

## RESEARCH ARTICLE

# Do women who succeed in male-dominated domains help other women? The moderating role of gender identification

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## Abstract

It is often expected that the first women to advance in male-dominated fields will promote other women who follow them. Two studies test the hypothesis that some women show this expected pattern of promoting women but that others show the opposite pattern, favoring men over women. In two studies, women's gender identification moderated the extent to which they favored men over women when they advanced in a male-dominated field. Specifically, the weaker women's gender identification, the more favoritism they showed for a male relative to a female subordinate. Gender identification did not moderate women's behavior in a context in which women were not underrepresented, pointing to the power of the situation in eliciting this relationship. Implications for the advancement of women in male-dominated fields are discussed.

## Key Message

Sometimes female leaders in male-dominated fields undermine the advancement of other women. Compared with strongly gender identified female leaders, those who are weakly gender identified hinder the advancement of other women in male-dominated domains by giving preferential treatment to men.

When members of disadvantaged groups, such as women, first achieve success in occupations in which they have been historically underrepresented, people assume that the floodgates have opened and other disadvantaged group members will quickly follow suit (Critcher & Risen, 2014; Kaiser, Drury, Spalding, Cheryan, & O'Brien, 2009). In reality, however, this is often not the case. For instance, the first woman was appointed to the U.S. Senate in 1922, yet women still only account for 17% of senators more than 90 years later. This phenomenon is even more pronounced in business, where the first woman became CEO of a Fortune 500 company in 1972, yet women make up only 24 out of 500 CEOs of these companies today (Catalyst, 2012). The news for women is no better in Europe, where women possess just 16.6% of board positions in the largest publically listed companies in the EU-27 (European Commission, 2013).

The underrepresentation of women in male-dominated domains is caused by many factors, including

institutional structures, bias from male leaders, sex-based harassment, penalties for motherhood, and socialization away from high status occupations that continue to prevent a wide flow of women from attaining these high status positions (Berdahl, 2007; Cuddy, Fiske, & Glick, 2004; Eagly & Karau, 2002; Federal Glass Ceiling Commission, 1995; Ridgeway, 2011). Although these factors have been topics of frequent scholarly inquiry, there is an additional, infrequently examined, obstacle that may also hinder women's advancement: bias from other women. Although it is often assumed that women who advance within organizations will advocate on behalf of other women, emerging research indicates that sometimes women deny support to other women (Derks, van Laar, Ellemers, & de Groot, 2011; Duguid, 2011; Ellemers, Rink, Derks, & Ryan, 2012; Garcia-Retamero & López-Zafra, 2006). Bias emanating from other women may be a particularly insidious form of sexism, as its non-prototypical nature makes it difficult to

detect (Inman & Baron, 1996), which can allow it to persist and sabotage women's careers.

The possibility that women who succeed in male-dominated domains impede the advancement of other group members is becoming increasingly recognized. Legal scholars, for example, refer to the phenomenon as "climbing and kicking" and theorize that the women and minorities who are most capable of advancing in domains in which their group is underrepresented are also those who value individual self-promotion and advancement over group-level advancement and are therefore unlikely to advocate on behalf of other group members (Carbado & Gulati, 2004).

And, in fact, there is a small but growing body of evidence that women who advance in male-dominated domains sometimes obstruct the advancement of other women. For example, female full professors in the Netherlands, where women are profoundly underrepresented in faculty positions, reported that female PhD students are less committed to the field than male PhD students, even though the female students' ratings of their own commitment did not differ from male students' and male professors did not show this bias (Ellemers, van den Heuvel, de Gilder, Maass, & Bonvini, 2004). Likewise, female science professors were more willing to mentor a male aspiring scientist than an identically qualified female aspiring scientist and indicated that they would pay the man more than the woman (Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012). Similarly, women who reviewed NSF Economics Program grant applications (a field where women are underrepresented) rated proposals with female principal investigators more negatively than men rated these proposals—even when controlling for proposal quality (Broder, 1993). Finally, women who were the only member of their gender group on a team were more likely to choose male over female candidates for a selective position compared with women who were on teams with greater female representation (Duguid, 2011).

That women in male-dominated fields hinder the advancement of other women may seem surprising, given that it runs counter to the findings that individuals focus on maintaining positive identities and display ingroup favoritism in that pursuit (Mullen, Brown, & Smith, 1992; Tajfel & Turner, 1979). However, members of devalued group vary with respect to their motivation to maintain positive group identities. In particular, the highly identified, that is, those for whom their group is more central to their sense of who they are, are particularly invested in maintaining positive ingroup identities, whereas the weakly identified are less concerned (Ellemers, Spears, & Doosje, 2002). These differential

investments in group membership become important in contexts in which group identity is threatened, such as being numerically underrepresented. When faced with identity threats, weakly identified group members respond by distancing themselves from the ingroup, pursuing more individualistic advancement strategies (Doosje, Spears, & Ellemers, 2002; Wright, Taylor, & Moghaddam, 1990). In contrast, highly identified group members respond to identity threats by increasing their commitment to the ingroup (Doosje et al., 2002).

