Perceptions of Female Managers in Male-Dominated Industries: Effects of Gender Rarity, Performance, and Diversity Justification

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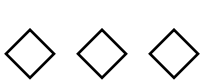

Any errors in this paper are solely my own.

Perceptions of Female Managers in Male-Dominated Industries: Effects of Gender Rarity, Performance, and Diversity Justification

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Two experimental studies were conducted to measure the effects of contextual and situational factors on employees' perceptions, attitudes, and behaviors toward female managers in traditionally male-oriented jobs. Study 1 manipulated the contexts (gender rarity and diversity justification) of female perceivers through the mediating effect of social identity, while Study 2 manipulated the contexts (gender rarity and performance) of female and male targets. For Study 1, it was predicted that female perceivers in a condition of gender equality and in a company that justified its diversity recruitment as a competitive advantage, would have far more positive perceptions of a female manager than female perceivers in a condition of female rarity and in a company that justified its diversity recruitment solely as a legal requirement (i.e. affirmative action). For Study 2, it was predicted that successful female targets in positions of female rarity would be assigned external attributes (e.g. lucky, easy job) for their performance (therefore resulting in less positive behaviors towards them), whereas successful male targets in positions of male rarity or gender equality would be assigned internal attributes (e.g. competency, hard work) for their performance (therefore resulting in more positive behaviors towards them). Results for Study 1 indicate that rare female perceivers are more likely to perceive her female manager as being dominant (a stereotypically male trait) and adopt these dominant and aggressive traits, potentially causing a "backlash" for demonstrating non-stereotypical behaviors. Female perceivers in rarity are also more likely to believe that the male and female managers in their organization are evaluated differently (scoring higher on the Stereotyped Beliefs about Women Managers Scale), thus affecting their beliefs that they have to try harder to prove themselves in the organization. Finally, it was demonstrated that female perceivers in companies with legal compliance diversity justification are less likely to encourage prospective females to join the company. Results for Study 2 indicate no significant variances among the manipulations. However, it was found that companies with female targets in positions of gender equality were assumed to have affirmative action hiring policies than companies with female targets in positions of gender rarity – this provides evidence for future research about the types of organizations in which rarity evokes assumptions of preferential hiring. Concluding findings support the idea that increasing female representation in male-typical professions is not enough to counter negative perceptions and behaviors toward traditionally underrepresented minorities; equal gender representation must be coupled with a culture that believes that diversity is intrinsically advantageous, in order to mitigate some of the effects of implicit sex-based discrimination in the workplace.

The 1960s in American history marked the beginning of substantial changes to the organizational workplace with respect to gender equality. Throughout these years, government and society have been working to decrease discrimination against women in the workplace, to create fair hiring policies, and to provide equal employment opportunities. Some of these measures include Title VII of the Civil Rights Act that barred discrimination in employment on the basis of sex and race, the Equal Pay Act that made it illegal for employers to pay women less than men in the same jobs, and Title IX of the Education Amendment that banned sex discrimination in schools. These efforts have had a major social and economic impact, as women's participation in the

workplace increased significantly. The most influential change, however, has come from the increase in women's participation in traditionally male-dominated industries, such as finance, science, and law, and from the increase in the number of degrees held by these women in preparation for these jobs. According to the U.S. Department of Labor, "almost three-quarters of women were employed in management, professional, sales, and office occupations in 2006, compared with about half of men." These professional fields are perhaps the most powerful, lucrative, and highly regarded fields in the job market, and changes in these fields have created an advantageous opportunity for many women.

However, years after the initial impact of this movement, women, especially at the managerial level, continue to face numerous obstacles pertaining to matters such as compensation, promotion, and representation. For example, a woman still continues to earn seventy-three cents for every dollar that a man makes in the same job and position. While there has been a dramatic decrease in explicit sex-based discrimination, discrimination still continues in a less apparent, yet almost equally harmful, form. This implicit sex-based discrimination negatively impacts female employees far more than male employees, and specifically prevents women from fully benefiting from high-earning positions.

