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**THE ROLE OF STEREOTYPE ENDORSEMENT IN
ATTRIBUTING OUTCOMES TO DISCRIMINATION**

A Thesis in

Psychology

by

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ABSTRACT

Because cultural stereotypes attribute the responsibility for group differences to stereotypic traits of group members, endorsement of those stereotypes may consequently lead to fewer attributions to discrimination. To examine this possibility, participants who either strongly endorsed or rejected gender stereotypes evaluated possible causes of (a) a hiring decision in which a male manager hired an individual man over an individual woman (Study 1) and (b) a group difference showing the underrepresentation of women in male-dominated occupations (Study 2). Results revealed that stereotype endorsement influenced explanations of differences in outcomes between groups but not between individuals. Consistent with hypotheses, stereotype endorsers were more likely than stereotype rejecters to explain the underrepresentation of women in male-dominated fields in terms of dispositional differences between women and men and less likely to attribute such outcomes to discrimination. Stereotype endorsers and rejecters did not, however, differ in their explanations of a hiring decision that favored an individual man over an individual woman. The implications of these findings are discussed.

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Chapter 1. INTRODUCTION

Social psychological theorists and researchers have long acknowledged that stereotypes contribute to the maintenance of the status quo. For instance, stereotypes often lead to self-fulfilling prophecy effects (Rosenthal & Jacobson, 1966), bias judgments and behaviors (Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991), and undermine the performance of members from stigmatized groups (Steele & Aronson, 1995). Recently, researchers have theorized about the legitimizing function of stereotypes and their role in maintaining the status quo. Both system justification and social dominance theorists, for example, postulate that social stereotypes serve to support and justify social hierarchies within society by making it seem as though social positions are deserved and well-suited for the groups that occupy them (Jost & Banaji, 1994; Sidanius & Pratto, 1999).

The goal of the present research is to examine a novel way that stereotypes are used to maintain the status quo; namely, the present work considers the possibility that stereotype endorsement is associated with fewer attributions to discrimination, thereby reinforcing current social arrangements. Discrimination is widely perceived to be unfair and harmful behavior toward an individual or group on the basis of group membership (e.g., race, gender, sexual orientation, religion, etc). Attributing the cause of negative outcomes to discrimination thus challenges the current status quo by implying that the outcome is unfair, unjust, and illegitimate. Although prior work has examined and supported the theoretical link between stereotypes and the legitimization and consequential maintenance of the status quo (e.g., Jost, Kivetz, Rubini, Guermandi, & Mosso, 2005; Kay & Jost, 2003; Kay, Jost, Young, 2005), no work has yet considered the relationship between stereotype endorsement and attributions to discrimination as part of the equation for maintaining social hierarchies. This research is important because

examining the factors that influence attributions to discrimination is crucial to fully understanding how inequalities are maintained in society. If discrimination is not perceived, then the status quo is seen as legitimate and the social system is left unchallenged.

To examine the possibility that stereotype endorsement influences attributions to discrimination, I first clarify what is meant by stereotype endorsement. I then consider prior research supporting the theory that stereotypes are used to explain and justify group differences. Finally I consider the motivational and cognitive tendencies of those who strongly endorse versus do not endorse stereotypes to derive testable hypotheses.

Defining stereotype endorsement

Stereotype endorsement refers to the assignment of either *roles and outcomes* to members of particular groups (e.g., women are caregivers; African Americans have low incomes) or *traits* to members of particular groups (e.g., women are nurturing; African Americans are lazy; Vescio & Biernat, 1999; Wittenbrink & Henly, 1996). The present work focuses on the latter, or the assignment of stereotypic traits to group members, because as described below, stereotypic traits are used to explain and rationalize group differences in roles and outcomes. If stereotypic traits explain group differences, then there is less possibility that group differences will be attributed to discrimination.

The explanatory and justifying function of stereotypic traits

Stereotypes that explain group differences in terms of dispositional traits attribute the responsibility for social positions to the efforts and abilities of individuals and groups, making it seem as though the social positions are deserved and appropriate. Evidence of this legitimizing function of stereotypes is robust in the literature. Research has found that people ascribe traits to others according to the social roles they occupy, and they rationalize divisions of labor by

ascribing role-justifying traits to groups, thus making it seem as though certain groups are (stereotypically) well-suited for specific roles (Eagly & Steffan, 1984). For example, people ascribe communal stereotypic traits to groups that are assigned child-care roles and agentic stereotypic traits to groups that are assigned city-worker roles as a way to justify the group assignments (Hoffman & Hurst, 1990). In fact, people ascribe traits that are consistent with a person's social position, even when social positions are assigned arbitrarily (Ross, Amabile, & Steinmetz, 1977). Research also shows that people rationalize social statuses as deserved by stereotyping high-status groups as more intelligent and hard-working than low-status groups (Jost, 2001; Jost & Hamilton, 2005).

Because stereotypic traits explain the differential social standings of groups, stereotypes may also be used to explain the cause of stereotype consistent outcomes experienced by individual members of negatively stereotyped groups. Stereotype consistent outcomes include situations in which members of groups that are stereotypically perceived as lacking the attributes necessary for success in a given domain are underrepresented, achieve less, and/or are awarded fewer valued resources in the stereotype relevant domain than are members of groups that are stereotypically perceived as possessing the necessary attributes. To the degree that members of a given group are perceived to stereotypically lack the traits needed to succeed in a given domain, failure to hire members of that group should be perceived as due to the groups' shortcomings rather than due to the discriminatory behaviors of others. For example, someone who strongly endorses gender stereotypes may reason that a woman wasn't hired for a job that requires stereotypically masculine traits because, according to their stereotypic beliefs, she most likely doesn't possess those necessary traits. Thus if stereotypic traits provide the explanation for the negative outcome, then discrimination will not be seen as an explanation for the outcome.

Considering the foregoing points, stereotype endorsement is operationalized in the current work as the extent to which someone ascribes certain *traits* to members of particular groups. Specifically, during a pretesting session approximately four to six weeks prior to participation in the current studies, potential participants indicated their beliefs about women and men's standing on a series of stereotypically female, stereotypically male and gender neutral traits. Extreme groups of participants who strongly endorsed gender stereotypes (i.e., viewed men and women in highly stereotypic terms) and strongly rejected stereotypes were identified and recruited for participation in the studies presented here. This allowed for the examination of the possibility that strong endorsement (vs. rejection) of stereotypic traits is associated with fewer perceptions of discrimination.

Motivational tendencies of people who strongly endorse stereotypes

People who strongly endorse stereotypes may have motivational tendencies that differ from those who reject stereotypes, and these differences in motivations may contribute to differences in perceptions of discrimination. System justification theory posits that people are motivated, in differing degrees, to justify and rationalize the status quo as fair and legitimate. One way that people accomplish the goal of justifying the system is by endorsing stereotypes, because stereotypes rationalize inequality as deserved (Jost, Pietrzak, Liviatan, Mandisodza, & Napier, 2008). Minimizing perceptions of discrimination may be another way to maintain the view that the social system is fair and legitimate. If people who strongly endorse stereotypes do so because they are motivated to justify the system, then they may also be particularly motivated to deny discrimination, and they may use stereotypes to rationalize the denial of discrimination.

Stereotype endorsers are also motivated to apply activated stereotypes to social judgments because the activated stereotypes reinforce their personal beliefs (Devine, 1989). To

the degree that one endorses stereotypes and sees stereotypes as accurate and true reflections of social reality, stereotypes may be readily used to interpret relevant information and subsequently be associated with decreased perceptions of discrimination. By contrast, stereotype rejecters are motivated to avoid using activated stereotypes in social judgments because their personal beliefs stand in conflict with those stereotypes (Devine, 1989). Consequently, those who endorse (vs. reject) stereotypes may be more motivated to use stereotypes to explain outcomes and, therefore, less likely to perceive discrimination as an explanation for group differences in social positions and outcomes. In other words, those who endorse stereotypes may be more likely than those who reject stereotypes to interpret stereotype consistent outcomes involving individuals and groups as being due to stereotypic traits of group members rather than due to discrimination.

Cognitive tendencies of people who strongly endorse stereotypes

People who strongly endorse stereotypes may also have cognitive tendencies that differ from people who reject stereotypes, and these tendencies may predict attributions to discrimination. For instance, stereotype endorsement correlates with people's implicit theories about the malleability of personality traits. People who strongly endorse stereotypes tend to hold entity theories about personality such that they believe that personality traits are fixed and stable over time (Brescoll & LaFrance, 2004; Levy, Stroessner, & Dweck, 1998). This belief in the immutability of human characteristics may contribute to a focus on internal rather than external explanations for outcomes. People who reject stereotypes, on the other hand, tend to hold incremental theories such that they believe that personality traits are malleable and can change over time (Brescoll & LaFrance, 2004; Levy, Stroessner, & Dweck, 1998). This viewpoint may contribute to a focus on external rather than internal explanations for outcomes. Because

discrimination is an external explanation for outcomes, focusing on internal explanations should decrease attributions to discrimination and increase attributions to dispositional traits.

Indeed, research shows that focusing on internal explanations for outcomes leads to fewer attributions to discrimination. Specifically, women primed with meritocratic beliefs (i.e., primed to think about internal causes for outcomes, such as effort and abilities), compared to those not primed, were less likely to attribute personal rejection to discrimination (McCoy & Major, 2007). Similarly, people who strongly endorse meritocratic belief systems (i.e., believe that success and failure are a direct result of one's work ethic, character, and behavior) report fewer attributions to discrimination than people who do not endorse those belief systems (Lipkus & Siegler, 1993; Major, Gramzow, McCoy, Levin, Schmader, & Sidanius, 2002).

Together this research suggests that people who strongly endorse stereotypes may tend to focus on internal explanations rather than external explanations for outcomes. Consequently, strong stereotype endorsers may perceive less discrimination and make more attributions to dispositional traits than people who reject stereotypes.

Overview of Studies

The present work was designed to examine the possibility that those who strongly endorse stereotypes, compared to those who reject stereotypes, are less likely to attribute stereotype consistent outcomes to discrimination and more likely to attribute such outcomes to dispositional traits of group members. The present studies directly tested this prediction at two levels. Study 1 examines explanations of differences in outcomes between *individuals* from different social groups. In other words, Study 1 examines the prediction that those who endorse (vs. reject) stereotypes are more likely to deny the role of discrimination in stereotype consistent outcomes involving individuals (e.g., an individual man and woman). By contrast, Study 2

examines explanations of differences in outcomes between *social groups*. In other words, Study 2 examines the prediction that those who endorse (vs. reject) stereotypes are more likely to deny the role of discrimination in producing broader group inequities (e.g., the underrepresentation of women in leadership positions).

Chapter 2. STUDY 1

Study 1 examines explanations of a hiring decision in which a male manager hires a man over a woman in a masculine domain (i.e., a domain where men are stereotypically assumed to possess and women are stereotypically assumed to lack the attributes necessary for success) versus a gender neutral (i.e., stereotype irrelevant) domain. It was predicted that in the masculine domain, participants who strongly endorse stereotypes will make fewer attributions to discrimination and more attributions to dispositional traits than participants who reject stereotypes. In the gender neutral domain, on the other hand, no differences were expected between the two groups of participants for two reasons. First, the gender neutral domain is stereotype irrelevant and thus stereotype endorsement should have no bearing on attributions. Second, the gender neutral domain does not fit prototypic expectations for a situation where discrimination is expected to occur (O'Brien, Kinias, & Major, 2008). Thus, differences in attributions are only expected in the masculine (i.e., stereotype relevant) domain. Furthermore, no differences were expected between male and female participants because stereotype endorsement, rather than participant gender, was expected to influence attributions.

Method

Participants & Selection Criteria

Participants were preselected for strong gender stereotype endorsement and stereotype rejection according to their scores on a gender stereotype endorsement scale they completed during a mass screening session as part of a course requirement. Specifically, potential participants indicated for each of 24 traits where on average the group women (and on a separate scale, men) fall on a 9-point scale with endpoints labeled “not at all” and “extremely” (see Appendix A). Four traits tapped each of the following types of stereotypic information (see

Vescio, Gervais, & Cundiff, in preparation): positive feminine (e.g., nurturing), negative feminine (e.g., dependent), positive masculine (e.g., ambitious), negative masculine (e.g., arrogant), positive gender neutral (e.g., happy, likable) and negative gender neutral (e.g., pessimistic, shallow). Strength of stereotype endorsement was calculated by subtracting the means for counterstereotypic traits from the means for stereotypic traits to create a difference score (see Park & Judd, 1990). Large difference scores in the positive direction indicated strong stereotype endorsement. Small difference scores indicated weak stereotype endorsement¹.

Participants from the lower and upper thirds of the distribution of scores were invited to participate in the study in exchange for course credit². Of the 378 students who were invited, 149 women, 98 men, and one person with unreported gender participated in the study (mean age = 19.18, S.D. = 1.78). The racial and ethnic diversity of the sample reflected the diversity of the university from which the sample was taken.

Design & Procedure

The study employed a 2 (stereotype endorsement: endorse vs. reject) x 2 (outcome domain: masculine vs. gender-neutral) between-subjects design³. Participants with stereotype endorsement scores in the upper third of scores constituted the *stereotype endorsement* condition ($n = 130$); participants with stereotype endorsement scores in the lower third of scores constituted the *stereotype rejection* condition ($n = 118$). Participants were randomly assigned to the outcome domain conditions.

¹ Scores could range from -8.0 to +8.0 using this calculation method. Actual scores ranged from -1.13 to +5.25. Scores for the *stereotype rejection* condition ranged from -0.50 to +0.88. Scores for the *stereotype endorsement* condition ranged from +2.38 to +5.25.

² Participants with scores below -0.50 ($n = 2$) were not invited to participate because negative difference scores indicated endorsement of counter-stereotypes.

³ Although not predicted to affect results, participant gender and order were also included as independent variables in the analyses. Effects of those variables are mentioned where appropriate.

Using a slightly modified version of O'Brien, Kinias, and Major's (2008, Study 1) procedure, participants read a job narrative that provided details about a company seeking to hire a new project manager and then read transcripts from interviews with two applicants, learned which applicant was hired, and answered questions regarding potential causes for the hiring decision. Participants' responses to these questions served as the dependent variables. Upon completion of the study, participants were probed for suspicion, fully debriefed, and thanked for their participation.