Indeed, two recent studies show how gender identification shapes whether women who are numerically underrepresented in their organization are willing to support their ingroup under conditions of identity threat. In one study, high-ranking female employees who recalled being weakly identified with their gender group when they began their job reported that the average male employee at their organization was more committed to his career than the average female employee when these participants worked in organizations that they described as threatening (workplaces where they experienced high levels of discrimination) (Derks, Ellemers, van Laar, & de Groot, 2011b). Women who recalled being strongly identified did not differentially evaluate the work commitment of men and women, and weakly identified women did not engage in kicking behavior when they reported low levels of threat within their organization. Similarly, in another study, when female police officers were reminded of their low status at work, those who were strongly gender identified at work reported greater support for policies promoting the advancement of other women and more willingness to serve as a mentor for other women than when their low status was not salient (Derks, van Laar, et al., 2011). That is, when under threat, strongly identified women supported the ingroup. In contrast, recalling their group's low status at work did not alter weakly identified female police officers' support for policies promoting the advancement of other women or their willingness to mentor another woman, but it did lead them to deny the existence of sexism in their workplace.

These findings are generally consistent with the prediction that gender identification contributes toward women's willingness to advocate on behalf of other women when in identity-threatening workplace environments. However, while the weakly identified employees in the Derks, Ellemers, et al. (2011) study engaged in climbing and kicking, the weakly identified police officers in the Derks, van Laar, et al. (2011) study did not report reduced support for policies that promote the advancement of women. This lack of a kicking response among weakly identified police

officers may have occurred because the weakly identified officers were unwilling to go against social norms by reporting that they do not support and advocate on behalf of their ingroup, even if they would *behave* in ways that would be detrimental to the advancement of other members of their group (Ashburn-Nardo & Johnson, 2008; Dasgupta, 2004; Jost, Pelham, & Carvalho, 2002). Indeed, reporting that one refuses to mentor members of their own group might come across as particularly undesirable and biased, leading the weakly identified police officers to self-present as more egalitarian. We suspect that climbing and kicking among the weakly identified will be most likely to occur when the opportunity to express it is covert rather than clearly anti-normative (Dasgupta, 2004). One way to create covert opportunities to observe kicking is bypassing self-report and directly assessing behaviors. In the present research, we examine whether weakly identified women who advance in a domain in which women are underrepresented engage in more behavioral *bias* against other women, compared with more strongly identified women.

## THE PRESENT RESEARCH

Two studies examine whether advancing in a context in which their gender group is underrepresented leads women to climb and kick (favor men over women) or climb and lift (favor women over men) and whether group identification differentiates these patterns of behavior. We expect that women who are more weakly gender identified will be more likely than those who are strongly identified to climb and kick when they advance in a context in which women are underrepresented (Studies 1 and 2) but not when they make decisions when they have not advanced in an underrepresented context (Study 2).

These studies advance the literature on the queen bee phenomenon in several important ways. First, these studies are the first to employ behavioral measures of climbing and kicking, providing the opportunity to more stringently test the predictions stemming from the queen bee literature. Second, whereas past research on this phenomena has measured gender identification during the primary study itself (Derks, van Laar, et al., 2011) or asked women to recollect their identification level from the past (Derks, Ellemers, et al., 2011), we assess gender identification in a separate session weeks prior to the laboratory study, providing a measure that temporally precedes the study proper, avoiding the possibility that the two measures are mutually influencing each other. Third, by manipulating the nature of the

threatening context in Study 2, this research provides just the second test of the important proposition that threatening environments produce climbing and kicking. The only other experimental manipulation of threat was employed in the Derks, van Laar, et al. (2011) study, which manipulated whether police officers did or did not recall a personal encounter with workplace discrimination. The present study can provide insight into whether climbing and kicking occurs even when women do not reflect on their own personal struggle with employment discrimination, suggesting that the effect may be broader than previously assumed.

## STUDY 1

### Method

#### Participants and Procedure

Female undergraduate students ( $N=42$ ,  $M$  age = 18.68 years) participated in exchange for partial course credit in an introductory psychology course. Participants were predominantly White (64.3%) and Asian (26.2%); the rest were multiracial (9.5%).

**Prescreening session.** In the weeks prior to the lab session, participants completed a measure of gender identification as part of a mass testing session.

