterns of reported results as a control, nor was it a significant predictor of PPPA or supervisor endorsement. This is consistent with our theorizing that what matters is the professional prototype of the subordinate, that both men and women can hold a masculine professional prototype, and that both are sensitive to our prototype manipulation. We also preregistered additional potential control variables of perceived leader effectiveness: participant race, and political ideology. None of these additional control variables significantly affected the dependent variables or changed the pattern of reported results. For parsimony, we do not report analyses including them.

power to detect the predicted interaction effect of our manipulations on PPPA, we need at least 880 responses. Given that we again planned to exclude some participants, we targeted a sample of 1200 US-based participants. Forty-nine percent were women, they were 35.28 years old on average (*SD* = 12.26), and 72 percent were White Americans.

Manipulations

Participants were randomly assigned to a 2 (prototype condition: balanced vs. masculine) x 2 (supervisor condition: sexist supervisor vs. pro-gender diversity supervisor) between-subjects experimental design.

Prototype Manipulation. In both prototype conditions, to provide context, participants first watched a video informing them about modern firefighting (see Appendix B of the Supplemental Materials). Participants in the masculine prototype condition (coded 1 in analyses, $N_{Study\ A}$ = 435, $N_{Study\ B}$ = 511) then watched a video of a professional white, male firefighter explaining that physical strength, team orientation, and compassion are important traits for being a successful firefighter, but that physical strength is the most important trait. Participants in the balanced prototype condition (coded 2 in analyses, $N_{Study\ A}$ = 410, $N_{Study\ B}$ = 523) watched the same video, but with the traits listed in the inverse order, with compassion identified as the most important trait. Danbold and Bendersky (2020) showed that this manipulation encourages participants to hold a balanced (rather than a feminized) version of the prototype by counterbalancing participants' baseline masculine prototypes.[4]

[4] Study A contained additional reinforcement of the prototype manipulation (and a similar reinforcement for the supervisor manipulation) in which participants rated the perceived essentiality of various professional traits. Per Danbold & Bendersky (2020), we conducted a manipulation check based on the perceived essentiality of the manipulated traits of physical strength, team orientation, and compassion. As expected, participants rated physical strength as more important in the masculine condition (M = 6.65, SE = 0.04) than the balanced condition (M = 6.39, SE = 0.05, $p < .001$, *Cohen's d* = 0.28). Participants rated compassion as more important in the balanced condition (M = 6.57, SE = 0.05) than in the masculine condition (M = 6.11, SE = 0.06, $p < .001$, $d = 0.40$). Participants' ratings of team orientation did not differ by condition (masculine: M = 6.50, SE = .04; balanced: M = 6.50, SE = .05, $p = .986$, $d < .001$). Although this confirmed the effectiveness of our prototype manipulation, because it was

Supervisor Manipulation. Next, we asked participants to imagine that they were a firefighter working on a crew reporting to a male supervisor, Captain Jones (see Appendix C of the Supplemental Materials). To make the manipulation realistic, in both conditions, we described Captain Jones' personal values (i.e., "He is deeply religious and politically identifies as a conservative, but is not extreme in either belief"), appearance ("just over six feet tall, White, middle-aged, and has strong facial features and an athletic build"), and similarity to other firefighters (he has "a lot in common with most other firefighters."). We also described some supervisory tasks ("He makes sure that everyone is always training and conducts rigorous drills regularly in the fire station.") and his personality ("Captain Jones is that he's not the most warm and supportive person you've ever met.") in ways designed to avoid ceiling effects.

The key information that varied across conditions was whether or not Captain Jones was sexist (coded 1 in analyses, $N_{Study\ A} = 436$, $N_{Study\ B} = 523$) or pro-gender diversity (coded 2 in analyses, $N_{Study\ A} = 409$, $N_{Study\ B} = 511$). This information was presented in the final paragraph of the description, stating that Captain Jones believed that, "efforts to increase the number of women firefighters are well-intentioned [but misplaced / and worth supporting]" and that "firefighting is [fundamentally a masculine profession / not necessarily a masculine profession]." By manipulating only Captain Jones' sexism and not his values, traits, behaviors, or personality, we aimed to precisely influence perceptions of Captain Jones' professional prototype.

Measures

All items were measured on a scale from 1 (= strongly disagree) to 7 (= strongly agree). A list of verbatim scale items is provided in Appendix D of the Supplemental Materials.