Stimulus Materials

Job Narrative. Participants read a narrative about a corporation that was conducting a job search to hire a new project manager. The narrative described the position, required skills, and college majors of people who had previously held the position. The content of the job narrative varied as a function of the outcome domain. Specifically, the job narrative for the *masculine domain* condition reflected masculine stereotypes (e.g., assertive, influential), whereas the job narrative for the *gender neutral domain* condition reflected neither masculine nor feminine stereotypes (e.g., sensible, motivated; see Appendix B). Pilot testing revealed that these job descriptions were perceived as masculine and gender neutral, respectively. Specifically, 53 independent judges were randomly assigned to rate one of the two job descriptions on a 7-point scale with endpoints labeled "stereotypically masculine" (1) and "stereotypically feminine" (7). The midpoint was labeled "neither masculine nor feminine" (4) (see Appendix C). Ratings of the *masculine* job description ($M = 2.09$, $SD = 0.85$) were significantly different from the midpoint, $t(22) = -10.82$, $p < .001$. Ratings of the *gender neutral* job description ($M = 3.80$, $SD = 0.89$) were not significantly different from the midpoint, $t(29) = -1.24$, *ns*.

Interview Transcripts. After reading the job description, participants read partial transcripts from the senior manager's interview with two of the applicants: Michael and Amanda. The transcripts included one question from the senior manager and the applicants' answers to that question (see Appendix D). Pilot-testing showed that the two applicants were viewed as equally competent and warm. Specifically, 59 independent judges read one of the two job descriptions and then rated both applicant answers on four items related to warmth (e.g., friendly) and four items related to competence (e.g., intelligent) using a 7-point scale with endpoints labeled "not at all" and "extremely" (see Appendix E). The order of the applicant answers was counterbalanced across participants. Warmth and competence scores were submitted to a 2 (job domain: masculine, gender-neutral) x 2 (order: answer A first, answer B first) x 2 (rating type: warmth, competence) x 2 (rating target: answer A, answer B) repeated-measures analysis of variance (ANOVA). Job domain and order were independent variables; rating type and rating target were the repeated measures. Results revealed a three-way interaction between rating target, rating type, and order, $F(1,54) = 4.87, p < .04$. Simple effects tests revealed no differences between the competency ratings of answer A ($M = 6.95, SD = 1.58$) and answer B ($M = 6.69, SD = 1.24$), regardless of the order presented. Results also showed no differences between the warmth ratings of answer A ($M = 5.98, SD = 1.63$) and answer B ($M = 6.34, SD = 1.29$), but only when answer A was presented first and answer B was presented second. When answer B was presented first and answer A was presented second, answer A ($M = 6.70, SD = 1.11$) was rated as warmer than answer B ($M = 6.03, SD = 1.23$), $F(1,28) = 5.84, p < .03$. Thus for the main study answer A was presented first and answer B was presented second in all conditions in order to avoid potential perceived differences in warmth. The applicants' names were counterbalanced across the answers and across conditions⁴.

⁴ In other words, within each job domain condition half of the participants read about Amanda (answer A) first and

In all conditions, participants learned that the senior manager hired Michael and rejected Amanda. The senior manager was identified with an unambiguously male name, John, and the rejected applicant was identified with an unambiguously female name, Amanda, in order to create a situation that fits prototypic expectations of discrimination. Specifically, research shows that observers are more likely to perceive discrimination when the perpetrator is from a higher status social group than the victim (Baron, Burgess, & Kao, 1991; Inman & Baron, 1996; Inman, Huerta, & Oh, 1998). Because men are ascribed a higher status in our society than women, this particular situation (i.e., a man hiring another man over a women) allowed for opportunities to attribute the hiring decision to discrimination.

Dependent Measures

Attributions to discrimination. Participants considered the hiring decision and, using a 7-point scale (endpoints labeled “completely disagree” and “completely agree”), indicated the extent to which they agreed or disagreed with statements indicating that the hiring decision was: discriminatory, sexist, fair (reverse-scored), due to the applicants’ gender, and just (reverse-scored). Scores were averaged across the five items to create an index of attributions to discrimination ($\alpha = 0.91$). Higher scores reflected greater attributions to discrimination.

Attributions to applicants’ dispositional traits. Participants used the same 7-point scale (endpoints labeled “completely disagree” and “completely agree”) to indicate the extent to which they agreed or disagreed with statements indicating that the hiring decision was due to differences in the applicants’ skills and competencies (i.e., qualifications, competence, capability, and fit for the job). Scores were averaged across the four items to create an index of

Michael (answer B) second. The other half read about Michael (answer A) first and Amanda (answer B) second. Thus all participants read the answers in the same order, but the assignment of the names to the answers was counterbalanced across conditions.

attributions to applicants' dispositional traits ($\alpha = 0.79$). Higher scores reflected greater attributions to applicants' dispositional traits.

Similar measures have been verified in previous work (e.g., Major, Gramzow, McCoy, Levin, Schmader, & Sidanius, 2002; McCoy & Major, 2007; O'Brien, Kinias, & Major, 2008). All nine of these attribution items were embedded within other items (see Appendix F). To further verify the measure, all 20 items were submitted to a factor analysis. The scree plot indicated two factors. After performing a varimax rotation, items from the two subscales loaded well (i.e., showed simple structure) on the two factors, whereas the filler items did not. Surprisingly however, the items "The manager hired the best person for the position", "The manager's decision was appropriate", and "The manager's decision was due to the applicants' responses in the interview" loaded well on the discrimination factor (reverse-coded). These items were not included in the Discrimination subscale, however, because these items theoretically represent a different construct: attributions to dispositions. Although adding these items to the Dispositional subscale did not change the pattern of results, these items were not included in that subscale because they did not load on the Dispositional factor.

Manipulation check and demographic information. Participants indicated the name and gender of the manager, the applicant who was hired, and the applicant who was rejected⁵.

Participants also indicated their gender, race/ethnicity, and age.

Results

It was predicted that participants who strongly endorsed stereotypes, compared to those who rejected stereotypes, would make fewer attributions to discrimination and more attributions to dispositional traits, but only when making judgments within the masculine (i.e., stereotype relevant) domain. When making judgments within the gender neutral (i.e., stereotype irrelevant)

⁵ Only participants who correctly identified the gender of all three targets were included in analyses.

domain, no differences were expected between stereotype endorsers and stereotype rejecters. To test these predictions, discrimination attribution scores and dispositional attribution scores were submitted to separate 2 (stereotype endorsement: endorse vs. reject) x 2 (outcome domain: masculine vs. gender neutral) ANOVAs. Two participants were excluded from analyses due to suspicion; an additional eight participants were excluded because they did not correctly identify the gender of the hiring manager and/or applicants.

Attributions to Discrimination

Results of the 2 x 2 ANOVA revealed no significant effects for discrimination attribution scores. High endorsers perceived the same amount of discrimination as low endorsers, regardless of domain condition. Because previous research shows that women tend to perceive more discrimination than men (Brown & Bigler, 2004; Inman & Baron, 1996), gender was added as an independent variable. Discrimination attribution scores were thus resubmitted to a 2 (stereotype endorsement) x 2 (domain) x 2 (gender) ANOVA. Results revealed no significant effects (see Table 1 for means and standard deviations).

Table 1

Mean attribution scores among stereotype endorsing and stereotype rejecting women and men in masculine vs. gender neutral domains

Stereotype Endorsement	Masculine Domain		Gender Neutral Domain	
	Discrimination Attributions	Dispositional Attributions	Discrimination Attributions	Dispositional Attributions
Endorsers				
Women	3.15 (1.44)	4.21 (1.33)	3.47 (1.56)	3.92 (1.06)
Men	3.32 (1.53)	3.96 (1.05)	3.23 (1.57)	3.42 (1.24)
Total	3.21 (1.46)	4.12 (1.23)	3.36 (1.56)	3.69 (1.16)
Rejecters				
Women	3.52 (1.28)	3.96 (1.31)	3.45 (1.20)	4.16 (0.93)
Men	3.13 (1.36)	4.58 (1.19)	3.20 (1.32)	3.67 (1.16)
Total	3.39 (1.30)	4.15 (1.28)	3.34 (1.25)	3.94 (1.05)

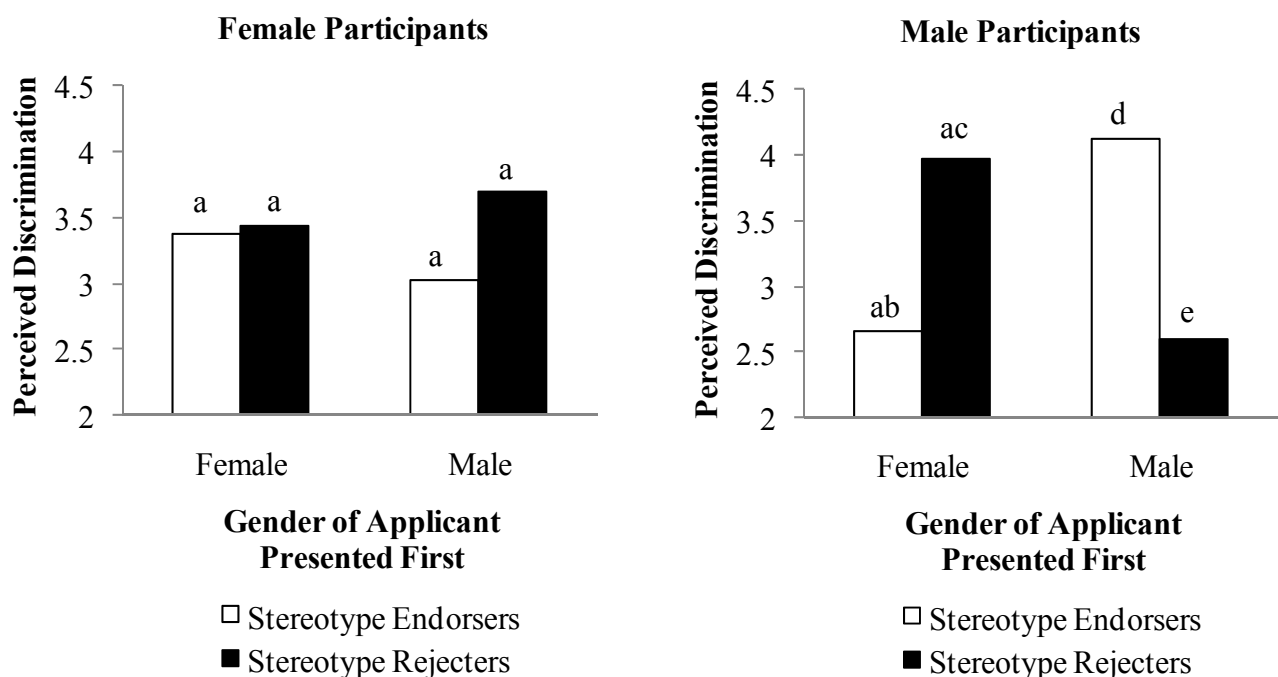
Note. Standard deviations are noted in parentheses.

Pilot tests of the applicants' answers (described above) did not include personal information about the applicants such as their name or gender. Instead, raters in the pilot tests saw each answer labeled as either Applicant 1 or Applicant 2. As a result, it is possible that the presentation order of the female applicant and male applicant may have influenced results. Specifically, the competence of the applicants may have been perceived differently when the female applicant was presented first versus when the male applicant was presented first due to contrast and/or assimilation effects (see Banaji, Hardin, & Rothman, 1993; Mussweiler, 2001). To examine this possibility, order was added as an independent variable. Discrimination attribution scores were thus resubmitted to a 2 (stereotype endorsement) x 2 (domain) x 2 (gender) x 2 (order) ANOVA.

Results revealed a significant 3-way interaction between stereotype endorsement, domain, and order, $F(1,220) = 4.11, p < .05, \eta^2 = .02$, and a significant 3-way interaction

between stereotype endorsement, gender, and order, $F(1,220) = 4.17, p < .05, \eta^2 = .02$. These interactions, however, were qualified by a higher order 4-way interaction between stereotype endorsement, domain, gender, and order, $F(1,220) = 6.19, p < .02, \eta^2 = .03$. To decompose the 4-way interaction, the data were separated by domain and scores were submitted to a 2 (stereotype endorsement) x 2 (gender) x 2 (order) ANOVA. As expected, no significant effects were found for the gender neutral domain. In the masculine domain, however, the 3-way interaction between stereotype endorsement, gender, and order remained significant, $F(1,110) = 10.23, p < .01, \eta^2 = .09$ (see Figure 1).

Figure 1. Attributions to discrimination among stereotype endorsing and stereotype rejecting women and men in the masculine domain presented with the female vs. male applicant first.



Note. Different superscripts represent significantly different means, $p < .05$. However, the difference between *ab* versus *ac* is only marginally significant, $p < .09$.

To further interpret the findings that emerged in the masculine domain, women and men's results were analyzed separately. There were no significant differences in scores among women. Among men, however, there was a significant interaction between stereotype endorsement and order, $F(1,36) = 11.44, p < .01, \eta^2 = .24$. Simple effects tests revealed that when men were presented with the female applicant first, the predicted pattern emerged: men who strongly endorsed stereotypes perceived less discrimination than men who rejected stereotypes, $F(1,17) = 3.33, p < .09, \eta^2 = .16$. This effect, however, was only marginally significant. When men were presented with the male applicant first, on the other hand, the opposite pattern emerged, contrary to predictions: men who strongly endorsed stereotypes perceived *more* discrimination than men who rejected stereotypes, $F(1,19) = 10.68, p < .01, \eta^2 = .36$ ⁶.

Attributions to Dispositional Traits

Dispositional attribution scores were first submitted to a 2 (stereotype endorsement) x 2 (domain) ANOVA. Results revealed a main effect for domain, such that participants in the masculine domain condition made more attributions to dispositional traits ($M = 4.13, SD = 1.25$) than participants in the gender neutral condition ($M = 3.81, SD = 1.12$), $F(1,233) = 4.23, p < .05, \eta^2 = .02$.