**Lab session.** In the lab session, participants completed an adapted version of Major et al. (2002) workgroups paradigm. Individual participants were led to a room and told that they would be completing a study about workgroups and leadership with two other participants. In actuality, the two other participants did not exist and were simulated using computer profiles. The experimenter then took a photograph of the participant and left her to complete questions about her age, major, and previous work experience. Participants were led to believe that the experimenter would upload this information into a profile and share it with the other two participants. When the participant finished answering the questions, the computer showed her the photos and profiles ostensibly completed by the other two participants—one male and one female. The profiles contained their names, year in school, a brief description of past work experience (pizza deliverer or store clerk), and how they would approach leading a work team (e.g. “I would try to take charge of the group in an organized and clear fashion so that the workgroup would respect me.”). The photographs used in the profiles were stimulus sampled so that participants randomly saw one of three photographs for the female

profile and one of three for the male profile. Additionally, the profiles were counterbalanced so that each set of demographic information was randomly assigned to either the male or the female profile.

After the participant had seen the profiles of the two other alleged participants, the experimenter explained that all three competitors would be completing a “management aptitude test” in order to determine who would serve as the manager. The participant was also told that whoever scored highest on the test would serve as manager for the remainder of the tasks and would receive four raffle tickets for a \$100 drawing. The participant then completed two creative thinking tasks (one in which they described as many uses as possible for a tin can and one in which they wrote creative stories about ambiguous drawings) that were presented as measuring management aptitude. After the participant completed and submitted the test, the experimenter returned after several minutes (presumably while grading) and told the participant that she had received the highest score on the aptitude test and thus would serve as manager.

In order to emphasize the women’s underrepresentation in the context of the management position, the experimenter then welcomed her to the lab management group, gave her a t-shirt with “Lab Manager” written on the front (very oversized to indicate that it would fit a large man but not an average-sized woman) to wear for the rest of the study, and had her sign the Manager Roster, which was filled with the names of past managers. The names were mostly (90%) male names in order to show that men had generally performed best on the management aptitude test and served in the manager position.

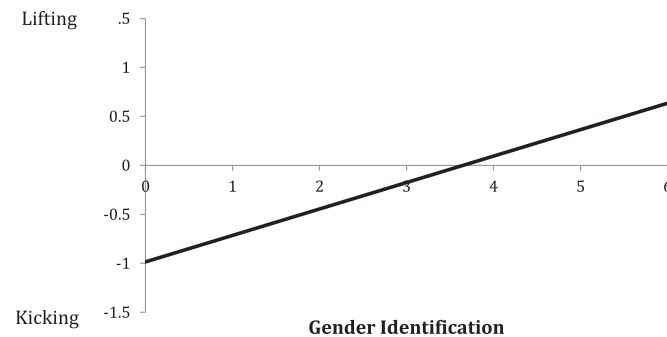
After being assigned to the role of manager, participants were told that their next task was to help create the test that would select which of the other two participants, now their subordinates, would become the assistant manager, a desirable position as the assistant manager would receive two raffle tickets. The task was modified from a task used by Rudman and Fairchild (2004). Participants were told that the two subordinates would be deciphering gibberish phrases (e.g. “The burly word frets la firm”) that rhymed with common phrases (e.g. “The early bird gets the worm”) and would be tested on their ability to identify the common phrase. In order to solve the gibberish phrases, the two subordinates would rely on clues selected by the manager (i.e. the participant). The participant’s job was to select one clue for each gibberish phrase from a list of three potential clues that ranged from extremely helpful, for example “The first to wakes up gets the prize” to somewhat helpful, for

example “If you wake up, there’s a disgusting prize for you,” to less helpful, for example “Don’t get caught napping.” Participants selected clues for each of the subordinates in solving 12 gibberish phrases. The set of 12 gibberish phrases was different for each of the subordinates in order to make it difficult to choose equally helpful clues for both the male and female candidates. The two different sets of gibberish phrases were counterbalanced so that both genders received both versions of the gibberish phrase sets.

**Gender identification.** Gender identification was assessed in prescreening with the centrality subscale of Luhtanen and Crocker (1992). The four items were “Overall, my gender group has little to do with how I feel about myself” (reverse coded), “My gender group is an important reflection of who I am,” “My gender group is unimportant to my sense of what kind of a person I am” (reverse coded), and “In general, belonging to my gender is an important part of my self-image”. Scale endpoints were 0 (Strongly Disagree) and 6 (Strongly Agree) ( $\alpha = .79$ ).

**Measure of lifting or kicking.** All potential clues for the gibberish sentence task were rated for their degree of helpfulness by seven independent coders on a scale from 1 (Not at all helpful) to 7 (extremely helpful) ( $\alpha = .82$ ). The helpfulness of the clues ranged from 1.17 to 6.14 ( $M = 3.76$ ,  $SD = 1.12$ ). As participants gave clues to *both* the male and female subordinates, we subtracted the average helpfulness (mean of the helpfulness of the 12 selected clues) of the clues given to the male subordinate from the average helpfulness of the clues given to the female subordinate. This difference score then served as the behavioral measure ranging from kicking (more helpful clues to male than female) to lifting (more helpful clues to female than male).