One of the factors that underlie this particular form of sex-based discrimination involves the concept of perception. According to organizational behavior theory, perception deals with the way in which people observe, view, and interpret others and events around them to create a sense of order for their environment (George & Jones, 2005). Perception greatly affects the attitudes employees have of others and themselves, as well as the decisions they make within an organization. Biases, or systematic tendencies, often distort these perceptions, leading to

inaccurate assessments and evaluations. In relation to women in the workplace, it is this gender-based biasing and stereotyping that is one of the reasons why full attainment of gender equality in male-dominated organizations has been prevented.

This paper, through the execution of two experimental studies, aims to examine the surrounding contexts that cause differences in perceptions. Study 1 focuses on the context of female perceivers in the workplace and their perceptions of female targets (the ones who are perceived). Study 2 focuses on the context of female targets and the consequent perceptions of both male and female perceivers.

Study 1

Context of a Female Perceiver and Its Impact on Her Perceptions of Female Managers, and Attitudes and Behaviors in the Organization

Background

One of the prevalent forms of implicit sex-based discrimination that occurs in today's workplace involves the negative perceptions of female employees by other females in male-dominated organizations. For example, in an experimental study on interviews, it was found that female recruiters evaluated male applicants more favorably than female applicants, while no significant differentiation was found with male recruiters (Graves & Powell, 1995). Graves & Powell suggested that this occurred because female recruiters, who were employees of a traditionally male profession, may have seen male applicants as more similar to themselves than female applicants; this perceived similarity affected their assessment of the applicants' subjective qualifications. Additional phenomena can be found in prominent polls. A Work and Power survey of 60,000 participants conducted by MSNBC revealed that three out of four women expressed a preference to work for a man than a woman (Tahmincioglu, par. 3). Gallup Poll's annual Work and Education survey revealed that half of all adult women in the United States

prefer working for a man (compared to 45% of all men) (Simmons, par. 2). These results are perhaps unexpected as one would believe people would prefer same gender bosses. Female bosses can especially be a source of help and advice for lower level female employees. What is most surprising is that women, who are fully aware of the disadvantages in the workplace that other women already face, may be contributing to sex-based discrimination.

Some of this behavior can be explained by the mediating effect of social identity (Tajfel, 1981). Through this, people categorize and group themselves based on gender, race, ethnicity, profession, etc. (Elsass & Graves, 1997). The consequences of taking on a particular identity involve both positive and negative behaviors (Graves & Powell, 1995). A female recruiter's preference for male applicants can indicate a distancing from the female identity and a stronger identification with the male group, a higher-status group in the male-dominated organization. The extent of a woman's identification with a female social identity may therefore be related to perceptions and behaviors toward other females.

Hypotheses

It is hypothesized that the context or environment that a female perceiver is in may influence the extent to which she identifies with a female social identity, and thus her perceptions of other women. Two specific contextual factors that may influence how females react to other females are gender composition and justification of diversity measures. Parallel to the methods used in previous studies (Shih, Pittinsky, & Trahan, 2006), both these contextual factors "prime" females by making their female identity salient, which may in turn influence the following perceptions she has about a female manager: the perceived competency, the perceived interpersonal hostility, the perceived communality (stereotypically female characteristics), the perceived agenticism

(stereotypically male characteristics), the likability of the female manager, and the satisfaction working under the female manager. Perceptions of the female manager can influence the perceiver's behaviors and attitudes as well. Some of these include the likelihood she will seek the female manager out as a mentor and adopt her behaviors, the likelihood she will join a women's mentoring/networking program, her adoption of stereotypical masculine and feminine traits, and her general beliefs about female managers. These are all behaviors that can potentially affect the future success of the female in the organization.

