

I want to succeed, and I can succeed.

Examining the moderating role of achievement values and self-efficacy on women's task choices and implicit association with leadership

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ABSTRACT

Despite long-standing progress, women remain underrepresented in managerial positions. Rising to leadership might require women to overcome norms that promote gender-congruent behavior. This study investigated the impact of exposure to a traditional male stereotype on women's implicit association between *gender* and *leadership* and the number of nontraditional leadership roles they choose. The study also examined whether high scores on self-efficacy and achievement values moderate the impact of the gender conformity exposure. Results indicated that self-efficacy and achievement values directly predicted more agentic work roles chosen by women. Surprisingly, gender conformity cues increased participants' willingness to compete for agentic tasks.

Keywords

gender norms, gender role conformity, implicit bias, leadership, Expectancy-Value Model

INTRODUCTION

In recent years, women have entered the workforce and higher educational institutions at an increasing rate. Today, women are more likely than men to earn an undergraduate degree (European Commission, 2016) and as of 2017, women in the European Union comprised 63% of employees in legal and accounting professions, signaling significant changes in traditionally male occupations (Catalyst, 2019). However, insights from the highest professional level generate a more sobering view. 79% of tenured professors are male and 93% of the largest publicly listed companies are run by men (European Commission, 2016; European Institute for Gender Equality, 2019). This discrepancy between women's overall representation in the workforce and the lack of women in more advanced positions raises the question of how psychological barriers preclude women from leadership positions.

Psychological Barriers to Leadership

One potential reason for gender inequalities at work may be rooted in conformity to implicit gender biases and the inability to challenge deeply rooted stereotypes for women's behavior. Whereas men are commonly perceived as competitive, dominant and ambitious (Prentice & Carranza, 2002), stereotypes about women tend to be communal in nature and thus at odds with the amount of agency required by leaders ("stereotype fit hypothesis", Heilman, 1983). Support for these implicit gender biases comes from research showing that individuals implicitly associate women with family- and subordinate-stereotypic attributes, whereas men are associated with career- and power-related words (Nosek, Banaji, & Greenwald, 2002; Haines & Kray, 2005; Rudman & Kilianski, 2000). The strong and pervasive association between 'man' and

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'leadership' might encourage women to adhere to stereotype expectancies and be consistent with others' gender role expectations ("meta-stereotypes", Vorauer, Main, & O'Connell, 1998).

Furthermore, previous research has found support for the impact of implicit cues in the environment that have the ability to trigger stereotype conformity in women. For instance, Skrypnik and Snyder (1982) found that situational cues, such as the sex of an interaction partner, influenced the behavior of participants in a negotiation. When subjects believed that their interaction partner was of the opposite sex, they chose a more traditional division of labor and even when the female participant was objectively better suited to serve as the leader, the man was nevertheless assigned those stereotypically male tasks (Ritter & Yoder, 2004). Hence, an individual's own imagination about the interaction with a partner is sufficient to promote stereotype-consistent behavior (Wood & Eagly, 2010). However, not all cues are equally potent to make gender stereotypes cognitively accessible, as activation and salience of stereotypes depend on the context and the strength of the situational cue. While androgynous sex-related cues might fail to make traditional gender stereotypes cognitively accessible, exposure to highly masculine primes might promote gender role conformity in women.

To summarize, gender conformity mainly operates on an implicit level, especially when exposed to subtle cues in the environment which make gender norms more salient. Little research has investigated the boundary conditions of this mechanism and which internal factors lead to resistance to gender conformity cues. In the present research, we propose that overcoming social pressures that implicitly or explicitly promote traditional gender roles and hence preclude women from leadership may require women to be confident in their abilities (i.e. *self-efficacy*) and value more advanced positions (i.e. *achievement values*).

Moderators of Gender Conformity: An Expectancy-Value Perspective

The Expectancy-Value Model of achievement-related choices offers a promising framework for considering those potential buffering factors. Drawing upon extensive research on the gender-specific patterns of achievement-related choices, Eccles, Wigfield and colleagues developed a comprehensive theoretical model explaining gendered choices by considering two sets of beliefs; an individual's expectations for success and the subjective value attached to the perceived options (Eccles, 1994; Wigfield, 1994). In the context of this research, it can be argued that the *subjective value* attached to agentic leadership positions is influenced by how much an individual values achievement, while self-efficacy – the confidence in one's capability to achieve a certain level of performance – can be used to define an individual's *expectations for success* on those tasks (Bandura, 1977; Bandura, 1986).