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unrealistic that real subordinates would be taking such detailed inventory of their professional prototypes, we excluded this reinforcement in Study B, offering a more conservative test of our hypotheses.

Perceived Professional Prototype Alignment. We asked participants to "take a moment to think about the following question – what does it mean to be a true or ideal member of your profession? Now think about how Captain Jones would answer that question and the extent to which your beliefs are similar." We then asked participants to indicate their agreement with three statements: 1) "Captain Jones generally agrees with my beliefs about what makes a great member of my profession," 2) "Captain Jones shares my opinion about what is important in a member of my profession," 3) "Captain Jones' perceptions of what matters to being a successful member of my profession largely overlap with mine."

Supervisor Endorsement. To measure supervisor endorsement, we adapted items from Platow and van Knippenberg (2001). We asked participants to indicate their agreement with the following statements: 1) "If I could choose to follow any Fire Captain I would choose Captain Jones," 2) "Captain Jones is an excellent Fire Captain," and 3) "I do not think Captain Jones is a good Fire Captain." (reverse-coded).

Alternate Mechanisms. To establish the robustness and distinctness of PPPA as a mechanism of supervisor endorsement, in secondary analyses, we included perceived value congruence, perceived group prototypicality, and perceptions of general leader prototypicality as parallel mediators. Although, as noted above, the concept of PPPA was inspired by these existing mechanisms of supervisor endorsement, we argue that PPPA is a theoretically distinct and a particularly well-suited mechanism for reducing subordinates' endorsement of sexist supervisors.

PPPA operates when subordinates compare their professional prototype against the inferred professional prototype of their supervisor. This prototype-to-prototype comparison process differs from existing mechanisms based on feature-to-prototype comparison processes. For example, perceptions of general leader prototypicality involve subordinates comparing the

features of a supervisor (e.g., their appearance, personality, and other attributes) against the set of features that they see as defining leaders in general (Epitropaki & Martin, 2004; Lord et al., 1980). Perceptions of group prototypicality involve similar comparisons against the set of features that they see as defining their shared group (Hogg, 2001; van Knippenberg & van Knippenberg, 2005). Although likely positively correlated with PPPA, the conceptual distinctions between PPPA and these feature-to-prototype comparison processes suggest they will affect endorsement judgments differently, especially in response to the prototype balancing manipulation we test. For example, a pathway through perceptions of group prototypicality would involve subordinates contrasting the numerous observable features of a sexist supervisor against the features of the subordinates' perceived professional prototype. A prototype balancing manipulation may decrease perceived group prototypicality based not only on the supervisor's sexist attitudes but also on potentially unrelated features, such as the supervisor's stereotypically masculine appearance. In contrast, a prototype balancing intervention affects supervisor endorsement through PPPA directly on the basis of supervisors' sexist beliefs (i.e., the inconsistency between the sexist supervisor's masculine prototype and the subordinates' balanced prototype). Therefore, although both mechanisms could have parallel indirect effects, we expect PPPA to more reliably decrease endorsement of sexist supervisors in response to prototype balancing than these kinds of prototypicality judgments.

PPPA is also distinct from other seemingly-related similarity-based mechanisms like perceived value congruence (the subordinate's belief that a supervisor has similar values; Hayibor et al., 2011). PPPA is better suited to the applied aims of this research because the basis of the similarity assessment, professional prototypes, is likely to be more malleable than are deeply held values, which are relatively resistant to external influence (Schwartz, et al., 2012).

Because organizations frequently revise their professional prototypes (e.g., Bartel & Wiesenfeld, 2013), their hand is already on the metaphorical lever to target PPPA.

Perceived Value Congruence. We measured participants' perceptions of the degree to which they felt their values were congruent with their supervisor's, by adapting a two-item scale from Hayibor, et al. (2011). We asked participants to "please think about the values Captain Jones holds and how they compare with yours" and indicate their agreement with the following statements: 1) "My basic beliefs about what is important in life are identical to Captain Jones'," 2) "I deeply believe in the same ultimate values as Captain Jones does."

Group Prototypicality. We measured participants' perceptions of the degree to which they felt their supervisor was representative of their group prototype using three items adapted from van Knippenberg & van Knippenberg (2005). We asked participants to "please think about the various traits that Captain Jones possesses and how they compare to the traits of other firefighters" and indicate their agreement with the following statements: 1) "Captain Jones is a good example of the kind of people that are firefighters," 2) "Captain Jones represents what is characteristic of firefighters," 3) "Captain Jones has a lot in common with firefighters."