Pertaining to the first proposed contextual factor, gender composition, it is predicted that women in a situation of gender rarity (she is the only female within the organization) would identify less with the female identity because of her male-dominated surroundings. This distancing would make her the most likely to perceive female managers negatively. On the other hand, women in a situation of gender equality (equal number of women relative to men) would self-identity more with the female identity, decreasing negative perceptions toward other women:

Hypothesis 1a: *Women in situations of gender rarity will have more negative perceptions of a female manager, adopt less advantageous behaviors, and hold more negative attitudes, than women in a situation of gender equality.*

The second proposed contextual factor aims to define the culture of the organization that the perceiver is in. Although culture is very broad, intricate, and very hard to define, a sense of it can be revealed through an organization's justification/framing of diversity recruitment. There are two mainstream justifications that are currently used: the first is for business reasons, thereby implying that diversity gives the company a competitive advantage, and the second is commonly referred to as affirmative action programs, which are perceived to be implemented in order to comply with government regulations (Richard & Kirby, 1998). Prior research has shown that

members of an organization have more positive attitudes toward a program that is justified through competitive advantage rather than affirmative action (Kidder, Lankau, et. al., 2004).

It is expected that under the competitive advantage justification, women would be more likely to identify with the female identity because the female group would bring them higher status; it is, in essence, a self-enhancement identification (Stangor & Thompson, 2002) within an organization that values diversity. However, in an organization with affirmative action policies, or a culture of picking females for the sake of avoiding legal penalties, a woman is perhaps more likely to move away from the disadvantaged female identity and embrace other identities (Fein & Spencer, 1997).

Hypothesis 1b: *Women in an organization with affirmative action diversity measures will have more negative perceptions of a female manager, adopt less advantageous behaviors, and hold more negative attitudes, than women in an organization with competitive advantage diversity measures.*

The interaction of the gender rarity and diversity justification measures provides an interesting complication in the matter. It is expected that because a woman would identify with the female group in both gender equality and competitive advantage justification, this combination would be the "best case scenario" with women having more positive perceptions of female managers. However, rarity and affirmative action justification are predicted to be the "worst case scenario" with strong distancing from the female identity.

Hypothesis 1c: *Women in an organization with gender rarity and affirmative action diversity measures will have more negative perceptions of a female manager, adopt less advantageous behaviors, and hold more negative attitudes, than women in an organization with gender equality and competitive advantage diversity measures.*

Finally, it is hypothesized that the effects of these two contextual factors are also dependent on the personal beliefs of the perceiver, particularly with respect to her beliefs in the separation of

gender roles. In prior research, egalitarian attitudes have been proven to affect other similar behaviors, such as a woman's likelihood of engaging in nontraditional occupations (Chatterjee & McCarrrey, 1989). Following this pattern, it is likely that women with high egalitarian values, who believe less in the separation of gender roles, would not distance themselves as much from a female social identity as those with low egalitarian values. This measure can also have an effect on women's reactions to other women in the workplace.

Hypothesis 1d: *Women with less egalitarian views about gender roles would have more negative perceptions of a female manager, adopt less advantageous behaviors, and hold more negative attitudes than women with more egalitarian views about gender roles.*

Method

Participants and Design

The participants of Study 1 were 80 women, within the ages of 18 to 34. The vast majority were undergraduate students from various universities across the United States, with some from universities in Australia, New Zealand, Singapore, South Korea, India, and Israel. They were recruited through online networking sites. All participants were entered into a raffle for cash prizes.

The design of Study 1 was a 2 x 2 factorial design with rarity (only males in the organization, or three females and three males) and company justification of diversity measures (affirmative action or competitive advantage) as the manipulations. Participants were randomly assigned one of these four conditions.

Procedure and Stimulus Materials

All participants were emailed a link to one of four online surveys.

Each survey began with an introduction containing a general, irrelevant purpose, which stated that the study explores the experiences of new hires and managements' responsibilities of facilitating these experiences. This was followed by instructions that made the participant aware that she was going to read a new-hire information letter and was instructed to imagine that she had just accepted a job offer from the company, and it was a job that she really wanted. The latter part of these instructions was added to mitigate any pre-conceptions that the participant might have had about financial companies or finance-related jobs, considering some were not from business-oriented schools.

Participants were then directed to the following page that contained the new-hire information/orientation letter for a fictitious mid-sized financial services company, named SIL Financial Services, Inc. [A fictitious company was used to (1) prevent any irrelevant biases/perceptions that a participant may have had about a real company from influencing results, and (2) avoid unnecessary affiliations of diversity justification and hiring procedures with a real company. Although the company was fictitious, all efforts were made to make this letter as realistic and believable as possible].