Similar to the analysis of discrimination attribution scores, dispositional attribution scores were also submitted to a 2 (stereotype endorsement) x 2 (domain) x 2 (gender) ANOVA. The main effect for domain remained significant, $F(1,228) = 5.86, p < .02, \eta^2 = .03$. Results also revealed a significant interaction between domain and gender, $F(1,228) = 4.70, p < .03, \eta^2 = .02$. Simple effects tests revealed that men in the masculine domain condition made more attributions

⁶ The 4-way interaction was also decomposed by separating the data by order and by stereotype endorsement. Important results from comparisons of individual means are indicated in the superscripts in Figure 1.

to dispositional traits ($M = 4.21$, $SD = 1.14$) than men in the gender neutral condition ($M = 3.54$, $SD = 1.20$), $F(1,91) = 8.34$, $p < .01$, $\eta^2 = .08$. By contrast, women made the same amount of attributions to dispositional traits in both domain conditions, $F < 1$. Furthermore, in the gender neutral domain, women made more attributions to dispositional traits ($M = 4.04$, $SD = 1.00$) than men ($M = 3.54$, $SD = 1.20$), $F(1,117) = 6.11$, $p < .02$, $\eta^2 = .05$. In the masculine domain, however, no differences were found between women and men, $F < 1$. See Table 1 (above) for means and standard deviations of attribution scores among stereotype endorsing and stereotype rejecting women and men in masculine vs. gender neutral domains.

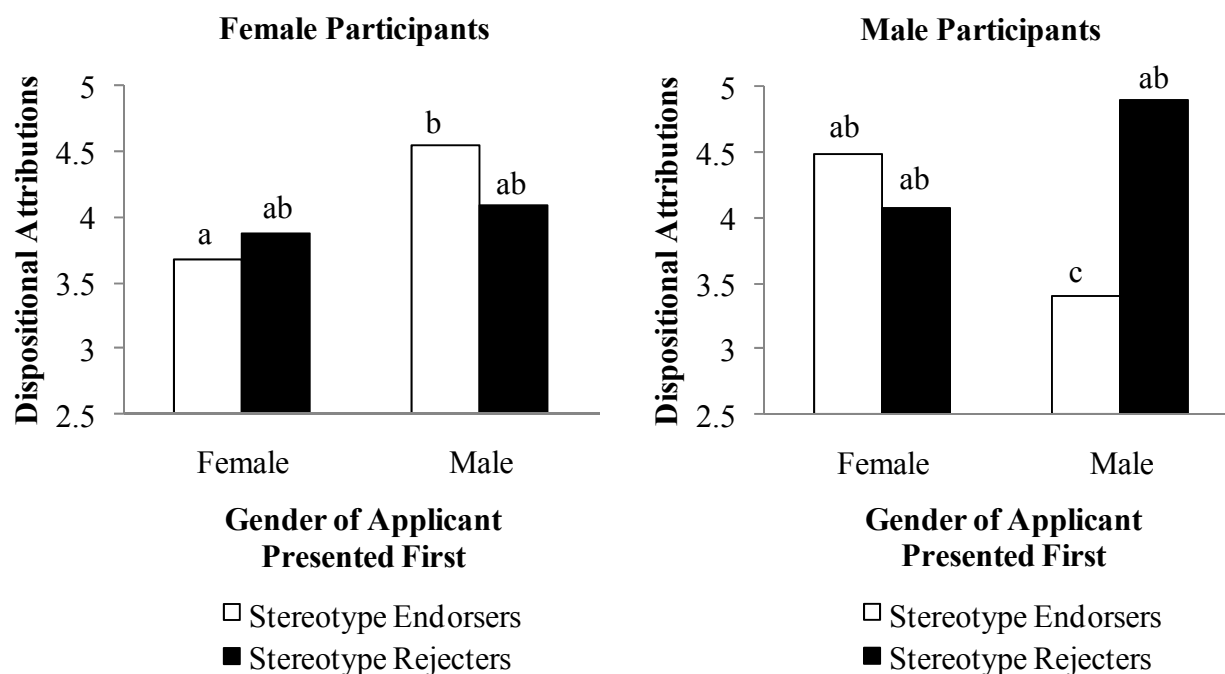
Dispositional attribution scores were also submitted to a 2 (stereotype endorsement) x 2 (domain) x 2 (gender) x 2 (order) ANOVA to parallel the analysis of discrimination attribution scores. The main effect for domain remained significant, $F(1,220) = 4.55$, $p < .04$, $\eta^2 = .02$. The interaction between domain and gender also remained significant, $F(1,220) = 4.35$, $p < .04$, $\eta^2 = .02$. Additionally, results revealed a 4-way interaction between stereotype endorsement, domain, gender, and order, $F(1,220) = 6.08$, $p < .02$, $\eta^2 = .03$. This effect paralleled the 4-way interaction found for discrimination attribution scores. To decompose the 4-way interaction, the data were split by domain and scores were submitted to a 2 (stereotype endorsement) x 2 (gender) x 2 (order) ANOVA. Surprisingly, there was a main effect for gender in the gender neutral domain, such that women made more attributions to dispositional traits ($M = 4.04$) than men ($M = 3.54$), $F(1,111) = 5.73$, $p < .02$, $\eta^2 = .05$. No other effects were significant.

In the masculine domain, and paralleling the findings that emerged on attributions to discrimination, the 3-way interaction between stereotype endorsement, gender, and order was significant, $F(1,109) = 7.00$, $p < .01$, $\eta^2 = .06$ (see Figure 2). Analyzing women and men's results separately revealed a marginally significant main effect for order among women. Women

presented with the male applicant first made more attributions to dispositional traits ($M = 4.32$) than women presented with the female applicant first ($M = 3.77$), $F(1,74) = 3.19$, $p < .08$, $\eta^2 = .04$. No other effects among women were significant. Among men, there was a significant interaction between stereotype endorsement and order, $F(1,35) = 8.18$, $p < .01$, $\eta^2 = .19$. Simple effects tests revealed that when presented with the male applicant first, contrary to predictions, men who strongly endorsed stereotypes made fewer attributions to dispositional traits than men who rejected stereotypes, $F(1,19) = 10.33$, $p < .01$, $\eta^2 = .35$. When presented with the female applicant first, however, men who endorsed stereotypes made the same amount of attributions to dispositional traits as men who rejected stereotypes, $F < 1$. Surprisingly, among men who strongly endorsed stereotypes, those presented with the female applicant first made more attributions to dispositional traits than those presented with the male applicant first. Men who rejected stereotypes, on the other hand, made attributions to dispositional traits to the same extent in both order conditions, $F(1,16) = 2.29$, ns , $\eta^2 = .13$ ⁷.

⁷ The 4-way interaction was also decomposed by separating the data by order and by stereotype endorsement. Important results from comparisons of individual means are indicated in the superscripts in Figure 2.

Figure 2. Attributions to dispositions among stereotype endorsing and stereotype rejecting women and men in the masculine domain presented with the female vs. male applicant first.



Note. Different superscripts represent significantly different means, $p < .05$.

Comparison of discrimination and dispositional attribution scores

The hypothesis that stereotype endorsers, compared to stereotype rejecters, would make fewer attributions to discrimination and more attributions to dispositional traits implies a negative correlation between attributions to discrimination and attributions to dispositional traits. Indeed, results revealed a significant bivariate correlation between discrimination attribution scores and dispositional attributions scores, such that the more that someone attributed the hiring decision to dispositional traits, the less they attributed it to discrimination, $r(236) = -0.52$, $p < .01$.

To compare participants' discrimination attribution scores to their dispositional attribution scores, attribution scores were submitted to a 2 (stereotype endorsement) x 2 (domain) x 2 (gender) x 2 (order) x 2 (attribution type: discrimination vs. dispositional) repeated-measures ANOVA. Stereotype endorsement, domain, gender, and order were between-subject variables; attribution type was the repeated measure. Results revealed a main effect for attribution type, such that participants made more attributions to dispositional traits ($M = 3.96$) than to discrimination ($M = 3.36$), $F(1,219) = 15.40$, $p < .01$, $\eta^2 = .07$. There was also a main effect for outcome domain, such that participants made more attributions overall in the masculine domain ($M = 3.75$) than in the gender neutral domain ($M = 3.57$), $F(1,219) = 4.59$, $p < .04$, $\eta^2 = .021$. Additionally, there was an interaction between domain and gender, $F(1,219) = 6.34$, $p < .02$, $\eta^2 = .03$, and between stereotype endorsement, gender, order, and attribution type, $F(1,219) = 4.24$, $p < .05$, $\eta^2 = .019$. These interactions, however, were qualified by a higher order 5-way interaction, $F(1,219) = 7.66$, $p < .01$, $\eta^2 = .03$.

To decompose the 5-way interaction, the data were separated by outcome domain and scores were submitted to a 2 (stereotype endorsement) x 2 (gender) x 2 (order) x 2 (attribution type) repeated-measures ANOVA. Within the gender neutral domain, the main effect for attribution type remained significant, $F(1,110) = 4.64$, $p < .04$, $\eta^2 = .04$. There was also a main effect for gender, such that women made more attributions overall ($M = 3.74$) than men ($M = 3.39$), $F(1,110) = 8.60$, $p < .01$, $\eta^2 = .07$. No other effects were significant for the gender neutral domain. Within the masculine domain, the main effect for attribution type also remained significant, $F(1,109) = 11.13$, $p < .01$, $\eta^2 = .09$. There was an interaction between stereotype endorsement, order, and attribution type, $F(1,109) = 3.45$, $p < .07$, $\eta^2 = .03$, but this interaction

was qualified by the expected higher order 4-way interaction between stereotype endorsement, gender, order, and attribution type, $F(1,109) = 10.57, p < .01, \eta^2 = .09$.

To decompose the 4-way interaction within the masculine domain, data were separated by stereotype endorsement and scores were resubmitted to the repeated-measures ANOVA. It was predicted that stereotype endorsers would make more attributions to dispositional traits than to discrimination, whereas stereotype rejecters would make more attributions to discrimination than to dispositional traits. Results revealed a main effect for attribution type for both stereotype endorsers and rejecters. Contrary to predictions, both stereotype endorsers and rejecters made more attributions to dispositional traits ($M = 3.90, SD = 1.21$ and $M = 4.05, SD = 1.18$) than to discrimination ($M = 3.29, SD = 1.51$ and $M = 3.36, SD = 1.27$), $F(1,56) = 5.15, p < .03, \eta^2 = .08$ and $F(1,53) = 5.98, p < .02, \eta^2 = .10$, respectively.

Among stereotype rejecters within the masculine domain, there was a marginally significant interaction between attribution type, order, and gender, $F(1,53) = 2.85, p < .10, \eta^2 = .05$. Simple effects tests revealed no significant effects among stereotype rejecters presented with the female applicant first. When presented with the male applicant first, however, stereotype rejecters made more attributions to dispositional traits ($M = 4.45, SD = 1.44$) than to discrimination ($M = 3.21, SD = 1.20$), $F(1,23) = 8.15, p < .01, \eta^2 = .26$. This main effect, however, was qualified by an interaction between attribution type and gender, $F(1,23) = 4.02, p < .06, \eta^2 = .15$. Simple effects tests revealed that women who rejected stereotypes made the same amount of attributions to dispositional traits as to discrimination when presented with the male applicant first. Men who rejected stereotypes, on the other hand, made more attributions to dispositional traits ($M = 4.45, SD = 1.44$) than to discrimination ($M = 3.21, SD = 1.20$) when presented with the male applicant first, $F(1,23) = 15.30, p < .01, \eta^2 = .61$, contrary to predictions.

Results among stereotype endorsers within the masculine domain also revealed the 3-way interaction between attribution type, order, and gender, $F(1,56) = 8.75, p < .01, \eta^2 = .14$. Simple effects tests revealed a marginally significant main effect among stereotype endorsers presented with the female applicant first, such that attributions to dispositional traits ($M = 4.01, SD = 1.34$) were greater than attributions to discrimination ($M = 3.12, SD = 1.57$), $F(1,24) = 4.18, p < .06, \eta^2 = .15$, consistent with predictions. No other results were significant for stereotype endorsers presented with the female applicant first. Among stereotype endorsers presented with the male applicant first, there was a significant interaction between attribution type and gender, $F(1,32) = 8.09, p < .01, \eta^2 = .20$. Consistent with predictions, female stereotype endorsers presented with the male applicant first made more attributions to dispositional traits ($M = 4.54, SD = 1.05$) than to discrimination ($M = 3.02, SD = 1.34$), $F(1,23) = 12.30, p < .01, \eta^2 = .35$. Male stereotype endorsers presented with the male applicant first, on the other hand, made the same amount of attributions to dispositional traits ($M = 3.40, SD = 1.04$) as to discrimination ($M = 4.12, SD = 1.20$).

Discussion

The current research was designed to test the hypothesis that stereotype endorsement influences attributions to discrimination in status-quo maintaining ways. Specifically, it was predicted that participants who strongly endorse stereotypes would attribute the cause of a stereotype consistent outcome (e.g., a negative outcome experienced by a woman in a masculine domain) more to dispositional traits and less to discrimination than participants who reject stereotypes. No differences were expected between those who strongly endorse versus reject stereotypes for judgments about stereotype irrelevant outcomes (e.g., outcomes occurring in gender neutral domains). The current study found mixed results.

In support of the hypothesis, no differences were found between stereotype endorsers' and rejecters' dispositional or discrimination attribution scores when the hiring decision occurred in a gender neutral domain. When the hiring decision occurred in the masculine domain, however, the order in which the names were presented and participant gender both moderated the results. When participants were presented with the female applicant first and the male applicant second, results were fairly consistent with predictions, but mainly among men. Women who strongly endorsed stereotypes perceived the same amount of discrimination and made the same amount of attributions to dispositional traits as women who rejected stereotypes. Men's attributions, on the other hand, were consistent with predictions. Men who strongly endorsed stereotypes perceived less discrimination and made more attributions to dispositional traits than men who rejected stereotypes, suggesting that stereotypes may be informing their judgments. This result, however, only occurred when men were presented with the female applicant first and the male applicant second.

When participants were presented with the male applicant first and the female applicant second, women's results partially supported the hypotheses whereas men's results were contrary to predictions. Women who strongly endorsed stereotypes perceived the same amount of discrimination as women who rejected stereotypes. Consistent with predictions, however, women who strongly endorsed stereotypes made more attributions to dispositional traits than women who rejected stereotypes, suggesting that stereotypes may be influencing their judgments in regards to dispositional traits but not in regards to discrimination. Men's attributions, on the other hand, displayed a pattern of results contrary to predictions. Men who strongly endorsed stereotypes perceived more discrimination and made fewer attributions to dispositional traits than men who rejected stereotypes. This result is very puzzling, especially because it only

occurred among men who were presented with the male applicant first and female applicant second.