Although we suspected that climbing and kicking would be most pronounced on behavioral measures, we nonetheless examined self-reports of preference for working with the male versus female subordinate. This was assessed after the behavioral task and was composed of three items assessing the extent to which they would get along better with Candidate A (the female) over Candidate B (the male), that it was more important to work with Candidate A over Candidate B, and the extent to which they more opposed to working with Candidate A over Candidate B. Scales ranged from 1 (anchored with Candidate A) to 8 (anchored with Candidate B),  $\alpha = .68$ . We scored the composite so that higher scores reflected more preference for Candidate A (the female).



**Fig. 1:** When in a context in which women are underrepresented, women with weaker gender identification are more likely than those with stronger gender identification to favor a male over a female subordinate.

Participants were then probed for suspicion, thanked, and debriefed. No participants showed suspicion.<sup>1</sup>

## Results

To explore whether participants had an overall tendency to engage in ingroup or outgroup favoritism, we tested whether participants, on average, gave equally helpful clues to their male and female subordinates. As expected, participants on average did not show any favoritism as they gave male ( $M=4.28$ ,  $SD=0.46$ ) and female ( $M=4.27$ ,  $SD=0.50$ ) subordinates equally helpful clues ( $t(41)=0.13$ ,  $p=.89$ ).

Although we counterbalanced whether participants first gave clues to the male or female subordinate, the same set of 12 questions was always the first clue set and the other set of 12 questions was the second clue set. Unexpectedly, participants gave more helpful clues to the subordinate who received the first clue set ( $M=4.40$ ,  $SD=0.54$ ) than the second clue set ( $M=4.14$ ,  $SD=0.35$ ,  $t(41)=4.62$ ,  $p<.001$ ). Because of this, in our subsequent clue difficulty analyses, we control for which subordinate was given the first clue set.

**Behavioral measure of lifting and kicking.** To assess whether gender identification differentiated whether women were more likely to lift or kick, we simultaneously regressed the measure of relative helpfulness on the measure of gender identification ( $M=3.64$ ,  $SD=1.14$ ; range of 1–6) and simultaneously controlled for whether they gave the first clue set to the male or

the female (coded as 0 = female received first clue set, 1 = male received first clue set). Consistent with our hypothesis, gender identification predicted whether women were more likely to kick or to lift (Figure 1) ( $b=.26$ ,  $t(39)=2.08$ ,  $p=.044$ ).<sup>2</sup> Specifically, in a context in which their group was underrepresented, relative to strongly identified women, weakly identified women were more likely to hinder the advancement of the women who followed them.

**Self-reports of preference for the female and male subordinate.** To assess the extent to which participants' gender identification predicted explicit preferences for working with the male or female subordinate, we regressed the self-report preference measure on gender identification. Gender identification did not predict explicit preferences,  $b=-.04$ ,  $t(40)=-0.24$ ,  $p=.81$ . The mean score for partner preference was 4.57, approximately the scale midpoint.

## Discussion

When in a context in which their group was underrepresented, women's gender identification predicted whether they stalled or accelerated the advancement of other ingroup members. These results contradict the expectations of diversity approaches that assume women who advance in male-dominated domains will promote other women. Rather, when women advance in a context in which their group is underrepresented, those who are weakly identified behave in ways that

<sup>1</sup>After measuring behavior and self-reports of preference, we assessed exploratory self-report measures that could potentially provide insight into climbing and kicking behavior (e.g. perceptions of relative competence and warmth of the male and female subordinate, and motives to align with situational norms). None of these were related to climbing and kicking behavior, and we do not discuss them further. Full details are available from the first author.

<sup>2</sup>Unsurprisingly, the clue set covariate accounted for a significant proportion of the variability in clue difficulty,  $b=-.64$ ,  $t(39)=5.12$ ,  $p<.001$ . When analyses were conducted without the covariate, the effect of gender identification was still positive but was not significant,  $b=.15$ ,  $t(40)=.98$ ,  $p=.33$ . We correct for this methodological limitation in the second study.



do not foster the success of other women, thereby making it harder for other women to advance.

Interestingly, this pattern emerged on the behavioral measure but not on the self-report measure of preference. The behavioral measure may bypass self-reporting biases that prevent people from expressing outright biases against specific social groups, including their own. Indeed, there was little justifiable reason for participants to report that they preferred one subordinate over the other as the only factor that distinguished the subordinates was their gender. We explore this discrepancy between behavior and self-report again in Experiment 2.

The results of Study 1 show that whether women who advance in male-dominated domain kick or lift depends on their gender identification. Although our theorizing suggests that advancement in an underrepresented environment is an important part of the climbing and kicking/lifting process, our data cannot rule out the possibility that gender identification would predict behavioral preference for a woman relative to a man in any setting, regardless of women's representation. In Study 2, we added a control condition in order to determine whether gender identification will predict kicking versus lifting in any context, or whether advancing in an underrepresented domain is needed in order for gender identification to differentiate women's behavior.