The letter began by personally welcoming the participant to the company and provided background information of SIL Financial, along with a description of the culture. Both of these descriptions were intentionally brief and very general, modeled after real background information from Merrill Lynch's annual SEC filings. The background information stated that SIL Financial was a leading wealth management, capital markets, and advisory company with total client assets of approximately $1.6 billion. The culture of SIL Financial was described as supporting a collegial environment that provided opportunities for professional growth.

The two experimental manipulations, justification of diversity measures (presented as "Employee Diversity at SIL Financial") and gender rarity (presented as an introduction to the participant's team), appeared after the background and culture information. These two parts were the only sections of the information letter that were unique to each condition. These manipulations will be discussed in detail in the following section.

Finally, the new-hire information letter introduced the participant to the managing director of her team, a fictitious female. Her qualifications that were described (2000 Crain's Top "40 Under 40" Executives, prior work experience as a Director of Merrill Lynch South Carolina Private Client Group, "1995 Manger of the Year" award, and MBA from University of California-Berkeley) were specifically emphasized to "create" an objectively competent, well-qualified manager.

The letter was signed by a fictitious male employee, the CEO of SIL Financial, to add to the authenticity of the information letter. After the new-hire information letter, participants were directed to the questionnaire.

Experimental Manipulations

(1) Company Justification of Diversity Measures: Participants were given a paragraph in the new-hire information letter, under the heading, "Employee Diversity at SIL Financial," that justified the hiring of female employees and other minorities as either a sole compliance of affirmative action policies set forth by the Equal Employment Opportunity (EEO) guidelines (affirmative action justification condition) or a voluntarily adoption of minority recruitment to increase the competency of the organization (competitive advantage justification condition).

Wording of these justification measures were modeled after the framing of diversity recruitment measures created by Richard & Kirby, 1998. Both of these paragraphs specifically addressed the hiring of women, as well as the hiring of other minorities.

The affirmative action justification stated:

> SIL Financial operates in compliance with the affirmative action requirements set forth by the Equal Employment Opportunity (EEO) guidelines for minority representation in the workplace. We follow the mandate to hire minorities, especially women, who have been consistently underrepresented in the finance industry. SIL has thus implemented an affirmative action program to seek, hire, and promote minority group members.

The competitive advantage justification stated:

> SIL Financial recognizes that today's client base has become increasingly diverse. In order to have a competitive advantage in this type of market, we believe it is important to have employees, especially women, who reflect this diversity and understand this client base. Although SIL does not have an affirmative action program, it has voluntarily implemented a diversity initiative to seek, hire, and promote minority group members.

(2) Gender Rarity: Rarity was manipulated by changing the gender composition of the participant's team that she would be "joining." Participants were given a paragraph in the new-hire information letter, under the heading, "Your Team at SIL Financial," that introduced them to the team and its fictitious members. The paragraph either contained all males (the participant would be the only female employee in this team) for the rarity condition, or three males and three females (to give the impression of gender equality) for the no rarity condition. Typical male and female Judeo-Christian names were selected for team members, each preceded by a "Mr." or "Ms." respectively, in order to make the gender of each team member clear to the participant. The names for the rarity condition were: Benjamin Hall, Mark Hugh, Abraham Ezra, Adam Howard, Luke Owens, and Derek Andrews. The names for the no rarity condition were: Benjamin Hall, Deborah Cristall, Mark Hugh, Emily Rose, Rachel Gilrea, and Derek Andrews.

Included with each name were the member's position (Vice President, Associate, or Analyst), highest educational degree and the degree granting institution, and hometown.

Sex Role Egalitarian Scale

The egalitarian scale used in this study was adapted from the Traditional-Egalitarian Sex Role Scale (TESR) (Larsen & Long, 1988) and was intended to measure participant's beliefs in the equality of gender roles. Ten out of the twenty items were selected from the scale, particularly those that were most relevant to today's times. It appeared near the end of the study. A list of these scale items can be found in Appendix A.