General Leader Prototypicality. We measured participants' perceptions of the degree to which they felt their supervisor was representative of their general leader prototype. For simplicity, rather than using the multi-item measures typically used to study implicit leadership theories (e.g., Epitropaki & Martin, 2004), we adapted the measures we used for group prototypicality, but shifted the benchmark against which the supervisor was being evaluated to be subordinates' general leader prototypes. We asked participants to "please think about the various traits that Captain Jones possesses and how they compare to the traits of other leaders in general (not just those in the fire service)" and indicate their agreement the following statements:

1) “Captain Jones is a good example of a leader,” 2) “Captain Jones represents what is characteristic of leaders in general,” 3) “Captain Jones has a lot in common with other leaders.”

Construct Validation. To demonstrate the discriminant validity of PPPA, we asked a separate sample of 499 MTurk participants to complete our PPPA scale and the three alternate mechanisms of supervisor endorsement. The results of comparative confirmatory factor analyses (CFAs) indicate that our predicted model with four latent factors was a better fit than three alternative models that combined PPPA with one of the other latent factors (see Appendix E of the Supplemental Materials).

Supervisor Likeability Control Variable. Because sexist supervisors may face a likeability penalty for going against current pro-diversity norms (e.g., Bell & Hartmann, 2007), and because our central constructs all tap into distinct aspects of positive leader evaluations, we also measured *supervisor likeability*. We control for supervisor likeability as part of our robustness checks with an adapted three-item scale from Johnson, et al. (2008) (e.g., “I like Captain Jones”).

Data Quality Checks. To ensure attentiveness, we excluded 110 participants from Study A and 113 participants from Study B who failed a factual recall check (Kane & Barabas, 2019) at the end of our survey asking if the text they read indicated that Captain Jones believed that firefighting was “fundamentally a masculine profession” (sexist supervisor condition) or “not necessarily a masculine profession” (pro-gender diversity supervisor condition). Although not explicitly preregistered, we also ensured attentiveness by excluding participants who failed to complete all of our primary dependent variables, excluding an additional 16 participants from Study A and 23 participants from Study B. This step had the added benefit of allowing us to contrast analyses with and without our controls with a consistent set of participants. We also

aimed to ensure naivete by excluding an additional 27 participants from Study A and 22 participants from Study B who indicated that they had recently participated in a "very similar" study. Excluding participants based on these criteria does not substantially change the patterns of results that we report, but we present results excluding participants who failed these data quality checks. Our final sample size is 845 participants for Study A and 1,034 for Study B.

Results

Replicating our construct validations study, we conducted a CFA with five latent variables (PPPA, value congruence, group prototypicality, leader prototypicality, and likeability), which fit the data well. Study A: χ^2 (67) = 341.804, $p < .001$; CFI = .976; RMSEA = .070; SRMR = .033. Study B: χ^2 (67) = 408.936, $p < .001$; CFI = .976; RMSEA = .070; SRMR = .032. We report alphas (correlations for the two-item perceived value congruence scale), means, standard deviations, skewness, and inter-item correlations in Tables 1 (Study A) and 2 (Study B).

Although not preregistered, we also tested assumptions about equality of variance with a Levene's test (Lim & Loh, 1996) on PPPA. This revealed a significant test statistic in both samples (Study A, $W0(1, 843) = 74.17$, $p < .001$; in Study B, $W0(1, 1032) = 158.31$, $p < .001$), with similar results for other dependent variables. After reviewing the literature and speaking to a statistical consultant, we conducted bootstrapped regressions, which are more robust to heteroscedasticity (Stine, 1989), rather than our planned analytical strategy. Specifically, we conducted OLS regression analyses with bootstrapped standard errors using 5,000 replications on our DVs of our manipulations and their interaction without the control variable or parallel mediators. We also ran planned contrasts tests examining the effect of the prototype manipulation within each condition of the supervisor manipulation (i.e., if participants in the balanced versus masculine prototype conditions reported lower PPPA with the sexist Captain).