The Present Study

Past research on the Expectancy-Value Model offers support for the notion that generalized self-efficacy and achievement values are important predictors of achievement-related choices. However, no research thus far has investigated the two concepts in women with regards to managerial roles. There also exists a lack of literature examining whether these factors can help overcome implicit stereotype norms and therefore predict choosing masculine roles after exposure to gender conformity cues.

Building on the current body of literature, this study aims to provide more insights into the moderating effects of generalized self-efficacy and achievement values on achievement-related choices and implicit gender bias in women. More specifically, we aim to invoke gender conformity on a leadership-related job role negotiation task by manipulating the masculinity of a presumed interaction partner. We will further test whether this gender conformity cue affects the association between 'woman' and 'manager' as well as 'man' and 'manager'. Finally, we aim to investigate whether self-efficacy and achievement values moderate these effects. For testing the implicit association, the Go/No-Go Association Task (GNAT) will be administered, while the behavioral measure will consist of the choice of work roles, which vary in the degree to which they are stereotypically male.

We predict that high masculinity of a presumed interaction partner will trigger a gender-congruent division of work roles and a weaker association of 'woman' and 'leadership' as well as a stronger association of 'man' and 'leadership'. We also hypothesize that individuals scoring high on generalized self-efficacy and achievement values will be less affected by the gender conformity cue (i.e. moderation effect). Furthermore, we expect to find direct effects for generalized self-efficacy and achievement values, regardless of the masculinity cue.

METHOD

Participants

Two hundred five female Bachelor and non-psychology Master students participated in the study ($M_{age} = 21.7$ years, $SD = 2.53$ years). One outlier was removed for providing GNAT data beyond three standard deviations from the mean. Consequently, the total sample size amounted to 204 participants. Subjects were recruited via various online methods across the university and compensated in form of course credits or 6 Euros. Further, demographic questions indicated that 37.1 % of the participants were German, 26.3% were Dutch and 36.6% from other countries. Prior approval of the Ethical Committee of the University of Groningen was obtained.

Procedure

In the beginning of this study, participants were told that the aim of this research was the investigation of decision-making behavior in virtual negotiations. The participants' task was to choose their desired work roles and individuals were made to believe that they had to negotiate the task division with their male interaction partner at a later point. Therefore, participants were not informed about the actual goal of the study – the assessment of implicit cues on gender conformity – prior to the experiment. In order to manipulate the strength of the gender conformity cue, we randomly assigned subjects to either a high masculinity condition (i.e. primed with an image of a face with highly masculine features) or to a low masculinity condition (i.e. primed with the same face but morphed to have more

androgynous features). Next to these facial masculinity cues, the experimental manipulation involved a variation in the target's ostensible job preferences, insofar that the presumed interaction partner picked more stereotypically male roles in the high masculinity condition. In order to ensure that the stimuli were indeed perceived as (non)-masculine, the faces of the presumed interaction partner were compared regarding their perceived masculinity and femininity in a previous pilot study.

Dependent variables

Work roles choices

As previously elaborated, the explicit behavioral measure consisted of the work role choice by the subjects. After having been presented with the responses of their male negotiation counterpart, individuals were asked to provide their own preferences regarding the task division and therefore decide whether they were willing to compete with their negotiation counterpart whenever choices overlapped. Participants had to choose four from a total of nine work roles, consisting of three stereotypically male (e.g. Strategic Planner), female (e.g. Staffing coordinator), or neutral (e.g. Operational Planner) managerial tasks. The different work roles were obtained from a former pilot study, evaluating them on the degree to which they represent gender stereotypes or the degree to which they are gender-neutral.

Implicit attitudes gender and leadership

Implicit attitudes regarding gender and leadership were measured by means of the so-called Go/No-Go Association Task (Nosek & Banaji, 2001). This task allows to assess an individual's sensitivity (i.e. accuracy) and response latency (i.e. reaction time) in order to obtain indications of implicit social cognition, by examining the relative ease with which participants can associate women or men with either leadership, or non-leadership traits. In order to identify the exact stimuli used for this instrument, a pilot study was conducted, assessing the degree to which certain attributes are associated with the concept of leadership. The distractor stimuli consisted of attributes, which were considered neutral with regards to gender, leadership and valence. Moreover, common male and female names were used to operationalize gender.

To examine participant's association between *woman* and *leadership*, individuals were asked to hit the spacebar, whenever either a female name or a managerial attribute appeared on the display and to not hit the spacebar when distractor attributes or male names occurred. The same procedure applied for the male condition. Based on the number of correct hits (i.e. hit when subject is supposed to hit) and incorrect hits (i.e. hit when subject is not supposed to hit), we obtained measures of individuals' sensitivity in associating female and male names with managerial attributes. Moreover, we measured the response latency of participants, indicating how rapidly individuals responded to the correct hits.