## STUDY 2

### Method

#### Participants and Procedure

Participants were 95 White female undergraduate students ( $M$  age = 18.60 years) who participated in exchange for partial course credit in an introductory psychology class. Participants first completed the same measure of gender identification as in Study 1 during a separate mass testing session held in their course at the beginning of the quarter. Fifteen additional participants were run through the laboratory session, but because of participants providing incorrect code numbers at prescreening or the lab session, their data could not be linked for analyses.

Participants individually arrived at a laboratory session and were assigned to either the underrepresentation condition ( $N = 50$ ) or the control condition ( $N = 45$ ). In the underrepresentation condition, participants completed the same procedures described in Study 1. In the control condition, participants completed the demographic exchange, creative thinking test, clue

selection task, and self-report preference measure, but all elements related to advancement and underrepresentation were removed. Specifically, after completing the demographic exchange, participants in the control condition completed the creative thinking task and were subsequently told that they had performed well on the task (in order to control for positive feedback across conditions), but participants never learned about the presence of a management role. Instead, they then completed the clue selection task under the auspices of simply assisting the other two participants on their next task. In this condition, the outcome of the task had no consequences for becoming the assistant manager and merely functioned as a helping task. Participants in both conditions completed a modified version of the clue selection task from Study 1 (described later). After completing this task, participants completed two items from the explicit partner preference measure used in Study 1 ( $\alpha = .64$ ),<sup>3</sup> were then probed for suspicion, thanked, and debriefed. No participants indicated suspicion.

**Measure of kicking or lifting.** In order to improve measurement and eliminate the effect of clue set on clue helpfulness found in Study 1, we selected clues for two sets of six gibberish phrases (one for each candidate) in Study 2. We used the gibberish questions from Study 1 with the largest difference between the helpfulness rating of the easiest and the hardest clues in order to create these sets. Participants selected six clues each for the male and female partners in order to help them solve six gibberish questions. Additionally, we counterbalanced the order of the clue sets as well as whether participants first selected clues for the male or female partner. As in Study 1, we created a difference score that served as the measure of relative favoritism composed of the average helpfulness of the clues given to the female minus the helpfulness of the clues given to the male.

### Results

**Behavioral measure of kicking and lifting.** We conducted a regression analysis to test our hypothesis that gender identification would predict relative favoritism only

<sup>3</sup>Because of a programming error, the third partner preference item was not given to participants in the control condition; we thus analyzed just the two items all participants received. As in Study 1, we assessed additional self-reported motivations potentially underlying climbing and kicking behavior. As these motives were relevant only for participants in the underrepresentation condition, these items were not presented to participants in the control condition. As in Study 1, self-reports were unrelated to climbing and kicking behavior.

when women were in a context in which women were underrepresented. We entered the centered gender identification main effect, the condition main effect (underrepresented context=0, control context=1), and the gender identification  $\times$  condition interaction simultaneously. The main effect of condition on relative favoritism was not significant ( $t(91) = -0.74, p = .46$ ). Although the predicted gender identification  $\times$  condition interaction was not significant ( $t(91) = -1.11, p = .27$ ), the omnibus interaction test is not particularly sensitive to the patterns of slopes in our a priori predictions; predictions that contain one null slope are insensitive relative to crossover predictions (Rosnow & Rosenthal, 1989). We examined the simple slopes in order to test our specific hypothesis that gender identification would predict relative favoritism only following advancement in the context in which their group was underrepresented. As predicted, and consistent with Study 1, following advancement in a context in which their group was underrepresented, women's gender identification positively predicted greater helpfulness toward the female relative to the male subordinate ( $t(91) = 2.02, b = .25, p = .046$ ). Notably, gender identification did not predict relative favoritism in the control context, when women had not advanced in a context in which their group was underrepresented ( $t(91) = -0.02, b = -.005, p = .98$ ; also see Figure 2). This suggests that identity-threatening contexts elicit the relationship between women's gender identification and whether they lift or kick fellow group members who attempt to follow them up the ladder.

**Self-reports of preference for the female and male subordinate.** We regressed the self-report partner preference measure on gender identification. Neither of the main effects nor the interaction was significant ( $ps > .48$ ). The average score on this measure was 4.53, almost exactly at the scale midpoint. To provide a more complete parallel comparison with the analyses from the behavioral

measure, the simple slope for gender identification was not significant in either the experimental condition ( $t(91) = -0.58, b = -.07, p = .56$ ) or the control condition ( $t(91) = 0.13, b = .03, p = .90$ ).