Unfortunately, the order of applicant gender presentation was confounded with the answer of the applicant who was hired. When the female applicant was presented first, she was paired with answer A and the male applicant was paired with answer B. Thus the applicant with answer B was hired when the female applicant was presented first. When the male applicant was presented first, on the other hand, he was paired with answer A and the female applicant was paired with answer B. Thus the applicant with answer A was hired when the male applicant was presented first. In other words, the condition labeled “when presented with the female applicant first” could very well be labeled “when the applicant with answer B was hired”.

Although pilot-testing showed that the answers were perceived to be equally competent, results of Study 1 indicate that the competency of the applicants’ answers may have been perceived differently among men who endorsed vs. rejected stereotypes. Men who rejected stereotypes, for instance, perceived more discrimination when the applicant with answer B was hired than when the applicant with answer A was hired. Men who endorsed stereotypes, on the other hand, perceived more discrimination when the applicant with answer A was hired than when the applicant with answer B was hired. In other words, men who rejected stereotypes seemed to prefer answer A, whereas men who endorsed stereotypes seemed to prefer answer B.

This difference in preferences between men who endorse vs. reject stereotypes may be due to differences in the perceived stereotypicality of the applicants. For stereotype endorsers, for example, information about a target that violates stereotype-based expectancies may lead to more extreme evaluations of the target in the direction of the stereotype inconsistent information (Jussim, 1986; Jussim, Coleman, & Lerch, 1987; Jackson, Sullivan, & Hodge, 1993). Thus a

feminine answer may be perceived as more feminine when paired with a male applicant than when paired with a female applicant. Similarly, a masculine answer may be perceived as more masculine when paired with a female applicant than when paired with a male applicant. Because of these extreme evaluations, stereotype endorsers may consequently perceive a female applicant with a masculine answer as much more qualified than a male applicant with a feminine answer for a position in a masculine domain. As a result, stereotype endorsers may perceive more discrimination when a so-perceived feminine (i.e., counter-stereotypic) man is hired than when a masculine (i.e., stereotypic) man is hired for a masculine job. Stereotype rejecters, on the other hand, should not be susceptible to these extreme evaluations because those evaluations are based on stereotyped expectancies. Instead, stereotype rejecters should attempt to avoid making stereotypic judgments (Devine, 1989), and this motivation may enable them to perceive a potentially feminine answer as more competent for the masculine position.

In sum, perceived differences in the competency of the answers may help explain why men who endorse vs. reject stereotypes display different patterns of attributions to discrimination when the applicant with one answer versus another answer is hired. To test this possibility, we devised a set of post-pilot studies. For ease of presentation, the results from only one of the four post-pilot studies are presented below. This post-pilot study was chosen over the others because it directly compares ratings between high and low stereotype endorsers. Methods and results of the other three post-pilot studies can be found in Appendix G.

Chapter 3: POST-PILOT STUDY

The goal of the post-pilot study was to determine if stereotype endorsers vs. rejecters perceive the applicants differently in terms of competence, hireability, and stereotypicality. As such, the study used a 2 (stereotype endorsement: endorse, reject) x 2 (order: male applicant presented first with answer A and female applicant presented second with answer B; female applicant presented first with answer A and male applicant presented second with answer B) x 2 (participant gender: female, male) between-subjects design⁸.

Method

Participants and Procedure

Forty-six women, 48 men, and two participants for whom gender was unspecified completed the study for partial course credit. Participants read the masculine job description and the two partial interview transcripts from the original study. All participants read about the applicant with answer A first and the applicant with answer B second. The gender of the applicant was counterbalanced across answers (and subsequently, with the order of presentation, as in the original study). After reading about the two job applicants, participants rated the relative competency of the applicants, the gender stereotypicality of each applicant, and the relative likelihood that one applicant would be hired over the other. Then participants completed the gender stereotype endorsement scale described in the original study⁹. Finally, participants indicated their gender, race/ethnicity, and age.

Participants with stereotype endorsement scores in the upper third of scores constituted the *stereotype endorsement* condition (n = 37); participants with stereotype endorsement scores

⁸ Participant gender did not moderate the pattern of results and so was dropped from analyses.

⁹ The stereotype endorsement scale for this post-pilot study used a 5-point scale rather than a 9-point scale, with endpoints labeled “not at all” and “extremely”, as in the original scale.

in the lower third of scores constituted the *stereotype rejection* condition ($n = 29$)¹⁰. Participants were randomly assigned to the order conditions.

Dependent Measures

Competency ratings. Participants used a 7-point scale with endpoints labeled “Michael is extremely more X than Amanda” (-3) and “Amanda is extremely more X than Michael” (+3) to compare the applicants on their appearance to be: competent to do the job, qualified for the job, capable of doing the job, and a good fit for the job (see Appendix H for all seven labels). These four items were averaged together to create a competency scale ($\alpha = 0.90$). Positive scores indicated a preference for the female applicant; negative scores indicated a preference for the male applicant.

Stereotypicality ratings. Participants rated the gender stereotypicality of each applicant using separate 7-point scales ranging from “extremely stereotypically masculine” (-3) to “extremely stereotypically feminine” (+3) (see Appendix I for all seven labels). Positive scores indicated that the applicant was perceived as stereotypically masculine; negative scores indicated that the applicant was perceived as stereotypically feminine.

Hireability ratings. Participants rated the likelihood that one applicant would be hired over the other using a 7-point scale ranging from “Michael is extremely more likely to be hired than Amanda” (-3) to “Amanda is extremely more likely to be hired than Michael” (+3) (see Appendix J for all seven labels). Positive scores indicated a preference for the female applicant, whereas negative scores indicated a preference for the male applicant.

¹⁰ Stereotype endorsement scores were calculated using the method from the original study. Because a 5-point scale was used, scores could range from -4.00 to +4.00. Actual scores ranged from -0.13 to 2.00. Scores for the *stereotype rejection* condition ranged from -0.13 to +0.81. Scores for the *stereotype endorsement* condition ranged from +1.13 to +2.00.

Results

Predictions for the post-pilot study were derived from the results of Study 1. Specifically, it was predicted that stereotype endorsers would rate the applicant with answer B as more competent and more hireable than the applicant with answer A. Stereotype rejecters, on the other hand, were expected to rate the applicant with answer A as more competent and more hireable than the applicant with answer B, regardless of applicant gender.

If stereotype endorsers and stereotype rejecters do indeed perceive the applicants differently in terms of competency and hireability, this difference may be due to differences in their perceptions of the applicants' stereotypicality. As discussed previously, it is possible that answer A is seen as more feminine than answer B because answer A discusses customer service whereas answer B discusses technology. Because of stereotype-based expectancy violation effects, stereotype endorsers may perceive the male applicant with answer A to be more feminine than the female applicant with answer A. Similarly, they may perceive the female applicant with answer B to be more masculine than the male applicant with answer B. These stereotypicality ratings were expected to predict hireability ratings among stereotype endorsers. Stereotype rejecters, on the other hand, were expected to rate the applicants as neither masculine nor feminine, regardless of their answer or gender. Stereotypicality ratings were not expected to predict hireability ratings among stereotype rejecters.

Transformation of Comparison Ratings

Competency ratings and hireability ratings could be interpreted as either comparing the male applicant to the female applicant or comparing the applicant with answer A to the applicant with answer B. In order to tease apart these two possible interpretations, ratings were transformed to reflect comparisons based on (a) the applicants' answers and (b) the applicants'

gender. Negative scores indicate a preference for the male applicant or a preference for the applicant with answer A, depending on which comparison rating is used. Positive scores indicate a preference for the female applicant or a preference for the applicant with answer B, again depending on which comparison rating is used.

Competency Ratings

Comparison ratings based on the applicants' answers. Comparison ratings of answer A versus answer B were submitted to a 2 (stereotype endorsement) x 2 (order) ANOVA. Results revealed no significant effects. The comparison ratings of the answers when the male applicant was paired with answer A ($M = -0.19$, $SD = 1.14$) were the same as the comparison ratings when the female applicant was paired with answer A ($M = -0.21$, $SD = 0.97$), $F(1,62) < 1$. The comparison ratings of the answers were also similar among stereotype endorsers ($M = -0.18$, $SD = 1.13$) and stereotype rejecters ($M = -0.22$, $SD = 0.98$), $F(1,62) < 1$.

To determine if these comparison ratings reflected perceived differences between the two answers, ratings were submitted to a one-sample t-test with a test value of zero (indicating no differences between answers). Results indicated that the applicant with answer A was rated as more competent than the applicant with answer B ($M = -0.22$), $t(95) = -2.08$, $p < .05$. Contrary to predictions, these results suggest that both stereotype endorsers and stereotype rejecters perceive answer A to be more competent than answer B, regardless of the gender of the applicant giving the answer.

Comparison ratings based on the applicants' gender. Comparison ratings of the male applicant versus the female applicant were submitted to a 2 (stereotype endorsement) x 2 (order) ANOVA. Results revealed no significant effects. The comparison ratings of the male versus female applicant when the male applicant was paired with answer A ($M = -0.19$, $SD = 1.14$) were

the same as the comparison ratings when the female applicant was paired with answer A ($M = 0.21$, $SD = 0.97$), $F(1,62) = 1.68$, ns , $\eta^2 = .03$. The comparison ratings of the male versus female applicant were also similar among stereotype endorsers ($M = -0.22$, $SD = 1.12$) and stereotype rejecters ($M = 0.28$, $SD = 0.96$), $F(1,62) = 2.90$, ns , $\eta^2 = .05$.

To determine if these comparison ratings reflected perceived differences between the male and female applicants, ratings were submitted to a one-sample t-tests with a test value of zero (indicating no differences between applicants). Results indicated that the male and female applicants were rated as equally competent, $t(95) < 1$. These results suggest that both stereotype endorsers and stereotype rejecters perceive the male applicant and the female applicant to be equally competent, regardless of their answer.

Together, these results indicate that stereotype endorsers and stereotype rejecters hold similar perceptions of the stimulus materials; specifically, they both perceive answer A to be more competent than answer B.

Hireability Ratings

Comparison ratings based on the applicants' answers. Comparison ratings of answer A versus answer B were submitted to a 2 (stereotype endorsement) x 2 (order) ANOVA. Results revealed a significant main effect for order. The comparison ratings of the answers when the male applicant was paired with answer A ($M = -0.71$, $SD = 1.36$) were significantly different from the comparison ratings when the female applicant was paired with answer A ($M = -0.03$, $SD = 1.47$), $F(1,62) = 4.01$, $p = .05$, $\eta^2 = .06$. There were no differences between the ratings of stereotype endorsers ($M = -0.30$, $SD = 1.58$) and stereotype rejecters ($M = -0.52$, $SD = 1.27$), $F(1,62) < 1$.

To determine if these comparison ratings reflected perceived differences between the two answers, data were separated by order and the ratings were submitted to a one-sample t-test with a test value of zero (indicating no differences between answers). Results indicated that participants rated the applicant with answer A as more likely to be hired than the applicant with answer B, but only when answer A was paired with the male applicant, $t(47) = -3.29, p < .01$. When answer A was paired with the female applicant, participants rated the applicants as equally likely to be hired, $t(47) < 1$. Contrary to predictions, these results suggest that both stereotype endorsers and stereotype rejecters perceive the applicant with answer A to be more hireable than the applicant with answer B, but only when the applicant with answer A is male.

Comparison ratings based on the applicants' gender. Comparison ratings of the male applicant versus the female applicant were submitted to a 2 (stereotype endorsement) x 2 (order) ANOVA. Results revealed a significant main effect for order. The comparison ratings of the male versus female applicant when the male applicant was paired with answer A ($M = -0.71, SD = 1.36$) were significantly different from the comparison ratings when the female applicant was paired with answer A ($M = 0.03, SD = 1.47$), $F(1,62) = 4.59, p < .04, \eta^2 = .07$. There were no differences between the ratings of stereotype endorsers ($M = -0.46, SD = 1.54$) and stereotype rejecters ($M = -0.24, SD = 1.35$), $F(1,62) < 1$.

To determine if these comparison ratings reflected perceived differences between the male and female applicants, data were separated by order and the ratings were submitted to a one-sample t-test with a test value of zero (indicating no differences between applicants). Results indicated that participants rated the male applicant as more likely to be hired than the female applicant when the male applicant was paired with answer A, $t(47) = -3.29, p < .01$. When the female applicant was paired with answer A, however, participants rated the applicants as equally

likely to be hired, $t(47) < 1$. Contrary to predictions, these results suggest that both stereotype endorsers and stereotype rejecters perceive the male applicant to be more hireable than the female applicant, but only when he is paired with answer A.

Stereotypicality Ratings

Stereotypicality ratings were submitted to a 2 (stereotype endorsement) x 2 (order) x 2 (target gender: male applicant, female applicant) repeated-measures ANOVA. Target gender was the repeated-measure. Results revealed a main effect for target gender. Contrary to predictions, both stereotype endorsers and stereotype rejecters rated the male applicant as more masculine ($M = -0.70$, $SD = 0.80$) than the female applicant ($M = 0.33$, $SD = 1.03$), $F(1,62) = 27.33$, $p < .001$, $\eta^2 = .31$, regardless of the content of the applicants' answers. No other effects were significant.

To determine if the male applicant was rated as stereotypically masculine and the female applicant as stereotypically feminine, stereotypicality ratings of the male and female applicant were submitted to separate one-sample t-tests with test values of zero (indicating neither masculine nor feminine stereotypicality). Results indicated that the male applicant was indeed rated as stereotypically masculine, $t(95) = -7.79$, $p < .001$, and the female applicant was indeed rated as stereotypically feminine, $t(95) = 2.12$, $p < .04$.

Correlations

As expected, competency ratings predicted hireability ratings. The more competent the male applicant was perceived to be compared to the female applicant, the more hireable he was perceived to be compared to the female applicant, $r(66) = 0.67$, $p < .01$. Similarly, the more competent answer A was perceived to be compared to answer B, the more hireable answer A was perceived to be compared to answer B, $r(66) = 0.64$, $p < .01$. Interestingly, stereotypicality ratings of the male applicant predicted stereotypicality ratings of the female applicant. The more

masculine that the male applicant was rated, the more feminine the female applicant was rated, $r(66) = -0.40, p < .01$. Contrary to predictions, stereotypicality ratings did not predict hireability ratings. This may be because stereotypicality ratings were heavily based on applicant gender whereas hireability ratings were not. Importantly, but also contrary to predictions, stereotype endorsement did not predict competency ratings, hireability ratings, or stereotypicality ratings.