Given the sheer number of dependent variables extracted from the GNAT, we conducted a posteriori power analyses using G*Power. These analyses indicated a lack of statistical power for the response latency analyses, ranging from only 0.08 to 0.21. Albeit marginally better, the same applied to the regression analyses for sensitivity, as predicted by achievement values (*power*: 0.27-0.28). Consequently, the remainder of this paper will no longer discuss the (lack of) results for these parts of the analysis, since low statistical power indicates a high chance of a Type II error occurring.

Moderator variables

Generalized self-efficacy beliefs

To assess generalized self-efficacy, the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001) was used ($M = 3.92$, $SD = 0.568$, $\alpha = .86$). This instrument consists of eight items, such as “*Even when things are tough, I can perform quite well*”, which are rated on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*).

Achievement values.

To assess achievement values, the achievement subscale of the Human Value Scale (Schwartz, 2003) was used, which consists of four items for this facet. This measure includes a description of a person's values (e.g. “*Being very successful is important to her. She likes to impress other people*”) and the subsequent question “*How much is this person like you?*”. Individual ratings are expressed on a six-point Likert scale, ranging from “*not like me at all*” to “*very much like me*” ($M = 3.96$, $SD = 1.11$, $\alpha = .87$).

RESULTS

Work role choices: Moderation by self-efficacy

In the first regression analysis, we predicted agentic job role choices from participants' masculine stimulus exposure manipulation (coded 1 = highly masculine stimulus, -1 = non-masculine stimulus), self-efficacy (standardized), and the interaction term. Results indicated a significant positive direct effect of self-efficacy, $B = 0.161$, $t = 3.045$ ($df = 200$), $p = 0.003$, $CI_{95\%} [0.057; 0.265]$, a marginally significant (yet unexpectedly *positive*) direct effect of the experimental manipulation, $B = 0.098$, $t = 1.881$ ($df = 200$), $p = 0.061$, $CI_{95\%} [-0.01; 0.20]$, and a marginally significant interaction of self-efficacy and experimental manipulation, $B = -0.09$, $t = 1.85$ ($df = 200$), $p = 0.07$, $CI_{95\%} [-0.20; 0.01]$. As illustrated in Fig. 1 (Appendix), results were not fully in line with our hypotheses, as a) there exists a trend that women in the high masculinity condition chose more nontraditional work roles, and b) women low on self-efficacy chose considerably more agentic work roles in the high masculinity condition than in the absence of this gender conformity prime. However, the results also supported our hypotheses in two important ways: a) women scoring high on self-efficacy chose more nontraditional work roles on average, and b) the gender conformity cue did not affect participants scoring high on self-efficacy.

Work role choices: Moderation by achievement values

For achievement values, we repeated the same regression model. Predicting the amount of male work role choices resulted in a significant positive direct effect of achievement values, $B = 0.19$, $t = 3.52$ ($df = 200$), $p = 0.001$, $CI_{95\%} [0.08; 0.29]$, and a marginally significant positive direct effect of the experimental manipulation, $B = 0.10$, $t = 1.95$ ($df = 200$), $p = 0.053$, $CI_{95\%} [-0.00; 0.21]$. However, the interaction of achievement values and experimental manipulation was not significant. Thus, high scores on achievement values predicted choosing a greater amount of male work roles, regardless of the masculinity condition (Fig. 2, Appendix). Contrary to our predictions, a trend of choosing more nontraditional work roles when participants believed that they were going to interact with a more masculine interaction partner was found.

Implicit association gender and leadership:

Moderation by self-efficacy

Sensitivity to female-leader

A multiple regression analysis was conducted to predict

the strength of association between the concepts ‘woman’ and ‘manager’ from participants' masculine stimulus exposure manipulation (coded 1 = highly masculine stimulus, -1 = non-masculine stimulus), self-efficacy (standardized), and the interaction term. Results indicated that self-efficacy was a significant positive predictor for the sensitivity of associating women with managerial attributes, $B = 0.13$, $t = 2.58$ ($df = 200$), $p = 0.011$, $CI_{95\%} [0.03; 0.23]$. However, no significant results were obtained for the experimental manipulation and the interaction term. Thus, in line with one of our hypotheses, high scores on self-efficacy predicted a stronger association of ‘woman’ and ‘manager’, regardless of the masculinity condition.