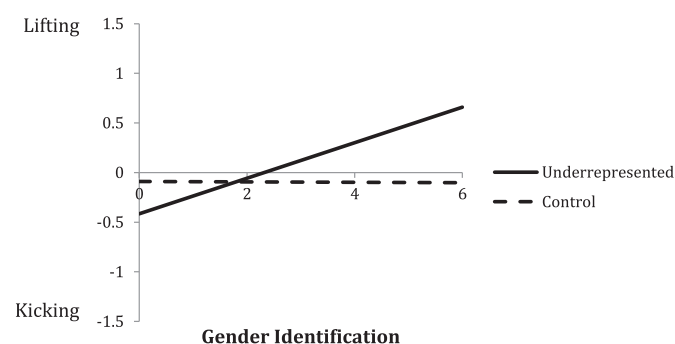
## Discussion

Study 2 demonstrated that when in an underrepresented context, women with weaker gender identification were more likely to behaviorally kick, that is, favor a man relative to a woman, than women with stronger gender identification. In contrast, when women were in a neutral context, their gender identification was unrelated to whether they kicked or lifted. Thus, it appears that the context of underrepresentation plays a role in whether differentially gender identified women foster or undermine the success of the women who follow them.

## GENERAL DISCUSSION

Why women's advancement to the top of high-powered fields has stalled decades after the first women achieved these positions remains a stubborn mystery. The present research illustrates one possible contribution to this disparity: some female leaders in these fields undermine the advancement of those who follow them. Specifically, compared with strongly identified women, weakly identified women who advance in a field in which they are underrepresented hinder the advancement of other women by giving preferential treatment to men.

Our work contributes to the understanding of how underrepresentation differentially affects weakly and strongly identified members of underrepresented groups. These studies build on Derks and colleagues' (Derks, Ellemers, et al., 2011; Derks, van Laar, et al., 2011) work showing that threatening contexts shape how strongly and weakly identified group members treat their own group. We demonstrated that when in



**Fig. 2:** Only when in a context in which women are underrepresented are women with weaker gender identification more likely than those with stronger gender identification to favor a male over a female subordinate.

a context in which they are underrepresented, weakly identified women not only bypass opportunities to offer support for policies benefiting the ingroup (as in Derks, Ellemers, et al., 2011; Derks, van Laar, et al., 2011) but actually behaviorally impede the advancement of the women who attempt to follow them up the ladder.

This behavioral bias from weakly identified women may be particularly damaging to the advancement of women in male-dominated fields for several reasons. First, bias and rejection from other ingroup members can be especially painful (Barreto & Ellemers, 2005; O'Brien, Major, & Simon, 2012; Postmes & Branscombe, 2002). Second, even within fields in which women are underrepresented, women are disproportionately likely to have female direct supervisors (Reskin & Roos, 1990), so the role of kicking in preventing future generations of women's advancement may be more significant than one would initially expect. Finally, it may be difficult to detect bias from female supervisors because of its non-prototypical nature; thus, this bias may go undetected. In sum, bias from female leaders may simultaneously be prevalent, hurtful, and difficult to detect, making it a particularly harmful obstacle for women who attempt to advance in male-dominated fields.

Data from both studies also speak to a dissociation between women's behavior toward male and female subordinates and their stated attitudes about these subordinates (the relationship between behavioral preferences and stated preferences was less than  $r = .10$  in both studies). That is, gender identification predicted women's behavioral reactions toward male and female subordinates, despite their explicit statement that both subordinates were equally acceptable as partners. One possibility is that participants were unaware of whether they were favoring one candidate over the other. Indeed, biases often operate outside of awareness (Banaji & Greenwald, 2013). Alternatively, women may have insight into their behavior but may be reluctant to acknowledge possessing preferences on self-report measures. Indeed, given that the only distinguishing feature separating the two subordinates in this study was their gender, participants may have had little justifiable reason to express an attitudinal preference for one over the other. If there had been potential justifications for expressing attitudinal preferences, climbing and kicking may have occurred even on subtle attitudinal measures (Hodson, Dovidio, & Gaertner, 2002). Identifying the types of measures on which in climbing and kicking occurs will be important as this research develops.

Additionally, it remains unclear specifically why weakly identified women hinder the advancement of other women while strongly identified women promote

it. Although we attempted to identify a variety of mechanism by self-reports (see footnote 1), psychological processes may be difficult to articulate verbally, and future experimental manipulations might identify contexts that enhance and eliminate the patterns observed in these studies. Relatedly, although we framed the findings around social identity threat, we did not directly assess threat. Given the challenges of assessing threat via self-report (Blascovich, 2008), future research might benefit from assessing whether weakly identified women who advance in male-dominated domains experience physiological threat. In short, identification of the theoretical mechanisms driving the effects observed in these studies will do much to advance the theoretical understanding of climbing and kicking.

It is also important to recognize that the control condition in Study 2 did not involve the process of advancement into a high status position. By removing this component of the experimental condition, we cannot explore whether advancement by itself, independent of underrepresentation, leads to climbing and kicking. In future research, a control condition that involves advancement into a position in which women are not underrepresented would provide important insight into what aspect of the experimental condition produces the threat that drives climbing and kicking among the weakly identified. Additionally, we did not examine men's behavior in these studies; thus, we cannot speak to whether weakly identified men would also show climbing and kicking when they advance in female-dominated domains. It is possible that this process is not specific to women.