Manipulation Effects on Perceived Professional Prototype Alignment

In Study A, we observed a significant main effect of our prototype manipulation (B = -0.40, 95% Confidence Interval = [-0.69, -0.11], p = .006, η^2_p < 0.01), a significant main effect of our supervisor manipulation (B = 0.74, [0.51, 0.98], p < .001, η^2_p = 0.13), and a significant interaction between the two (B = 0.51, [0.16, 0.86], p = .004, η^2_p = 0.01). The left-hand chart in Figure 2 shows the pattern of the interaction. Consistent with Hypothesis 1a, planned contrasts revealed that participants evaluating the sexist supervisor scored significantly lower PPPA when in the balanced prototype condition (M = 4.34, SE = 0.11) than in the masculine prototype condition (M = 4.74, SE = 0.09, p = .006, *Cohen's d* = 0.25). Participants evaluating the pro-gender diversity supervisor were not significantly different in PPPA when in the balanced prototype condition (M = 5.59, SE = 0.07) than in the masculine prototype condition (M = 5.48, SE = 0.07; p = .263, d = 0.10), so Hypothesis 1b was not supported.

In Study B, we observed a significant negative main effect of our prototype manipulation (B = -0.28, [-0.56, -0.00], p = .047, η^2_p < 0.01), a significant positive main effect of our supervisor manipulation (B = 0.97, [0.75, 1.19], p < .001, η^2_p = 0.14), and a non-significant interaction between the two (B = 0.27, [-0.06, 0.60], p = .108, η^2_p < 0.01). The right-hand chart in Figure 2 shows the pattern of the interaction. Despite the non-significant omnibus interaction, consistent with Hypothesis 1a, planned contrasts revealed that participants evaluating the sexist supervisor again scored lower in PPPA when in the balanced prototype condition (M = 4.42, SE = 0.11) than in the masculine prototype condition (M = 4.70, SE = 0.09, p = .047, d = 0.16). There was no effect of prototype condition for those evaluating the pro-gender diversity supervisor: they scored the same in PPPA when in the balanced prototype condition (M = 5.66, SE = 0.06) and in the masculine prototype condition (M = 5.67, SE = 0.07, p =.913, d = 0.01).

Indirect Effects Predicted by the Full Theoretical Model

We next tested Hypothesis 2 by first regressing endorsement on PPPA controlling for the interactive manipulation effects.[5] PPPA was significantly and positively associated with endorsement in both studies (Study A: $B = 0.65$, [0.60, 0.70], $p < .001$, $\eta^2_p = 0.47$; Study B: $B = 0.63$, [0.58, 0.67], $p < .001$, $\eta^2_p = 0.51$). We then tested the indirect effects by running a mediated moderation path model using the boommcat program (UCLA Statistical Consulting Group, 2022a; 2022b). We calculated 95% bias-corrected bootstrapped confidence intervals with 5,000 replications. Reported as Model 1 in Table 3, we observed significant indirect effects of our prototype manipulation on endorsement through PPPA in the sexist supervisor condition in both studies (Study A: $B = -0.26$, [-0.44, -0.07]; Study B: $B = -0.18$, [-0.36, -0.01]), supporting Hypothesis 2a. The indirect effects in the pro-gender diversity Captain condition were not significant in either study (Study A: $B = 0.07$, [-0.06, 0.20]; Study B: $B = -0.01$, [-0.12, 0.10]), so Hypothesis 2b was not supported.

We then tested the robustness of the indirect effects of PPPA by adding the likeability control variable and three parallel mediating mechanisms (see Model 2 in Table 3).[6] In both studies, the indirect effects for the sexist Captain through PPPA remained significantly associated with endorsement (Study A: $B = -0.06$, [-0.11, -0.02]; Study B: $B = -0.05$, [-0.10, -

[5] Although not hypothesized here, nor necessary for testing the indirect effect hypotheses, we also examined the total effects of the manipulations on endorsement. There is a marginally significant contrast of the endorsement of the sexist supervisor in the balanced versus masculine prototype condition in Study A, but this was not significant in Study B. Including the likeability control in our models, however, produces significant interaction coefficients in both Study and Study B, with marginally significant contrasts for the sexist supervisors only. Full results are in Appendix F of the Supplemental Materials.

[6] Although we found, in both studies, that general leader prototypicality (Study A: $B = 0.19$, [0.12, 0.26], $p < .001$, $\eta^2_p = 0.04$; Study B: $B = 0.16$, [0.09, 0.22], $p < .001$, $\eta^2_p = 0.03$) and group prototypicality (Study A: $B = 0.10$, [0.03, 0.18], $p = .004$, $\eta^2_p = 0.01$; Study B: $B = 0.10$, [0.04, 0.16], $p = .002$; $\eta^2_p = 0.01$) predicted endorsement, they were not consistently affected by the prototype and supervisor manipulations. In Study B, there was a significant interaction between our manipulations on group prototypicality ($B = 0.40$, $p < .001$, $\eta^2_p = 0.01$), but this interaction was not significant in Study A ($B = 0.17$, $p = .159$, $\eta^2_p < 0.01$). Perceived value congruence was not significantly associated with endorsement in either study.