Discussion

Study 1 produced an unexpected pattern of results suggesting that stereotype endorsers perceived the applicant with answer B to be more competent and hireable than the applicant with answer A, whereas stereotype rejecters perceived the applicant with answer A to be more competent and hireable than the applicant with answer B. A possible explanation for why these differences emerged is that the answers may differ in gender stereotypicality, such that answer B may be perceived as more masculine than answer A. When paired with the gender of an applicant, these answers may create different perceptions of competency and hireability among stereotype endorsers and stereotype rejecters. Specifically, stereotype endorsers may perceive the applicant with answer B to be even more masculine when the applicant is female (versus male), and thus may perceive a female applicant with answer B to be much more competent and hireable for a masculine position than a male applicant with answer A.

Results from the post-pilot study rule out this possibility. More specifically, results indicate that stereotype endorsers and stereotype rejecters hold similar perceptions of the applicants in terms of competency, hireability, and stereotypicality. Both stereotype endorsers and rejecters perceive the applicant with answer A to be more competent than the applicant with answer B, regardless of the applicants' gender. When making judgments about the hireability of the applicants, both stereotype endorsers and rejecters perceive the male applicant as more likely

to be hired than the female applicant, but only when the male applicant is paired with answer A. Otherwise, the male and female applicants are perceived as equally likely to be hired. In sum, the applicant with answer A is perceived as more competent and more likely to be hired than the applicant with answer B, especially when the applicant with answer A is male. These results match the pattern of perceived discrimination among stereotype rejecters in Study 1, but they do not match the pattern of perceived discrimination found among stereotype endorsers. If stereotype endorsers perceive the male applicant with answer A to be more competent and more likely to be hired than the female applicant with answer B, then it does not make sense that they would perceive *more* discrimination when the male applicant with answer A is hired.

Another possible explanation is that the unexpected results of Study 1 are due to chance. There were only 10 stereotype endorsing men in the condition where the male applicant with answer A was hired, and it is difficult to draw confident conclusions from such a small sample. It is also possible that the paradigm used in Study 1 did not provide enough information about the individual applicants for participants to feel entitled to make inferences about discrimination. Recall that overall, participants in Study 1 made more attributions to dispositional factors than to discrimination. People are generally unwilling to label situations as discriminatory unless presented with a threatening environment that is indicative of discrimination (Feldman Barrett & Swim, 1998). The vignette may not have provided enough indicators to justify labeling the hiring decision as discriminatory, even for stereotype rejecters. The interview transcripts, for instance, did not provide clear indications that one applicant deserved to be hired over the other applicant. There was also no indication that the male manager was sexist. This lack of information indicating that the hiring decision was possibly due to discrimination may have contributed to the overall low levels of attributions to discrimination in Study 1. However, if the vignette included

too many indicators suggesting that the hiring decision was unambiguously due to discrimination, then all participants may have attributed the hiring decision to discrimination, even among stereotype endorsers. Thus providing too many indicators or too few indicators of discrimination can conceal differences in perceptions of discrimination between stereotype endorsers and rejecters. The vignette instead needs to provide a balance such that participants feel as though they have enough information to make inferences about causality, but not so much information that all participants reach the same conclusion.

Group-level disparities, rather than individual-level disparities, may provide such a balance. With individual-level disparities, such as when a man is hired over a woman for a particular position, it is not clear whether the decision was based on real differences in qualifications or perceived differences based on gender stereotypes. Both stereotype endorsers and stereotype rejecters may recognize the possibility that a particular man may be more qualified than a particular woman, without necessarily basing their judgments on stereotypes. With group-level disparities, however, such as when men are hired at higher rates than women in certain domains, it becomes obvious that some sort of gender difference is driving the disparity. It is less clear, though, whether the group-level disparity is caused by gender differences in terms of dispositions (e.g., qualifications) or gender differences in terms of opportunities (e.g., discrimination). Whereas stereotype endorsers and rejecters may agree that a particular man may be more qualified than a particular woman, they should disagree on the assumed qualifications of men as a group compared to women as a group. In other words, judgments about the causality of *group* differences in roles and outcomes should result in attributions to dispositions among stereotype endorsers and attributions to discrimination among stereotype rejecters. A second study was designed to test this possibility.

Chapter 4: STUDY 2

Study 2 tests the possibility that stereotype endorsers use gender stereotypes to explain the disproportionate representation of women and men in certain occupations and leadership positions. Specifically, it is predicted that stereotype endorsers (vs. rejecters) will be more likely to attribute the cause of the underrepresentation of women in computer, mathematics, and engineering industries and leadership positions to dispositional traits and less likely to attribute the cause to discrimination.

Method

Participants & Selection Criteria

Participants were preselected for stereotype endorsement and rejection according to their scores on a gender stereotype endorsement scale they completed during a mass screening session as part of a course requirement (see Study 1). Participants from the lower and upper thirds of the distribution of scores who did not complete Study 1 were invited to participate in the study in exchange for course credit¹¹. Of the 130 students who were invited, 11 women and 12 men participated in the study. The age of participants ranged from 18 to 55¹² ($M = 21.77$, $SD = 9.81$). The racial and ethnic diversity of the sample reflected the diversity of the university from which the sample was taken.

Design & Procedure

The study employed a 2 (stereotype endorsement: endorse, reject) X 2 (participant gender: female, male) x 2 (attribution type: dispositional, discrimination) x 2 (attribution domain: leadership positions, masculine occupations) repeated-measures design. Attribution type and

¹¹ Participants with scores below -0.50 ($n = 2$) were not invited to participate because negative difference scores indicated endorsement of counter-stereotypes.

¹² Twenty-one participants were aged 18 to 21; two participants were aged 55. Excluding the two 55-year-old participants did not moderate the findings.

attribution domain were the repeated measures. Participants with stereotype endorsement scores in the upper third of scores constituted the *stereotype endorsement* condition ($n = 13$); participants with stereotype endorsement scores in the lower third of scores constituted the *stereotype rejection* condition ($n = 10$).

Participants read an article that described the gender representation of senior-level leadership positions and the gender representation of industries in which women are underrepresented (e.g., computer, mathematics, and engineering; see Appendix K). The article was based on statistics provided by the U.S. Department of Labor and Bureau of Labor Statistics (2008). Participants then answered two open-ended questions about why they thought (a) women were less likely than men to hold senior level leadership positions and (b) women were less likely than men to occupy computer, mathematics, and engineering occupations. Responses to the open-ended questions were not analyzed for the purposes of this study and are not discussed further.

Dependent Measures

Attributions to dispositions. Using a 5-point scale (endpoints labeled “completely disagree” and “completely agree”), participants indicated the extent to which they agreed or disagreed with six statements indicating that the underrepresentation of women in senior-level leadership positions (and on a separate scale, the underrepresentation of women in computer, math, and engineering occupations) was due to differences in the skills, interests, and personalities between women and men (see Appendix L). Scores were averaged across the six items to create an index of attributions to dispositions ($\alpha = 0.84$ and $\alpha = 0.86$, respectively). Higher scores reflected greater attributions to men and women’s dispositions.

Attributions to discrimination. Participants used the same 5-point scale (endpoints labeled “completely disagree” and “completely agree”) to indicate the extent to which they agreed or disagreed with six statements indicating that the underrepresentation of women in senior-level leadership positions (and on a separate scale, the underrepresentation of women in computer, math, and engineering occupations) was due to gender discrimination (e.g., unfair preference and opportunities given to men but not women; see Appendix L). Scores were averaged across the items to create an index of attributions to discrimination ($\alpha = 0.71$ ¹³ and $\alpha = 0.83$, respectively). Higher scores reflected greater attributions to discrimination.

Demographic information. At the end of the study, participants indicated their gender, race/ethnicity, and age.

Results

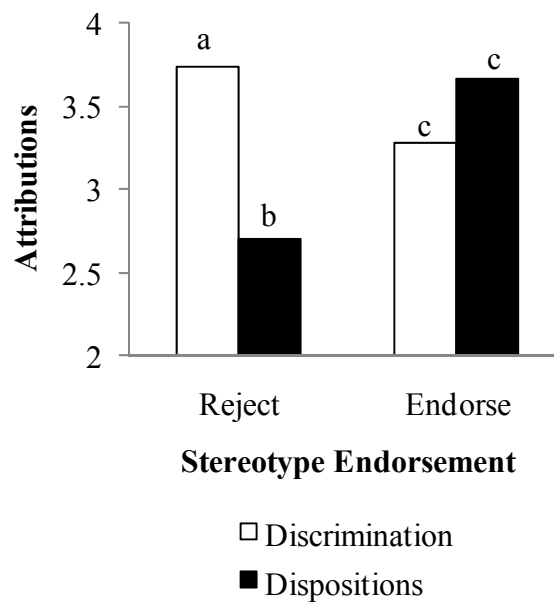
Scores were submitted to a 2 (stereotype endorsement: endorse, reject) X 2 (participant gender: female, male) x 2 (attribution type: dispositional, discrimination) x 2 (attribution domain: leadership positions, masculine occupations) repeated-measures ANOVA. Stereotype endorsement and participant gender were between-subject variables; attribution type and attribution domain were the repeated measures.

Results revealed three significant 2-way interactions. Consistent with predictions, there was a significant interaction between attribution type and stereotype endorsement, $F(1,17) = 12.96, p < .01, \eta^2 = .43$. As shown in Figure 3, stereotype endorsers perceived less discrimination and made more attributions to dispositions than stereotype rejecters, $F(1,20) = 4.75, p < .05, \eta^2 = .19$ and $F(1,20) = 7.34, p < .02, \eta^2 = .26$, respectively. Furthermore, stereotype rejecters made more attributions to discrimination than to dispositions, $F(1,8) = 17.04, p < .01, \eta^2 = .68$.

¹³ Cronbach’s alpha for all six items of the leadership positions scale was unsatisfactory ($\alpha = 0.21$). Removing the items “People prefer to work under male leaders” and “People are uncomfortable working under female leaders”, however, produced a moderately reliable 4-item scale ($\alpha = 0.71$). The 4-item scale was thus used for analyses.

Stereotype endorsers, on the other hand, made the same amount of attributions to discrimination as to dispositions, $F(1,11) = 2.23$, ns , $\eta^2 = .17$. See Table 2 for attribution score means and standard deviations.

Figure 3. Attributions to discrimination versus dispositions among stereotype endorsers and stereotype rejecters.



Note. Different subscripts represent significantly different means, $p < .05$.

Table 2

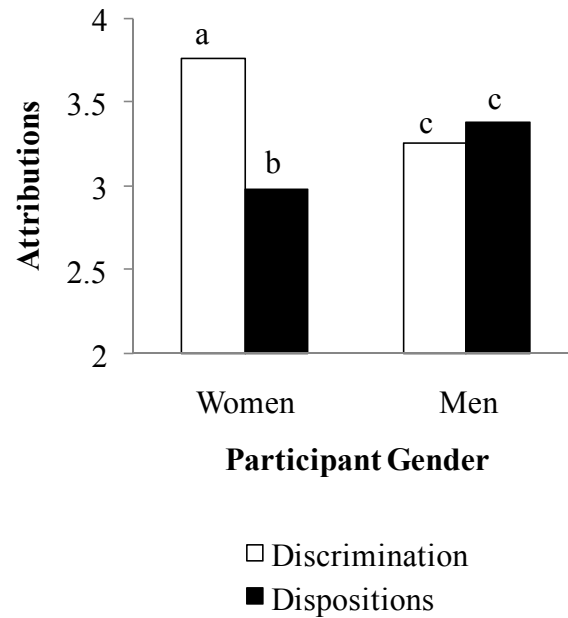
Mean attribution scores among stereotype endorsing and stereotype rejecting women and men

Stereotype Endorsement	Attribution Type	
	Discrimination	Dispositions
Endorsers		
Women	3.58 (0.62)	3.15 (1.06)
Men	2.83 (0.82)	3.81 (0.32)
Total	3.14 (0.70)	3.51 (0.80)
Rejecters		
Women	3.84 (0.51)	2.45 (0.60)
Men	3.60 (0.24)	2.96 (0.53)
Total	3.72 (0.44)	2.68 (0.60)

Note. Standard deviations are noted in parentheses.

Second, there was a significant interaction between attribution type and gender, $F(1,17) = 5.37, p < .04, \eta^2 = .24$. As shown in Figure 4, men perceived less discrimination and made more attributions to dispositions than women, $F(1,20) = 4.43, p < .05, \eta^2 = .18$ and $F(1,20) = 4.17, p < .06, \eta^2 = .17$. Furthermore, women made more attributions to discrimination than to dispositions, $F(1,9) = 4.50, p < .07, \eta^2 = .33$. Men, on the other hand, made the same amount of attributions to discrimination as to dispositions, $F(1,10) = 1.12, ns, \eta^2 = .10$.

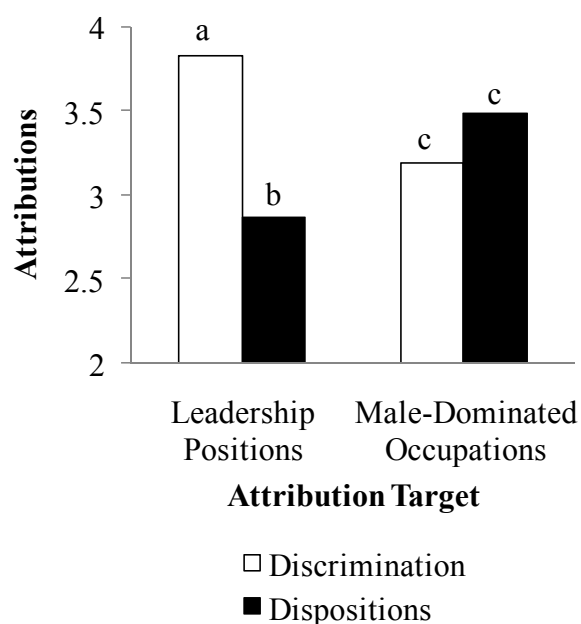
Figure 2. Attributions to discrimination versus dispositions among women and men.