Dependent Measures

The first half of the questionnaire measured participants' evaluations of the female managing director. It contained seven parts. The first five measures, competency, interpersonal hostility, communality, agenticism, and liking, were compiled from Heilman & Okimoto, 2007. Each was posed with the question, "I think the Managing Director will be:." The competency measure consisted of three 7-point Likert Scales: competent (*not very competent-very competent*), effective (*not very effective-very effective*), and productive (*not very productive-very productive*). The interpersonal conflict scale consisted of five 7-point Likert Scales with the adjectives: abrasive (*not very abrasive-very abrasive*), pushy (*not very pushy-very pushy*), untrustworthy (*not very untrustworthy-very untrustworthy*), manipulative (*not very manipulative-very manipulative*), and selfish (*not very selfish-very selfish*). The communality scale consisted of four 7-point Likert Scales with the adjectives: supportive (*not very supportive-very supportive*), understanding (*not very understanding-very understanding*), sensitive (*not very sensitive-very sensitive*), and caring (*not very caring-very caring*). The measure of agenticism consisted of six

7-point Likert Scales with the adjectives: strong (*not very strong-very strong*), assertive (*not very assertive-very assertive*), tough (*not very tough-very tough*), bold (*not very bold-very bold*), active (*not very active-very active*), and dominant (*not very dominant-very dominant*). The final scale measured liking with one 7-point Likert Scale with the adjective, likeable (*not very likeable-very likeable*).

The next part measured how the participant thinks she would feel working under the female managing director. This was asked in two questions: the first was a 7-point Likert Scale (*not very satisfied-very satisfied*) and the question, "How satisfied do you think you will be working under the Managing Director?" and the second was a 7-point Likert Scale (*not very happy-very happy*) and the question, "How happy do you think you will be working under the Managing Director?"

The final part of this section measured how the participant thought she would act towards the female managing director. In five 7-point Likert Scales (*not very likely-very likely*), the questionnaire asked, "How likely do you think you will be to do the following with this Managing Director…" with the actions: seek her out as a mentor, adopt her behaviors, network with her, learn from her, and ask her for work-related advice.

The second half of the questionnaire measured the participants' intended behaviors and attitudes in the organization. The first measured the participants' willingness to join women mentorship and networking programs. The question stated that SIL Financial planned to implement the following three programs: General Mentorship (all lower-level employees are assigned upper-level employees as mentors), Women's Mentorship (lower-level female employees are specifically assigned upper-level female employees as mentors), and Women's Networking Society (group in which female employees could network with other female professionals).

Participants rated on a 7-point Likert Scale (*not very likely-very likely*) how likely they were to join the above-mentioned programs.

The next measure dealt with behaviors that the participants were likely to adopt. These included six adjectives from the BEM Sex-Role Inventory (Bem, 1974), three from the masculine items list (*aggressive, dominant, and strong-willed*) and three from the feminine items list (*compassionate, understanding, and communal*). Participants were posed the question, "As an employee at SIL Financial, I think I will become," and they rated responses for each adjective on a 7-point Likert Scale (*not very-very*).

The following measure contained all six statements that comprised the Stereotyped Beliefs about Women Managers Scale (Moore, et. al., 2004), with a 5-point Likert Scale (*strongly disagree-strongly agree*). This scale was intended to measure the beliefs in the disparity between the performance evaluation differences of managerial men and women. Appendix B contains this scale. The only changes made to each statement were that it was personalized for SIL Financial. For example, the first item read "Women managers at SIL Financial…" The questionnaire then asked how confident the participant was in being successful at SIL Financial, with a 7-point Likert Scale (*not very confident-very confident*). The final measure gauged the participant's behavior towards other prospective women. The question posed a scenario where a prospective employee had applied for an analyst position at SIL Financial. No information was given about her qualifications or competency to measure the sole reactions to a female without unnecessary interference. The only information was that her name was that of a typical female and that she had applied for a job. Participants were asked on a 7-point Likert Scale (*not very likely-very*

likely), how likely they were to: "talk up" SIL to her, recommend her for hire, and discourage her from joining SIL.