0.01]). The only other mechanism that produced a significant indirect effect was perceived group prototypicality (*B* = -0.03, [-0.06, -0.01] in the sexist supervisor condition and *B* = 0.01, [.00, .03] in the pro-gender diversity condition), but only in Study B. Post-hoc tests indicated that PPPA explained significant incremental variance in endorsement after accounting for the other mediators in both studies (Study A: χ^2 (1) = 29.70, $p < .001$; Study B: χ^2 (1) = 67.61, $p < .001$).

General Discussion

Across two studies (total N = 1,879) we found that encouraging subordinates to hold balanced (vs. masculine) professional prototypes caused them to decrease their perceived professional prototype alignment with sexist supervisors (Hypothesis 1a). Lower PPPA, in turn, led to decreased endorsement of sexist supervisors (Hypothesis 2a). This indirect effect held even when accounting for the simultaneous indirect effects through three alternative established mechanisms of supervisor endorsement (perceived value congruence, group prototypicality, and general leader prototypicality) and controlling for supervisor likeability. Together, these results contribute to scholarship on reducing bias against women in organizations, showing that organizations can limit the endorsement of sexist supervisors by deliberately misaligning subordinates' perceptions of the similarity between their and their supervisors' beliefs about what it means to be a member of their profession.

This research also extends follower-centric theories of leadership (Uhl-Bien et al., 2014). Subordinates' PPPA with sexist supervisors is based on a prototype-to-prototype similarity assessment that is conceptually distinct from alternate mechanisms that are based on the perceived prototypicality of the supervisor (i.e., features-to-prototype comparisons). Furthermore, although scholars have long understood similarity to be a key element of followership (Engle & Lord, 1997; Liden et al., 1993), we provide further evidence that the basis

of perceptions of similarity matters. PPPA is a particularly well-suited mechanism for shaping subordinates' perceived similarity with sexist supervisors because it is based on a malleable characteristic that is contextually-relevant to subordinates' supervisor endorsement decisions. Thus, PPPA introduces a distinct cognitive comparison process to our understanding of followership decisions.

It is noteworthy that we did not observe a comparable increase in the endorsement of pro-gender diversity supervisors from subordinates in the balanced (v. masculine) prototype condition (Hypotheses 1b and 2b). This may be attributable to ceiling effects among ratings of pro-gender diversity supervisors, noting that the pro-gender diversity supervisor was considered more likable than the sexist one in both studies (consistent with broad self-presentation concerns around diversity; Bell & Hartmann, 2007).[7] These results suggest that manipulating PPPA may be a more effective tool for directing subordinate endorsements away from sexist supervisors than towards supervisors who already espouse more inclusive attitudes.

Limitations and Future Directions

Although our empirical studies were appropriate for theory testing, this approach leaves open many interesting questions that are worthy of future research. For example, it will be important to test how our findings may generalize to other professional contexts, such as those where men are excluded due to feminine professional prototypes. Given research showing that group identification shapes the extent to which group prototypicality drives endorsement (Hogg et al., 1998; van Knippenberg & Hogg, 2003), it would also be interesting to examine if PPPA is affected in the same way. The fact that we observed effects in a sample likely low in professional

[7] In both studies, the pro-gender diversity supervisor was rated significantly higher in likeability than the sexist supervisor. Study A: M_{sexist} = 4.14, SD = 1.56, $M_{pro\ diversity}$ = 5.20, SD = 1.15, $p < .001$, d = 0.77. Study B: M_{sexist} = 4.30, SD = 1.55, $M_{pro\ diversity}$ = 5.33, SD = 1.11, $p < .001$, d = 0.76.