Sensitivity to male-leader

Results indicated that generalized self-efficacy predicted higher sensitivity scores for the concepts ‘man’ and ‘manager’, as a significant positive direct effect for self-efficacy could be observed, $B = 0.13$, $t = -3.25$ ($df = 200$), $p = 0.001$, $CI_{95\%} [0.05; 0.21]$. Significant results were found for neither the experimental manipulation nor the interaction term. Overall, the findings suggested that women scoring high on self-efficacy did not only have a higher sensitivity for the association between ‘woman’ and ‘manager’; their association for ‘man’ and ‘manager’ was stronger as well.

DISCUSSION

Collectively, support for the Expectancy-Value Model of achievement related choices could be found in the present research, as both expectancy for success and achievement values predicted the amount of agentic work roles that were chosen. Surprisingly, no support for the direct effect of the gender conformity cue was found, since participants in the high masculinity condition chose more male work roles and hence competed against their ostensible interaction partner. However, it is important to note that this effect was not significant at an alpha level of .05 and that this trend should thus be interpreted with caution. It is not clear what caused this unexpected finding and whether it could be replicated and extrapolated beyond the laboratory. Some participants' indications on the manipulation check revealed that they wanted to choose the same work roles in order to make the negotiation more interesting. Yet, other women showed reactance towards the manipulation; as one participant noted: “the gender of the colleague [...] made me slightly angry and competitive [...]”. Thus, it could be possible that the direction of the effect can either be attributed to the nature of the experimental task or that it can be seen as an indication of progressive attitudes in the current sample due to students' increasing awareness of gender issues.

The most promising finding from a practitioner's point of view is that females high on self-efficacy tend to associate both genders with leadership and that their task choices are not influenced by their male counterpart. This raises the question of directionality: Does believing in one's capabilities lead to more gender-neutral associations with leadership, or does the belief that women can be leaders strengthen one's self-efficacy? As generalized self-efficacy can be trained (Eden & Aviram, 1993), it might offer a promising tool for resistance against gender conformity cues.

Among the strengths of this study is its methodological design, as face morphing techniques were used to employ comparable stimuli across conditions. Furthermore, while past research focused on achievement-related choices solely on an explicit level, the present research also incorporated an implicit reaction time task in order to understand the

process behind gender-specific decision-making. Certain limitations need to be considered when interpreting findings. Firstly, the experiment asked students to choose managerial tasks, which might not have been personally relevant for this sample. Secondly, the chosen job tasks of the interaction partner varied by masculinity condition and no control condition (e.g. only showing the face stimulus) was present. Therefore, it is not clear whether the effects were in fact of an implicit nature, or whether the ostensible task choices of the interaction partner had a bigger impact on participants.

Taking the limitations of the current study into account, future research should replicate the study with a sample of business students or professionals, as they might be more familiar with the experimental context and stimuli, but at the same time less aware of priming effects. Testing the mediation effect of the implicit association was beyond the scope of the present research. Thus, future research with more statistical power could investigate whether scores on the implicit association measure mediate different work role choices. Furthermore, self-efficacy and achievement values should be analyzed in combination, in order to get a more elaborate picture of their collective impact. Finally, the reasons for competition should be explored further, for instance by directly testing whether participants change their work roles tasks after seeing their negotiation partner.

CONCLUSION

Times have changed and so have gender stereotypes. As more women enter managerial roles, the implicit biases associated with women in this domain will ultimately change as well. For now, it is important to be aware of the aversive effect of implicit bias on women and other minorities at the workplace. Gaining further insights into the factors that help individuals overcome their implicit biases and gender conformity threats will help us to achieve greater gender equality.

ROLE OF THE STUDENT

Eva Riering was an undergraduate student at the University of Groningen working with a group of 4 students under the supervision of Dr. Pontus Leander. The recruitment of participants, data collection and data analyses were equally divided in the group. Each student was responsible for writing a scientific article, each focusing on different moderating variables.

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APPENDIX

Figure 1



Figure 2

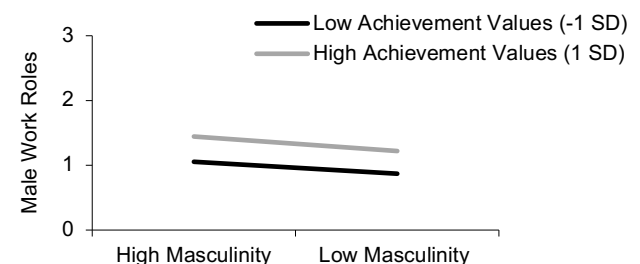


Figure 1 & 2. Work role choices as a function of masculine stimulus exposure manipulation (high vs low) and differences in self-efficacy and achievement values