It is also important to recognize that the relationship between gender identification and behavior toward male and female subordinates, while reliable in both studies, was statistically small in terms of its magnitude. Further, in Study 2, neither women whose gender identification was high (+1 SD above the mean) nor low (-1 SD below the mean) differed in their relative behavior toward male and female actors in the underrepresentation condition compared with the control condition (although projected means reveal patterns that weakly identified women behaviorally preferred men and strongly identified women behaviorally preferred women).

Nonetheless, the reliable finding that weakly identified women impede other women relative to strongly identified women has significant implication, especially when considered in conjunction with the data showing that women who succeed in male-dominated domains may be particularly likely to be weakly gender identified; in fact, they are sometimes even more masculine than their male counterparts (Derks, Ellemers, et al., 2011; Ellemers, 1993). Indeed, weakly identified women



may be especially successful because men may prefer them as leaders as these women are unlikely to disrupt the status quo (Kaiser & Pratt-Hyatt, 2009; Kaiser & Spalding, 2013). The overrepresentation of weakly identified women in positions of power could explain why the floodgates fail to open for future generations and the number of women at the top of male-dominated fields stalls at a low level.

In order to truly open the gates for large numbers of women to advance in male-dominated fields, it is insufficient to merely advance a few women and then expect the numbers of women to snowball. Rather, organizations should seek to institute practices that reduce the identity threat that women experience, whether through changing organizational cultures or promoting “identity safety” within the organization (Cheryan, Plaut, Davies, & Steele, 2009; Purdie-Vaughns, Steele, Davies, Ditlmann, & Crosby, 2008). By changing the context in which the first women advance in male-dominated fields, future generations of women will have more opportunities to advance.

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## REFERENCES

- Ashburn-Nardo, L., & Johnson, N. J. (2008). Implicit outgroup favoritism and intergroup judgment: The moderating role of stereotypic context. *Social Justice Research, 21*(4), 490–508.
- Banaji, M. R., & Greenwald, A. G. (2013). *Blind spot: Hidden biases of good people*. New York, NY, US: Delacorte Press.
- Barreto, M., & Ellemers, N. (2005). The perils of political correctness: Men’s and women’s responses to old-fashioned and modern sexist views. *Social Psychology Quarterly, 68*(1), 75–88.
- Berdahl, J. L. (2007). Harassment based on sex: Protecting social status in the context of gender hierarchy. *The Academy of Management Review, 32*(2), 641–658.
- Blascovich, J. (2008). Challenge and threat. In A. J. Elliot (Ed.), *Handbook of approach and avoidance motivation* (pp. 431–445). New York, NY: Psychology Press.
- Broder, I. E. (1993). Review of NSF economics proposals: Gender and institutional patterns. *The American Economic Review, 83*(3), 964–970.
- Carbado, D., & Gulati, M. (2004). Race to the top of the corporate ladder: What minorities do when they get there. *Washington & Lee Law Review, 61*, 1645–1693.
- Catalyst (2012) Women CEOs of the Fortune 1000. Retrieved July 22, 2014, from <http://www.catalyst.org/knowledge/women-ceos-fortune-1000>
- Cheryan, S., Plaut, V. C., Davies, P. G., & Steele, C. M. (2009). Ambient belonging: How stereotypical cues impact gender participation in computer science. *Journal of Personality and Social Psychology, 97*, 1045–1060.
- Critcher, C. R., & Risen, J. L. (2014). If he can do it, so can they: Exposure to counter stereotypically successful exemplars prompts automatic inferences. *Journal of Personality and Social Psychology, 106*, 359–379.
- Cuddy, A. C., Fiske, S. T., & Glick, P. (2004). When professionals become mothers, warmth doesn’t cut the ice. *Journal of Social Issues, 60*(4), 701–718.
- Dasgupta, N. (2004). Implicit ingroup favoritism, outgroup favoritism, and their behavioral manifestations. *Social Justice Research, 17*(2), 143–169.
- Derks, B., Ellemers, N., van Laar, C., & de Groot, K. (2011). Do sexist organizational cultures create the Queen Bee? *British Journal of Social Psychology, 50*(3), 519–535.
- Derks, B., van Laar, C., Ellemers, N., & de Groot, K. (2011). Organizational gender bias elicits queen bee behavior among senior police women. *Psychological Science, 22*, 1243–1249.
- Doosje, B., Spears, R., & Ellemers, N. (2002). Social identity as both cause and effect: The development of group identification in response to anticipated and actual changes in the intergroup status hierarchy. *British Journal of Social Psychology, 41*(1), 57–76.
- Duguid, M. (2011). Female tokens in high-prestige work groups: Catalysts or inhibitors of group diversification? *Organizational Behavior and Human Decision Processes, 116*(1), 104–115.
- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review, 109*(3), 573–598.
- Ellemers, N. (1993). Sociale identiteit en sekse: Het dilemma van succesvolle vrouwen [Social identity and gender: The dilemma of successful women]. *Tijdschrift voor Vrouwenstudies, 14*, 322–336.
- Ellemers, N., Rink, F., Derks, B., & Ryan, M. K. (2012). Women in high places: When and why promoting women into top positions can harm them individually or as a group (and how to prevent this). *Research in Organizational Behavior, 32*, 163–187.
- Ellemers, N., Spears, R., & Doosje, B. (2002). Self and social identity. *Annual Review of Psychology, 53*(1), 161–186.
- Ellemers, N., van den Heuvel, H., de Gilder, D., Maass, A., & Bonvini, A. (2004). The underrepresentation of women in science: Differential commitment or the queen bee syndrome? *British Journal of Social Psychology, 43*(3), 315–338.
- European Commission (2013). Women and men in leadership positions in the European Union, 2013. Retrieved August 7, 2014 at [http://ec.europa.eu/justice/genderequality/files/gender\\_balance\\_decision\\_making/131011\\_women\\_men\\_leadership\\_en.pdf](http://ec.europa.eu/justice/genderequality/files/gender_balance_decision_making/131011_women_men_leadership_en.pdf)