identification suggests that strong identification is not essential for sensitivity to our manipulation. Although strong identification might amplify the effect (e.g., Hains et al., 1997), it could also make participants insensitive to our prototype manipulation, establishing a barrier to replicating these effects in the field. It will also be important for future research to ask how long the effects of a prototype balancing manipulation will last and explore what downstream consequences we can expect from reducing endorsement of sexist supervisors. Our hope, based on previous research (e.g., Haslam, et al., 2011), is that the effects can reduce the risk of subordinates reproducing their sexist supervisor's biases. However, reducing supervisor endorsement risks increasing interpersonal conflict as well, interfering with team coordination, and potentially exposing subordinates to retribution. This is a serious concern, but one that organizations may be able to manage. By lending legitimacy to a balanced professional prototype and multiple venues of support, subordinates may feel empowered to engage in constructive resistance against sexist supervisors (Carsten & Uhl-Bien, 2013; Collinson, 2006). Efforts to scale up these processes should include procedures to mitigate the risks of subordinates being penalized for not endorsing sexist supervisors.

Managerial Implications

This work shows how organizations may be able to prevent the propagation of masculine professional prototypes from sexist supervisors to their subordinates. Using explicit messaging (as we tested here), or the careful calibration of how organizations communicate what features are valued in their employees (e.g., in recruitment materials, evaluations, promotion decisions, etc.), organizations can encourage their subordinates to adopt more gender-balanced professional prototypes to reduce their PPPA with sexist supervisors. Translating our experimental

manipulation into robust organizational interventions may help end the belief that there is such a thing as “a man’s job.”

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Table 1

Study A Descriptives and Inter-Item Correlations

	Supervisor Endorsement	PPPA	Value Congruence	Group Prototypicality	Leader Prototypicality	Supervisor Likeability
Alpha/r	.79	.93	.87	.89	.85	.94
Mean	4.81	5.03	4.12	5.36	5.23	4.65
SD	1.34	1.40	1.68	1.14	1.17	1.47
Skewness	-.49	-.82	-.10	-.83	-.68	-.42
Supervisor Endorsement	-					
PPPA	.73***	-				
Value Congruence	.68***	.71***	-			
Group Prototypicality	.62***	.62***	.53***	-		
Leader Prototypicality	.71***	.69***	.64***	.66***	-	
Supervisor Likeability	.80***	.72***	.76***	.62***	.70***	-

Note. *** $p < .001$, N = 845

Table 2

Study B Descriptives and Inter-Item Correlations

	Supervisor Endorsement	PPPA	Value Congruence	Group Prototypicality	Leader Prototypicality	Supervisor Likeability
Alpha/r	.80	.94	.88	.88	.86	.95
Mean	5.02	5.11	4.29	5.46	5.27	4.81
SD	1.28	1.46	1.70	1.05	1.13	1.45
Skewness	-.69	-1.06	-.31	-.94	-.90	-.60
Supervisor Endorsement	-					
PPPA	.75***	-				
Value Congruence	.67***	.66***	-			
Group Prototypicality	.63***	.63***	.51***	-		
Leader Prototypicality	.72***	.69***	.63***	.68***	-	
Supervisor Likeability	.81***	.71***	.73***	.60***	.71***	-

Note. *** $p < .001$, N = 1034

Table 3

Indirect Effects with Bias-Corrected Bootstrapped 95% Confidence Intervals

Mediator Variable & Supervisor Condition	Study A			Study B		
	IE	SE	95% CI	IE	SE	95% CI
			Model 1			
PPPA						
Sexist Sup.	-0.26	0.10	**[-0.44, -0.07]**	-0.18	0.09	**[-0.36, -0.01]**
Pro-Gender Div. Sup.	0.07	0.07	[-0.06, 0.20]	-0.01	0.06	[-0.12, 0.10]
			Model 2			
PPPA						
Sexist Sup.	-0.06	0.02	**[-0.11, -0.02]**	-0.05	0.02	**[-0.10, -0.01]**
Pro-Gender Div. Sup.	0.03	0.02	[-0.00, 0.06]	0.01	0.02	[-0.02, 0.05]
Value Congruence						
Sexist Sup.	-0.00	0.01	[-0.02, 0.01]	-0.00	0.00	[-0.01, 0.00]
Pro-Gender Div. Sup.	0.00	0.00	[-0.00, 0.01]	0.00	0.00	[-0.00, 0.01]
Group Prototypicality						
Sexist Sup.	-0.01	0.01	[-0.04, 0.00]	-0.03	0.01	**[-0.06, -0.01]**
Pro-Gender Div. Sup.	0.00	0.01	[-0.01, 0.03]	0.01	0.01	**[0.00, 0.03]**
Leader Prototypicality						
Sexist Sup.	-0.02	0.02	[-0.06, 0.01]	-0.02	0.01	[-0.04, 0.01]
Pro-Gender Div. Sup.	0.01	0.01	[-0.01, 0.05]	0.01	0.01	[-0.06, 0.04]

Note. Sup. = Supervisor. Significant indirect effects (i.e., those whose bootstrapped 95% confidence intervals do not contain zero) are bolded; Study A N = 845; Study B N = 1034.