Note. Different subscripts represent (marginally) significantly different means, $p < .07$.

Finally, there was a significant interaction between attribution type and attribution domain, $F(1,17) = 36.06, p < .001, \eta^2 = .68$. As shown in Figure 5, participants made more attributions to discrimination and less attributions to dispositions when explaining why women were underrepresented in leadership positions than when explaining why women were underrepresented in masculine occupations, $F(1,21) = 23.04, p < .001, \eta^2 = .52$ and $F(1,21) = 19.77, p < .001, \eta^2 = .49$. Furthermore, when explaining why women were underrepresented in leadership positions, participants made more attributions to discrimination than to dispositions, $F(1,22) = 11.96, p < .01, \eta^2 = .35$. When explaining why women were underrepresented in masculine occupations, however, participants made the same amount of attributions to discrimination as to dispositions, $F(1,20) = 2.27, ns, \eta^2 = .10$.

Figure 5. Attributions to discrimination versus dispositions as explanations for the underrepresentation of women in leadership positions versus male-dominated occupations.



Note. Different subscripts represent significantly different means, $p < .01$.

Bivariate correlations were also conducted to assess relationships between stereotype endorsement, attributions to discrimination, and attributions to dispositions. Attribution scores were combined across the two attribution domains to create an index of attributions to discrimination ($\alpha = 0.87$) and an index of attributions to dispositions ($\alpha = 0.91$). Results revealed that gender stereotype endorsement predicted attributions to discrimination and attributions to dispositions (see Table 3). Specifically, the more that participants endorsed gender stereotypes, the less they perceived discrimination and the more they made attributions to dispositions. There was also a significant correlation between attributions to discrimination and attributions to

dispositions, such that the more that participants made attributions to dispositions, the less they made attributions to discrimination (see Table 3).

Table 3

Correlations between stereotype endorsement and attributions

	Stereotype Endorsement	Discrimination Attributions
Discrimination Attributions	-0.54 **	-
Dispositional Attributions	0.49 *	-0.55 **

* $p < .03$, two-tailed. ** $p = .01$, two-tailed.

Discussion

The results of Study 2 support the prediction that stereotypes are used to maintain existing social arrangements by explaining group differences in roles and outcomes and consequently minimizing perceptions of discrimination. People who strongly endorsed gender stereotypes, compared to those who rejected gender stereotypes, were more likely to explain the underrepresentation of women in leadership positions and masculine occupations as being due to dispositional differences between women and men in terms of skills, interests, and personalities. Consequently, they were less likely to explain the underrepresentation of women as being due to experiential differences between women and men in terms of opportunities and discrimination. These results suggest that people who strongly endorse stereotypes use those stereotypes to minimize perceptions of discrimination and maintain the view that existing social arrangements are fair, just, and legitimate.

Interestingly, the results of Study 2 also indicated that men perceived less discrimination than women. This finding is consistent with previous literature indicating that members of disadvantaged groups perceive more discrimination than members from advantaged groups (Inman & Baron, 1996; Crocker & Major, 1989). Importantly, gender was not confounded with

stereotype endorsement in this study, as there were equal numbers of women and men in the stereotype endorsement and rejection conditions. This finding does, however, suggest that stereotype endorsement is not the only factor influencing perceptions of discrimination. As indicated by the extensive literature on perceptions of discrimination, there are several contributing factors (see Feldman Barrett & Swim, 1998, for a review). This study highlights stereotype endorsement as another factor that influences perceptions of discrimination. Importantly, this work also highlights a novel way that stereotypes are used to maintain the status quo, namely by minimizing perceptions of discrimination.

Another interesting finding was that participants made more attributions to discrimination when explaining the cause of gender disparities in leadership positions than when explaining the cause of gender disparities in male-dominated occupations. This may be due to cultural changes in the perceptions of traits needed to be a successful leader. Although leadership has traditionally been associated with traits stereotypically ascribed to men but not women, leadership has more recently been associated with traits ascribed to women but not men (Eagly & Carli, 2003). The feminization of management and the changing perceptions of the traits needed to be a successful leader may have influenced perceptions of discrimination in this domain. In other words, traits stereotypically associated with women may not be viewed as incongruent with leadership positions as much today as in the past, and so the underrepresentation of women in leadership positions may not be explained as readily by stereotypic traits. Success in male-dominated occupations, however, continues to be associated with traits stereotypically ascribed to men and not women (Cejka & Eagly, 1999).

Chapter 5: GENERAL DISCUSSION

The overarching goal of the present theory and research was to highlight a novel way that stereotypes contribute to the maintenance of social inequalities, specifically through influencing perceptions of discrimination. Whereas previous work has examined the influence of stereotyped beliefs on perceptions of a target person (e.g., Devine, 1989), the present work examines the influence of stereotyped beliefs on perceptions of social injustice. Results from the three studies suggest that stereotype endorsement does not predict people's explanations of outcomes involving individuals, but it does predict explanations of outcomes involving groups. Specifically, the stronger that one endorses stereotypes, the more likely they will attribute group differences in outcomes to dispositions and the less likely they will attribute group differences in outcomes to discrimination.

Stereotype endorsement may not have predicted explanations of outcomes involving individuals for a variety of reasons. For instance, people are hesitant to label situations as discriminatory unless presented with a threatening environment that is indicative of discrimination (Feldman Barrett & Swim, 1998). The paradigm used in Study 1 did not provide information suggesting that the hiring manager was sexist or that he endorsed stereotypes, and there was no indication that the female applicant was more or less qualified than the male applicant. Participants may have concluded that the hiring manager based his decision on the qualifications of the applicants, irrespective of gender stereotypes, because of the lack of cues suggesting otherwise. Additionally, the female applicant did not have token status and this may have reduced the tendency of stereotype endorsers to apply stereotypes to her (Crocker & McGraw, 1984; Kanter, 1977; Ott, 1989). Similarly, the male applicant did not have token status either and this may have reduced the probability that stereotype rejecters would view the hiring

decision as discriminatory. If the male applicant was hired over six other applicants who were all female, for example, perceptions of discrimination may have been enhanced because the statistical probability of the male being hired in that situation is low.

For outcomes involving groups, however, stereotype endorsement did predict explanations of differences in group outcomes. Because stereotypes develop to explain why women and men occupy different roles and occupations (Eagly & Steffan, 1984; Jost & Banaji, 1994), it comes as no surprise that people who strongly endorse stereotypes attribute the underrepresentation of women in leadership positions and male-dominated occupations to differences in women and men's personalities, skills, and interests. What is surprising is that they don't necessarily attribute the cause of an individual man being hired over an individual woman to dispositional aspects of the man and woman. This may be because stereotypic information is represented cognitively in terms of not only perceptions of a group's central tendency on a given dimension (e.g., the average level of emotionality in women), but also in terms of a group's variability about the mean (e.g., the range of emotionality in women, see Park & Judd, 1990). In other words, people who strongly endorse gender stereotypes may believe that men on average are more assertive than women, but they may also believe that *some* men are not more assertive than *some* women. Beliefs about men's *average level* of assertiveness can readily be used to explain group-level differences in roles that require assertiveness, because according to the stereotype, men on average are more assertive than women and so should be overrepresented in positions that require assertiveness. Beliefs about the *variability* of assertiveness among men, however, may inhibit the stereotype from being used to explain individual-level differences in roles that require assertiveness, because perceptions of variability may suggest the possibility that an individual man may be less assertive than an individual woman. Perceptions of a group's

variability may thus mediate the influence of stereotypes on judgments of outcomes involving individuals but not on outcomes involving groups. Future research should assess this possibility.

There are a few limitations to the current work. First, the results of Study 2 may be due to selection bias of the sample. Only 20% of eligible participants participated in the study and these participants were also those who decided not to participate in Study 1. Second, the research only tested the theory in the context of gender stereotypes. As a result, it is unclear if these effects are specific to gender stereotyping or if they represent a more general stereotype endorsement phenomenon that generalizes across a variety of situations and group stereotypes. Future research should test the predictions using other dimensions of stereotyping such as age, race, and social class. Third, the current studies did not assess the causal nature of the relationship between stereotype endorsement and perceptions of discrimination. It is possible that a correlate of stereotype endorsement is driving the relationship rather than stereotype endorsement per se. Future research should assess the causal nature of the relationship by manipulating stereotype endorsement and measuring perceptions of discrimination.

Perhaps more importantly, future research should turn attention to the possibility that stereotype endorsement mediates a possible relationship between perceptions of discrimination and a third variable, such as motivations to justify the existing social system. The current research assumed that those who strongly endorsed stereotypes were particularly motivated to justify the existing social system, and as a result, were also particularly motivated to deny discrimination. This motivation, however, was not directly examined. Threatening the stability of the status quo has been shown to increase stereotyping among those who are motivated to justify the system (Kay, Jost, & Young, 2005). I propose that threatening the system may also lead to decreased perceptions of discrimination, and that increased stereotyping may rationalize (i.e.,

mediate) this denial of discrimination. This could be tested by having participants read a news article that either threatens or does not threaten the social system (see Kay, Jost, & Young, 2005). Participants who read the threatening article (compared to the no threat condition) are expected to increase their stereotyping and consequently decrease their perceptions of discrimination.

The current research provides initial evidence that a relationship between stereotype endorsement and attributions to discrimination does indeed exist. Specifically, stronger stereotype endorsement predicts fewer attributions to discrimination and more attributions to dispositional factors. These results suggest that stereotypes maintain existing social arrangements and status hierarchies by minimizing perceptions of social injustice, consequently making it seem as though the social system is just, fair, and legitimate. This work has important implications for improving our understanding of how inequality is maintained in our society and can inform research concerning important behavioral outcomes, such as voting behavior and helping behavior. This work also points to interesting subsequent research to identify the possible mediating mechanisms of the effects established in Study 2 and to denote the boundary conditions of the phenomenon.

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APPENDIX A

Gender stereotype endorsement scale

On average, where do **WOMEN** as a group fall on each of the following traits?
Please circle your answer.

	Not at All								Extremely
Likable	1	2	3	4	5	6	7	8	9
Opinionated	1	2	3	4	5	6	7	8	9
Happy	1	2	3	4	5	6	7	8	9
Assertive	1	2	3	4	5	6	7	8	9
Flighty	1	2	3	4	5	6	7	8	9
Shallow	1	2	3	4	5	6	7	8	9
Empathetic	1	2	3	4	5	6	7	8	9
Scornful	1	2	3	4	5	6	7	8	9
Emotional	1	2	3	4	5	6	7	8	9
Tactful	1	2	3	4	5	6	7	8	9
Self-Reliant	1	2	3	4	5	6	7	8	9
Conscientious	1	2	3	4	5	6	7	8	9
Dependent	1	2	3	4	5	6	7	8	9
Arrogant	1	2	3	4	5	6	7	8	9
Nurturing	1	2	3	4	5	6	7	8	9
Ambitious	1	2	3	4	5	6	7	8	9
Confident	1	2	3	4	5	6	7	8	9
Disconnected	1	2	3	4	5	6	7	8	9
Compassionate	1	2	3	4	5	6	7	8	9
Pessimistic	1	2	3	4	5	6	7	8	9
Abrasive	1	2	3	4	5	6	7	8	9
Insecure	1	2	3	4	5	6	7	8	9
Sensitive	1	2	3	4	5	6	7	8	9
Pushy	1	2	3	4	5	6	7	8	9

On average, where do **MEN** as a group fall on each of the following traits?
Please circle your answer.

	Not at All					Extremely			
Likable	1	2	3	4	5	6	7	8	9
Opinionated	1	2	3	4	5	6	7	8	9
Happy	1	2	3	4	5	6	7	8	9
Assertive	1	2	3	4	5	6	7	8	9
Flighty	1	2	3	4	5	6	7	8	9
Shallow	1	2	3	4	5	6	7	8	9
Empathetic	1	2	3	4	5	6	7	8	9
Scornful	1	2	3	4	5	6	7	8	9
Emotional	1	2	3	4	5	6	7	8	9
Tactful	1	2	3	4	5	6	7	8	9
Self-Reliant	1	2	3	4	5	6	7	8	9
Conscientious	1	2	3	4	5	6	7	8	9
Dependent	1	2	3	4	5	6	7	8	9
Arrogant	1	2	3	4	5	6	7	8	9
Nurturing	1	2	3	4	5	6	7	8	9
Ambitious	1	2	3	4	5	6	7	8	9
Confident	1	2	3	4	5	6	7	8	9
Disconnected	1	2	3	4	5	6	7	8	9
Compassionate	1	2	3	4	5	6	7	8	9
Pessimistic	1	2	3	4	5	6	7	8	9
Abrasive	1	2	3	4	5	6	7	8	9
Insecure	1	2	3	4	5	6	7	8	9
Sensitive	1	2	3	4	5	6	7	8	9
Pushy	1	2	3	4	5	6	7	8	9

APPENDIX B

Masculine job description:

A large engineering firm recently landed a huge contract and is now seeking to hire a new Project Manager. John, the senior manager in charge of hiring, developed the hiring criteria for the position and posted the following job ad:

Large engineering firm looking to hire new Project Manager. Successful applicants will be assertive, influential, and decisive with high levels of analytic and strategic thinking ability. Must be able to control emotions in high stress situations. Project managers in the past have had degrees in Engineering and Computer Science. Pay is comparable to experience. Email cover letter and resume to John at john@vms.net.

Gender neutral job description:

An advertising company recently landed a huge contract and is now seeking to hire a new Project Manager. John, the senior manager in charge of hiring, developed the hiring criteria for the position and posted the following job ad:

Advertising company looking to hire new Project Manager. Successful applicants will be conscientious, sensible, supportive, motivated, and have good communication and marketing skills. Must be creative and good at thinking outside the box. Project managers in the past have had degrees in Marketing and Media Studies. Pay is comparable to experience. Email cover letter and resume to John at john@vms.net.

APPENDIX C*Pilot-study questionnaire for job narratives*

1. Please indicate the degree to which you think the Project Manager position sounds stereotypically masculine or stereotypically feminine using the scale below:

1	2	3	4	5	6	7
Stereotypically Masculine			Neither masculine nor feminine			Stereotypically feminine

APPENDIX D

Interview transcript for answer A

John: Now I want to ask you a more specific job-related question. What are two problems found in the workplace that require teamwork to solve?