- Federal Glass Ceiling Commission (1995). *Good for business: Making full use of the nation's human capital: The environmental scan: A fact-finding report of the Federal Glass Ceiling Commission*. Washington, DC: U.S. Government Printing Office.
- Garcia-Retamero, R., & López-Zafra, E. (2006). Prejudice against women in male-congenial environments: Perceptions of gender role congruity in leadership. *Sex Roles, 55*(1–2), 51–61.
- Hodson, G., Dovidio, J. F., & Gaertner, S. L. (2002). Processes in racial discrimination: Differential weighting of conflicting information. *Personality and Social Psychology Bulletin, 28*(4), 460–471.
- Inman, M. L., & Baron, R. S. (1996). Influence of prototypes on perceptions of prejudice. *Journal of Personality and Social Psychology, 70*(4), 727–739.
- Jost, J. T., Pelham, B. W., & Carvallo, M. R. (2002). Non-conscious forms of system justification: Implicit and behavioral preferences for higher status groups. *Journal of Experimental Social Psychology, 38*(6), 586–602.
- Kaiser, C. R., Drury, B. J., Spalding, K. E., Cheryan, S., & O'Brien, L. T. (2009). The ironic consequences of Obama's election: Decreased support for social justice. *Journal of Experimental Social Psychology, 45*, 556–559.
- Kaiser, C. R., & Pratt-Hyatt, J. S. (2009). Distributing prejudice unequally: Do Whites direct their prejudice toward strongly identified minorities? *Journal of Personality and Social Psychology, 96*(2), 432–445.
- Kaiser, C. R., & Spalding, K. E. (2013). Group identification and prejudice distribution: Implications for diversity. In C. Stangor, & C. Crandall (Eds.), *Stereotyping and prejudice* (pp. 229–255.) New York, NY, US: Psychology Press.
- Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18*(3), 302–318.
- Major, B., Gramzow, R. H., McCoy, S. K., Levin, S., Schmader, T., & Sidanius, J. (2002). Perceiving personal discrimination: The role of group status and legitimizing ideology. *Journal of Personality and Social Psychology, 82*(3), 269–282.
- Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences, 109*, 16474–16479.
- Mullen, B., Brown, R., & Smith, C. (1992). Ingroup bias as a function of salience, relevance, and status: An integration. *European Journal of Social Psychology, 22*(2), 103–122.
- O'Brien, L. T., Major, B., & Simon, S. (2012). Why did you choose that person over me? In group rejection and attributions to discrimination. *Journal Of Experimental Social Psychology, 48*(6), 1225–1233.
- Postmes, T., & Branscombe, N. R. (2002). Influence of long-term racial environmental composition on subjective well-being in African Americans. *Journal of Personality and Social Psychology, 83*(3), 735–751.
- Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Dittmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology, 94*, 615–630.
- Reskin, B., & Roos, P. A. (1990). *Job queues, gender queues: Explaining women's inroads into male occupations*. Philadelphia: Temple University Press.
- Ridgeway, C. L. (2011). *Framed by gender: How gender inequality persists in the modern world*. New York, NY: Oxford University Press.
- Rosnow, R. L., & Rosenthal, R. (1989). Statistical procedures and the justification of knowledge in psychological science. *American Psychologist, 44*(10), 1276–1284.
- Rudman, L. A., & Fairchild, K. (2004). Reactions to counterstereotypic behavior: The role of backlash in cultural stereotype maintenance. *Journal of Personality and Social Psychology, 87*(2), 157–176.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks/Cole.
- Wright, S. C., Taylor, D. M., & Moghaddam, F. M. (1990). Responding to membership in a disadvantaged group: From acceptance to collective protest. *Journal of Personality and Social Psychology, 58*(6), 994–1003.