Figure 1

Theoretical Model

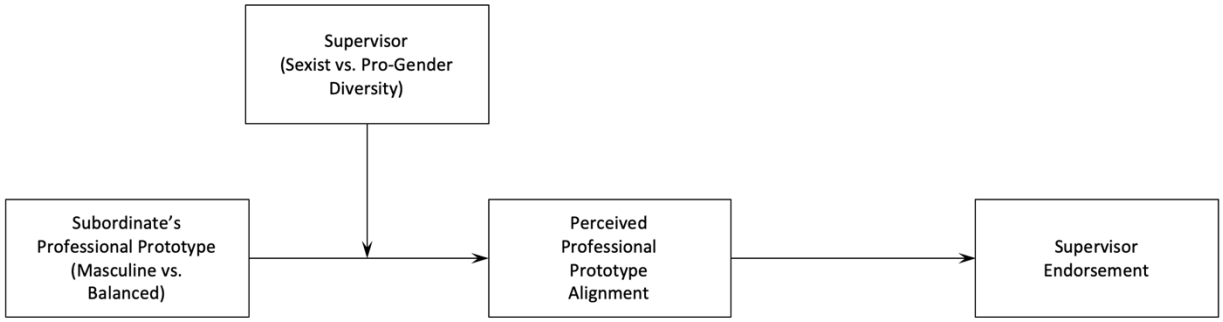
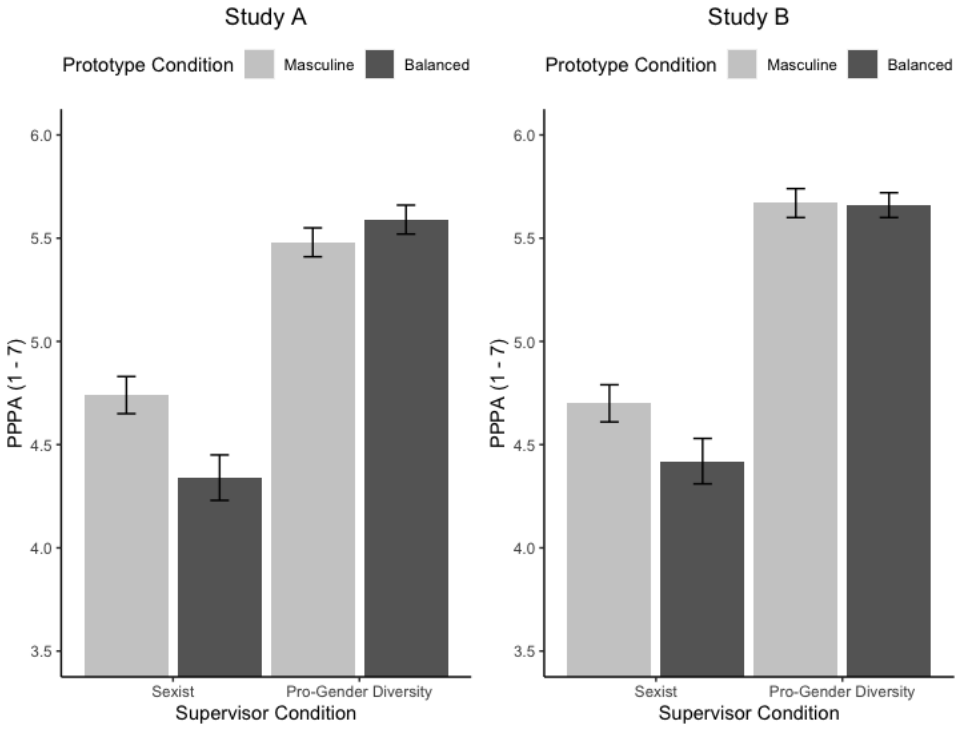


Figure 2

Interaction Effects on Perceived Professional Prototype Alignment (PPPA)



Note. Bars represent marginal effects of the interaction between prototype manipulation and supervisor manipulation on PPPA. Error bars represent standard errors.