Applicant: One problem that requires teamwork in the workplace is the delivery of products. Many diverse departments are needed in order to deliver products to consumers. Team members must accurately communicate the location of the consumer, design efficient delivery routes, and carry out the delivery. Successful delivery requires that everyone complete their specific tasks. Another problem requiring teamwork is customer satisfaction – it takes a team to keep customers satisfied. For example, a team (rather than a single individual) will be better able to approach customer complaints from different angles to guarantee effectiveness. Also, a team promotes efficiency because many times there are too many customers for an individual to handle within a proper amount of time and limited knowledge base.

Interview transcript for answer B

John: Now to more specific job-related questions. First, what are two problems found in the workplace that require teamwork to solve?

Applicant: A problem that comes to mind requiring teamwork is improving old methods in the workplace. Companies are constantly looking to improve old methods in order to be more productive and efficient. Teamwork is necessary because the input from multiple people will lead to more creative ideas for improving current work systems. A second problem requiring teamwork is the implementation of new technology. New technology can be difficult to learn, and so teamwork is needed to ensure that everyone adjusts to and learns the new system. Employees need to be able to work together to gain a better understanding of the new system and to be able show each other how to efficiently use the new technology system.

APPENDIX E

Pilot-study questionnaire for interview transcripts

Circle the response that best describes your impression of the applicant.

To what degree do you think the applicant was . . .

	Not At All								Extremely
Likable	1	2	3	4	5	6	7	8	9
Qualified	1	2	3	4	5	6	7	8	9
Friendly	1	2	3	4	5	6	7	8	9
Sincere	1	2	3	4	5	6	7	8	9
Competent	1	2	3	4	5	6	7	8	9
Intelligent	1	2	3	4	5	6	7	8	9
Warm	1	2	3	4	5	6	7	8	9
Confident	1	2	3	4	5	6	7	8	9

How successful will this applicant be in securing a job?

1	2	3	4	5	6	7	8	9
Not At All								Extremely

APPENDIX F

Below is a series of statements concerning the interview, applicants, and hiring decision. Please indicate the extent to which you agree or disagree with each statement using the scale below:

1	2	3	4	5	6	7
Completely Disagree						Completely Agree

- _____ 1. The manager considered all criteria before making a choice.
- _____ 2. The hiring decision was due to differences in the competence of the applicants.
- _____ 3. The hiring decision was fair.
- _____ 4. The hiring decision was due to differences in the fit of the applicant to the job description.
- _____ 5. The hiring decision was based on applicants' scores on a test.
- _____ 6. The hiring decision was difficult to make.
- _____ 7. The hiring decision was due to sexism.
- _____ 8. The hiring decision was thoughtful.
- _____ 9. The hiring decision was objective.
- _____ 10. The hiring decision was due to differences in the capability of the applicants.
- _____ 11. The manager hired the best person for the position.
- _____ 12. The hiring decision was appropriate.
- _____ 13. The hiring decision was due to differences in the qualifications of the applicants.
- _____ 14. The hiring decision was based on specific hiring criteria.
- _____ 15. The hiring decision was due to the applicant's gender.
- _____ 16. The hiring decision was just.
- _____ 17. The hiring decision was due to the applicants' responses in the interview.
- _____ 18. The hiring decision was discriminatory.
- _____ 19. The interviewing procedures were appropriate.
- _____ 20. The hiring decision was due to a coin toss.

APPENDIX G

Methods and results of the post-pilot studies

Overview

Post-pilot Study A assessed perceptions of the competency and warmth of the answers; Post-pilot Study B assessed perceptions of the competency and warmth of the applicants; and Post-pilot Study C assessed perceptions of the trait characteristics of the applicants. All studies assessed the stereotypicality of the applicants (or the applicants' answers) and the hireability of the applicants. In each of these studies, participants only read about and rated one applicant. (Post-pilot Study D, which is the post-pilot study described in the manuscript, assessed the competency and hireability of one applicant compared to the other applicant. As such, each participant in Study D read about and rated both applicants).

Post-pilot Study A

Methods

Design

The study used a 2 (participant gender: female, male) x 2 (applicant gender: female, male) x 2 (applicant answer: answer A, answer B) between-subjects design.

Participants and Procedure

Seventy-eight female and 84 male participants completed the study for partial course credit. Participants read the masculine job description from the Study 1 and then read a partial transcript from an interview with one applicant. The applicant's gender and answer varied across conditions. After reading about the applicant, participants rated the competency of the applicant's *answer*, the gender stereotypicality of the *answer*, and the likelihood that the applicant would be hired. Finally, participants indicated their gender, ethnicity, and age.

Dependent Measures

Competency ratings. Participants rated the competency, clarity, thoughtfulness, and strength of the applicant's answer using a 7-point scale ranging from "extremely *incompetent* (confusing, thoughtless, weak)" (-3) to "extremely *competent* (clear, thoughtful, strong)" (+3). The items were averaged together to create a Competency scale ($\alpha = 0.63$).

Stereotypicality ratings. Participants also rated the gender stereotypicality of the applicant's answer using a 7-point scale ranging from "extremely stereotypic of men" (-3) to "extremely stereotypic of women" (+3).

Hireability ratings. Participants rated the likelihood that the applicant would be hired using a 7-point scale ranging from "extremely unlikely" (-3) to "extremely likely" (+3).

Results

Competency ratings

Competency ratings were submitted to a 2 (participant gender) x 2 (applicant gender) x 2 (applicant answer) between-subjects ANOVA. Results revealed a marginal main effect for participant gender, such that women rated the answers as more competent ($M = 1.51$) than men did ($M = 1.28$), $F(1,154) = 3.02$, $p < .09$. No other effects were significant. Because the reliability of the 4-item scale was mediocre ($\alpha = 0.63$), an additional analysis was conducted using ratings from the single competency item. Results revealed a marginal main effect for applicant gender, such that participants rated the female applicant's answer as more competent ($M = 1.38$) than the male applicant's answer ($M = 0.88$), $F(1,154) = 3.63$, $p < .06$. No other effects were significant (all F 's < 1).

Stereotypicality ratings

Stereotypicality ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) ANOVA. Results revealed a main effect for applicant gender, such that participants perceived the female applicant's answer as more stereotypic of women ($M = 0.25$) than the male applicant's answer ($M = -0.33$), $F(1,154) = 37.34$, $p < .01$. One-sample t-tests with a test value of zero (indicating that the applicants were rated as neither stereotypic of men nor stereotypic of women) revealed that the female applicant's answer was viewed as stereotypic of women, $t(80) = 4.14$, $p < .01$, and the male applicant's answer was viewed as stereotypic of men, $t(80) = -4.60$, $p < .01$.

Hireability ratings

Hireability ratings were submitted to a 2 (participant gender) x 2 (applicant gender) x 2 (applicant answer) ANOVA. Results revealed a very marginal main effect for applicant answer, such that participants rated the applicant with answer B as more likely to be hired ($M = 1.24$) than the applicant with the answer A ($M = 0.96$), $F(1,154) = 2.74$, $p < .10$.

Discussion

Participants tended to rate the female applicant's answer as more competent than the male applicant's answer, regardless of the content of the answer. This effect, however, was only marginally significant and so must be evaluated with caution, especially because it is inconsistent with previous research indicating that men are typically perceived as more competent than women.

Participants rated the female applicant's answer as stereotypic of women and the male applicant's answer as stereotypic of men, regardless of the content of the answer. Thus, participants paid more attention to the gender of the applicant than to the content of the answer when rating the stereotypicality of the answer.

Participants tended to rate the applicant with the answer B as more likely to be hired than the applicant with the answer A. Because there were no effects for applicant gender, it appears that participants paid attention to the content of the answer rather than the gender of the applicant when making judgments about the hireability of the applicant. These results indicate that the answers may not be perceived as equal.

Post-pilot Study B

Methods

Design

The study used a 2 (participant gender: female, male) X 2 (applicant gender: female, male) X 2 (applicant answer: answer A, answer B) between-subjects design.

Participants and Procedure

Eighty-one female and 83 male participants completed the study for partial course credit. Participants read the masculine job description from the Study 1 and then read a partial transcript from an interview with one applicant. The applicant's gender and answer varied across conditions. After reading about the applicant, participants rated the competency, warmth, and gender stereotypicality of the *applicant* and the likelihood that the applicant would be hired. Finally, participants indicated their gender, ethnicity, and age.

Measures

Competency ratings. Participants used a 7-point scale with endpoints labeled “extremely not X” (-3) to “extremely X” (+3) to rate the extent to which the applicant appeared to be: competent to do the job, qualified for the job, capable of doing the job, and a good fit for the job. These four items were averaged together to create a Competency scale ($\alpha = 0.85$).

Warmth ratings. Participants used the same 7-point scale to rate the likeability, friendliness, sincerity, and warmth of the applicant. These four items were averaged together to create a Warmth scale ($\alpha = 0.81$).

Stereotypicality ratings. Participants also rated the gender stereotypicality of the applicant using a 7-point scale ranging from “extremely stereotypically masculine” (-3) to “extremely stereotypically feminine” (+3).

Hireability ratings. Participants rated the likelihood that the applicant would be hired using a 7-point scale ranging from “extremely unlikely” (-3) to “extremely likely” (+3).

Results

Competency ratings

Competency ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) ANOVA. Results revealed a marginal main effect for participant gender, such that women rated the applicants as more competent ($M = 1.27$) than men did ($M = 0.97$), $F(1,155) = 3.24$, $p < .08$. This main effect, however, was qualified by an interaction between participant gender and applicant answer, $F(1,155) = 4.80$, $p < .03$. Simple effects tests revealed that the applicant with answer A was rated as more competent by women ($M = 1.47$) than by men ($M = 0.80$), $F(1,80) = 8.09$, $p < .01$. The applicant with answer B, on the other hand, was rated the same by women ($M = 1.08$) and men ($M = 1.15$), $F < 1$. Although only marginally significant, women tended to rate the applicant with answer A as more competent ($M = 1.47$) than the applicant with answer B ($M = 1.08$), $F(1,79) = 2.90$, $p < .10$. Men, on the other hand, rated the applicants the same regardless of the answer, $F(1,80) = 2.14$, *ns*.

Warmth ratings

Warmth ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) ANOVA. Results revealed a very marginal main effect for applicant gender, such that participants rated the female applicant as more warm (1.29) than the male applicant ($M = 1.08$), $F(1,154) = 2.67$, $p < .11$. There was also a main effect for participant gender, such that women rated the applicants as more warm ($M = 1.39$) than men did ($M = 0.98$), $F(1,154) = 9.25$, $p < .01$. This main effect, however, was qualified by an interaction between participant gender and applicant answer, $F(1,154) = 7.28$, $p < .01$. Simple effects tests revealed that the applicant with answer A was rated as more warm by women ($M = 1.47$) than by men ($M = 0.71$), $F(1,78) = 14.63$, $p < .01$. The applicant with answer B, on the other hand, was rated the same by women ($M = 1.30$) and men ($M = 1.26$), $F < 1$. Simple effects tests also revealed that men rated the applicant with answer B as more warm ($M = 1.26$) than the applicant with answer A ($M = 0.71$), $F(1,79) = 7.28$, $p < .01$. Women, on the other hand, rated both applicants the same ($M = 1.30$ and $M = 1.47$, respectively), $F(1,79) = 1.00$, *ns*.

Stereotypicality ratings

Stereotypicality ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) ANOVA. Results revealed a main effect for applicant gender, such that participants rated the female applicant as more stereotypically feminine ($M = 0.46$) than the male applicant ($M = -0.70$), $F(1,156) = 82.09$, $p < .01$. One-sample t-tests with a test value of zero (indicating that the applicant was rated as neither stereotypically masculine nor stereotypically feminine) revealed that the female applicant was viewed as stereotypically feminine, $t(81) = 5.12$, $p < .01$, and the male applicant was viewed as stereotypically masculine, $t(81) = -7.75$, $p < .01$.

Hireability ratings

Hireability ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) ANOVA. Results revealed an interaction for participant gender and applicant gender, $F(1,156) = 4.62$, $p < .04$. Simple effects tests revealed that women rated the male applicant as more likely to be hired ($M = 1.43$) than the female applicant ($M = 0.77$), $F(1,79) = 8.72$, $p < .01$. Men, on the other hand, rated both applicants as equally likely to be hired ($M = 0.77$ and $M = 0.87$, respectively), $F < 1$. Additionally, women rated the male applicant as more likely to be hired ($M = 1.43$) than men did ($M = 0.77$), $F(1,80) = 8.19$, $p < .01$. Women's and men's ratings for the female applicant, on the other hand, did not differ, $F < 1$.

Discussion

Women showed a “competency” preference for the applicant with answer A, whereas men showed no preference. The lack of interactions involving applicant gender implies that participants pay more attention to the content of the answers than to the gender of the applicant. In other words, the perception of the applicant's competency does not depend on the gender of the applicant.

Participants rated the female applicant as more warm than the male applicant. Thus, participants pay more attention to the applicant's gender than to the content of the answer when judging the warmth of the applicant. Additionally, men rated the applicant with answer A as less warm than women did, and less warm than the applicant with answer B. Women's ratings, on the other hand, were not dependent on the content of the answer.

Participants rated the female applicant as stereotypically feminine and the male applicant as stereotypically masculine, regardless of the content of the answer. Thus, participants paid more attention to the gender of the applicant than to the content of the answer when rating the stereotypicality of the applicant.

Women rated the male applicant as more likely to be hired than men did, and more likely to be hired than the female applicant. Men's ratings, on the other hand, were not dependent on the applicants' gender. Thus, women appear to pay attention to the applicants' gender more than the content of the answers when judging the hireability of the applicants. Women and men also appear to perceive the male applicant differently.

Post-pilot Study C

Methods

Design

The study used a 2 (participant gender: female, male) X 2 (applicant gender: female, male) X 2 (applicant answer: answer A, answer B) between-subjects design.

Participants and Procedure

Eighty-one female and 78 male participants completed the study for partial course credit. Participants read the masculine job description from Study 1 and then read a partial transcript from an interview with one applicant. The applicant's gender and answer varied across conditions. After reading about the applicant, participants rated the extent to which certain traits described the applicant and the likelihood that the applicant would be hired. Finally, participants indicated their gender, ethnicity, and age.

Dependent Measures

Trait ratings. Participants used a 5-point scale with endpoints labeled "not at all" (1) and "extremely" (5) to indicate the extent to which each of 24 traits described the applicant. Four traits tapped each of the following types of stereotypic information, as described in Study 1: positive feminine (e.g., nurturing), negative feminine (e.g., dependent), positive masculine (e.g.,

ambitious), negative masculine (e.g., arrogant), positive gender neutral (e.g., happy, likable) and negative gender neutral (e.g., pessimistic, shallow).

Hireability ratings. Participants also rated the likelihood that the applicant would be hired using a 7-point scale ranging from “extremely unlikely” (-3) to “extremely likely” (+3).

Results

Trait Ratings

Trait ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) X 2 (trait stereotypicality: feminine vs. masculine) X 2 (trait valence: positive vs. negative) repeated-measures ANOVA. Participant gender, applicant gender, and applicant answer were between-subject variables; trait stereotypicality and trait valence were the repeated measures. Results revealed a main effect for trait stereotypicality, such that participants rated the applicants higher on masculine traits ($M = 2.92$) than on feminine traits ($M = 2.27$), $F(1,151) = 176.28$, $p < .01$. There was also a main effect for trait valence, such that participants rated the applicants higher on positive traits ($M = 3.08$) than on negative traits ($M = 2.11$), $F(1,151) = 348.12$, $p < .01$. Results also revealed multiple interactions: a 2-way interaction between trait valence and applicant answer; a 2-way interaction between trait stereotypicality and trait valence; a 4-way interaction between trait stereotypicality, trait valence, applicant gender, and participant gender; a 4-way interaction between trait stereotypicality, trait valence, applicant gender, and applicant answer. These interactions, however, were qualified by a higher order 5-way interaction between trait stereotypicality, trait valence, applicant gender, applicant answer, and participant gender.

To decompose the 5-way interaction, each trait type rating (e.g., positive masculine, negative masculine, positive feminine, and negative feminine) was submitted to a 2 (participant

gender) x 2 (applicant gender) x 2 (applicant answer) ANOVA. For the positive masculine trait ratings, there was a main effect for applicant answer, such that participants rated the applicant with answer B higher on the positive masculine traits ($M = 3.78$) than the applicant with the answer A ($M = 3.58$), $F(1,151) = 3.97$, $p < .05$. For the negative masculine trait ratings, there were no significant effects. For the positive feminine trait ratings, there was a marginal interaction between applicant gender and applicant answer, $F(1,151) = 3.10$, $p = .08$. Simple effects tests revealed that participants rated the female applicant higher on positive feminine traits ($M = 2.61$) than the male applicant ($M = 2.26$) when the applicants gave answer B, $F(1,78) = 3.91$, $p < .06$. When the applicants gave answer A, however, participants rated the male and female applicants the same on positive feminine traits ($M = 2.54$ and $M = 2.47$, respectively), $F(1,77) < 1$. No other effects were significant. For the negative feminine trait ratings, there was a marginal main effect for applicant answer, such that participants rated the applicant with answer A higher on the negative feminine traits than the applicant with answer B, $F(1,151) = 2.76$, $p < .10$.

I also computed a difference score between feminine traits and masculine traits to represent the extent to which participants view the applicants as gender-stereotypic. Negative scores indicated that the applicants were rated higher on masculine than feminine traits; positive scores indicated that the applicants were rated higher on feminine than masculine traits. Gender stereotypic scores were submitted to a 2 (participant gender) x 2 (applicant gender) x 2 (applicant answer) ANOVA. No effects were statistically significant. The means, however, indicate that participants rate both applicants higher on masculine than feminine traits.

Hireability ratings

Hireability ratings were submitted to a 2 (participant gender) X 2 (applicant gender) X 2 (applicant answer) ANOVA. No effects were significant (all F 's < 1).

Correlation analyses

To determine if trait ratings had any relationship to hireability ratings, correlation analyses were conducted. Positive masculine trait ratings were positively correlated with hireability ratings, $r(159) = 0.22$, $p < .01$. However, the correlation is small with positive masculine trait ratings explaining only 5% of the variance in hireability ratings.

Discussion

Participants rated the applicant with answer A higher on negative feminine traits and lower on the positive masculine traits than the applicant with answer B. This implies that answer B should be seen as a better fit for the masculine job description because it is considered more masculine and less feminine than answer A. In support of this prediction, the higher that participants rated the applicant on positive masculine traits, the higher likelihood that participants perceived the applicant of being hired. Participants overall did not, however, rate the applicant with answer B as more likely to be hired than the applicant with answer A. Interestingly, participants rated the female applicant with answer B higher on the positive feminine traits than the male applicant with the answer B. Overall participants rated the applicants higher on positive masculine traits than any other trait type, regardless of the applicant's gender or answer.

General Discussion

The three post-pilot studies showed mixed results. Study A showed that the applicant with answer B was perceived as more likely to be hired than the applicant with answer A. Studies B and C, however, showed that the applicant with answer A and the applicant with

answer B were perceived as equally likely to be hired. On the other hand, Study C also revealed that answer A was perceived as more negatively feminine and less positively masculine than answer B, suggesting that answer B may be perceived as a better fit for a masculine position. Study C also found, though, that both answers were perceived as more masculine than feminine.

Additionally, Study B suggested that the applicant with answer A was perceived as more competent than the applicant with answer B, but primarily among female participants. Study B also suggested that the male applicant was perceived as more likely to be hired than the female applicant, but primarily among female participants. This finding corresponds with findings from Study D. Study D found that the applicant with answer A was perceived to be more hireable than the applicant with answer B, particularly when the applicant with answer A was male. In summary, no clear conclusions can be drawn regarding the competency and hireability of the applicant with answer A versus the applicant with answer B.

The only result that showed consistency across studies was the stereotypicality ratings of the female applicant and the male applicant. The female applicant was consistently perceived as feminine and the male applicant was consistently perceived as masculine, regardless of the content of their answers. Surprisingly, participants did not use this information to inform their judgments of the competency and hireability of the applicants for a masculine job position.

The results of these studies may have produced mixed findings because perceptions of competency and hireability may vary between stereotype endorsers and rejecters. Stereotype endorsement, unfortunately, was not measured and therefore could not be controlled for in these studies. Results from Study D, however, indicate that perceptions of the applicants' competency and hireability do not differ between stereotype endorsers and rejecters. In other words, the results from these post-pilot studies do not provide clear explanations for the results of Study 1.

APPENDIX H

Competency rating scale from post-pilot study

Based on the two applicants' answers, which of the following statements best describes your impression of the applicants?

- Amanda is extremely more competent to do the job than Michael
- Amanda is mostly more competent to do the job than Michael
- Amanda is somewhat more competent to do the job than Michael
- Amanda and Michael are equally competent to do the job
- Michael is somewhat more competent to do the job than Amanda
- Michael is mostly more competent to do the job than Amanda
- Michael is extremely more competent to do the job than Amanda

Based on the two applicants' answers, which of the following statements best describes your impression of the applicants?

- Amanda is extremely more qualified for the job than Michael
- Amanda is mostly more qualified for the job than Michael
- Amanda is somewhat more qualified for the job than Michael
- Amanda and Michael are equally qualified for the job
- Michael is somewhat more qualified for the job than Amanda
- Michael is mostly more qualified for the job than Amanda
- Michael is extremely more qualified for the job than Amanda

Based on the two applicants' answers, which of the following statements best describes your impression of the applicants?

- Amanda is extremely more capable of doing the job than Michael
- Amanda is mostly more capable of doing the job than Michael

- Amanda is somewhat more capable of doing the job than Michael
- Amanda and Michael are equally capable of doing the job
- Michael is somewhat more capable of doing the job than Amanda
- Michael is mostly more capable of doing the job than Amanda
- Michael is extremely more capable of doing the job than Amanda

Based on the two applicants' answers, which of the following statements best describes your impression of the applicants?

- Amanda is an extremely better fit for the job than Michael
- Amanda is a mostly better fit for the job than Michael
- Amanda is a somewhat better fit for the job than Michael
- Amanda and Michael are equally fit for the job
- Michael is a somewhat better fit for the job than Amanda
- Michael is a mostly better fit for the job than Amanda
- Michael is an extremely better fit for the job than Amanda

APPENDIX I

Stereotypicality rating scales from post-pilot study

Based on Amanda's answer, how gender-stereotypic do you think Amanda is?

- Extremely stereotypically masculine
- Mostly stereotypically masculine
- Somewhat stereotypically masculine
- Neither stereotypically masculine nor feminine
- Somewhat stereotypically feminine
- Mostly stereotypically feminine
- Extremely stereotypically feminine

Based on Michael's answer, how gender-stereotypic do you think Michael is?

- Extremely stereotypically masculine
- Mostly stereotypically masculine
- Somewhat stereotypically masculine
- Neither stereotypically masculine nor feminine
- Somewhat stereotypically feminine
- Mostly stereotypically feminine
- Extremely stereotypically feminine

APPENDIX J

Hireability rating scale from post-pilot study

Based on the applicants' answers, which of the following statements best describes your prediction of the hiring outcome:

- Amanda is extremely more likely to be hired than Michael
- Amanda is mostly more likely to be hired than Michael
- Amanda is somewhat more likely to be hired than Michael
- Michael is somewhat more likely to be hired than Amanda
- Michael is mostly more likely to be hired than Amanda
- Michael is extremely more likely to be hired than Amanda

APPENDIX K

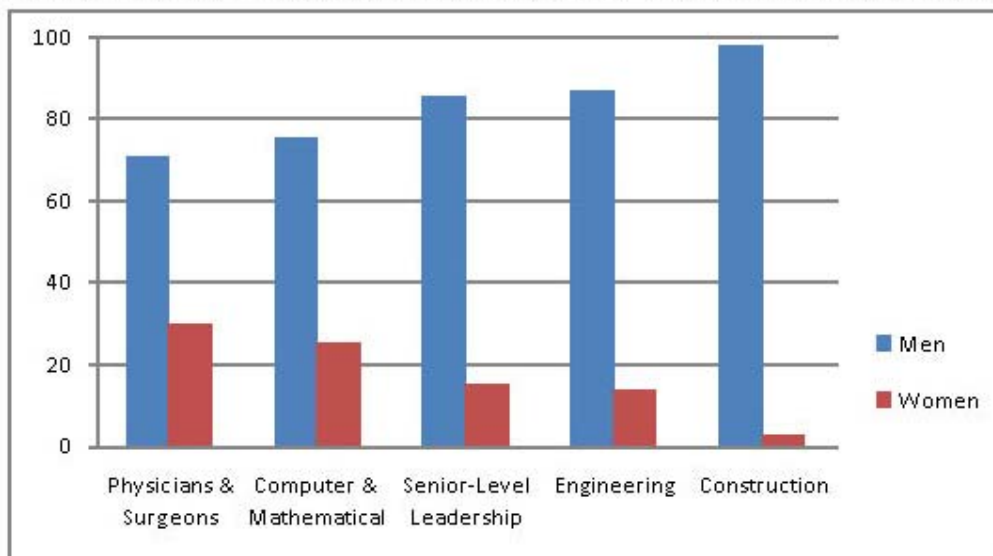
Stimulus materials from Study 2

issues in Labor Statistics

According to the U.S. Department of Labor & Bureau of Labor Statistics, women represent just under half of the U.S workforce (46.7 % in 2008). Yet women represent only 15.7% of Corporate Officer positions, and 15.2% of Board of Director positions for Fortune 500 companies. In other words, about 1 out of 2 in the workforce is a woman, but only about 1 in 7 is a woman at the senior leadership level.

Women are not only less likely to hold leadership positions, but women are also less likely to work in certain industries and occupations (see Chart 1). For example, women represent less than 30% of physicians and surgeons, sales representatives, computer programmers, and mathematicians. Women also represent less than 15% of mechanical engineers, police officers and detectives, aircraft pilots, and workers in construction and maintenance.

Chart 1. Percent of men and women working in certain industries and occupations, 2008



U.S. Department of Labor & Bureau of Labor Statistics. (2008). *Women in the labor force: A databook* (Report No. 996). Available from: <http://www.bls.gov/cps/wlf-databook2008.htm>.

APPENDIX L

Leadership positions attribution scale from Study 2

As described in the article you read, women are less likely than men to hold senior-level leadership positions. There are a variety of factors that may contribute to this gender difference. Please rate the extent to which you agree or disagree with the following possible causes of this gender difference using the scale below. There are no right or wrong answers, and your answers will be kept completely anonymous.

Completely Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Completely Agree
------------------------	----------------------	-------------------------------	-------------------	---------------------

Men tend to occupy senior-level leadership positions more so than women because:

1. Men possess the skills that are necessary for leadership positions.
2. Women possess skills that better suit them for other positions.
3. Men are more interested in holding leadership positions.
4. Women are more interested in non-leadership positions.
5. People prefer to work under male leaders.
6. People are uncomfortable working under female leaders.
7. Men are given more opportunities to pursue leadership positions.
8. Women are given fewer opportunities to pursue leadership position.
9. Men are shown favoritism in the workplace.
10. Women are discriminated against in the workplace.
11. Leadership positions fit men's personalities.
12. Other positions are a better fit for women's personalities.

Male-dominated occupations attribution scale from Study 2

As described in the article you read, women are less likely than men to work in certain industries and occupations, such as computer, mathematics, and engineering. There are a variety of factors that may contribute to this gender difference. Please rate the extent to which you agree or disagree with the following possible causes of this gender difference using the scale below. There are no right or wrong answers, and your answers will be kept completely anonymous.

Completely Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Completely Agree
------------------------	----------------------	-------------------------------	-------------------	---------------------

Men tend to occupy computer, mathematical, and engineering occupations more so than women because:

1. Men possess the skills that are necessary for those occupations.
2. Women possess skills that better suit them for other occupations.
3. Men are more interested in those occupations.
4. Women are more interested in other occupations.
5. Men are unfairly preferred for those occupations.
6. Women are unfairly denied those occupations.
7. Men are given more opportunities to pursue those occupations.
8. Women are given fewer opportunities to pursue those occupations.
9. Men are shown favoritism in those occupations.
10. Women are discriminated against in those occupations.
11. Those occupations fit men's personalities.
12. Other occupations are a better fit for women's personalities.