Results

Data Analysis Overview

A two-factor Analysis of Variance (ANOVA), with alpha of 0.05, was conducted for each dependent measure in the following manner: Components comprising each of the perceived competency ($\alpha = 0.79$), interpersonal hostility ($\alpha = 0.70$), communality ($\alpha = 0.90$), and agenticism scales ($\alpha = 0.82$) were combined, consistent with correlation calculations from previous research (Heilman & Okimoto, 2007; Heilman et. al., 1989, 1995, 2004); Averages were calculated for the Stereotyped Beliefs About Women Managers Scale. The higher the average, the more the adherence to the stereotypical beliefs; All other dependent measures were individually analyzed for significant differences in variance among the four conditions. Analysis of the predictive power of the egalitarian scale on the dependent measures involved three different regression analyzes: (1) Average scores for each participant were calculated and standardized through the assignment of a *z*-score. The higher the score, the more egalitarian the participant was on the scale. These standardized scores were regressed against all dependent measures. (2) An interaction term was calculated between the standardized egalitarian scores and the rarity effect, with rarity being assigned a value of 0 and no rarity being assigned a value of 1. This term was regressed against all dependent measures. (3) An interaction term was calculated between the standardized egalitarian scores and the justification effect, with affirmative advantage justification being assigned a value of 0 and competitive advantage being assigned a value of 1. This term was regressed against all dependent measures.

A significant finding was defined as having a *p*-value less than or equal to 0.05 and a marginal finding was defined as having a *p*-value greater than 0.05 but less than 0.10.

Perceived Competency of Female Manager

The three adjectives comprising the competency scale (competent, effective, and productive) were combined into one scale: correlation between competent and effective was 0.64, correlation between competent and productive was 0.48, and correlation between effective and productive was 0.84.

Analysis of variance for this competency scale revealed no significant effects for diversity justification $F(1, 71) = 0.28$, $p > 0.10$, rarity $F(1, 71) = 0.86$, $p > 0.10$, or the justification x rarity interaction $F(1, 71) = 0.37$, $p > 0.10$. All participants objectively perceived the female manager as competent based on her qualifications, regardless of their assignment to a particular condition.

Perceived Interpersonal Hostility of Female Manager

Averages of ratings for the five adjectives (abrasive, pushy, untrustworthy, manipulative, and selfish) comprising the measure of interpersonal hostility were combined into an interpersonal hostility scale. Contrary to predictions, there were no differences among the four conditions. Analysis of variance for these groups revealed insignificant effects for diversity justification $F(1, 71) = 0.55$, $p > 0.10$, rarity $F(1, 71) = 0.16$, $p > 0.10$, and the justification x rarity interaction $F(1, 71) = 0.03$, $p > 0.10$.

Perceived Communality of Female Manager

Averages of the ratings for the four adjectives (supportive, understanding, sensitive, and caring) comprising the measure of perceived communality were combined into a single communality

scale. Analysis of variance revealed a marginal effect of the diversity justification x rarity interaction variable $F(1, 71) = 2.82$, $p < 0.10$ but no effect of the individual rarity $F(1, 71) = 0.02$, $p > 0.10$ or diversity justification variables $F(1, 71) = 0.49$, $p > 0.10$.

Slightly contrary to predictions, those in situations of gender rarity (where the participants' gender was salient) were more likely to believe the female manager was communal when affirmative action was used as a diversity justification (mean = 4.24, standard deviation = 0.85) than competitive advantage (mean = 4.01, standard deviation = 0.94). But in situations of no rarity (where the participants' gender was not salient), participants were more likely to believe that the female manager was communal when competitive advantage was used as a justification (mean = 4.36, standard deviation = 0.99) rather than affirmative action (mean = 3.82, standard deviation = 1.07).

Perceived Agenticism of Female Manager

Averages of the ratings for the six adjectives (strong, assertive, tough, bold, active, and dominant) comprising the measure of perceived agenticism were combined into a single agenticism scale, as well as analyzed separately. Analysis of variance of the combined scale revealed no significant effects of rarity $F(1, 71) = 0.53$, $p > 0.10$, diversity justification $F(1, 71) = 1.47$, $p > 0.10$, or the justification x rarity interaction $F(1, 71) = 2.31$, $p > 0.10$. However, there was a significant effect of rarity on the individual dominant trait $F(1, 67) = 4.95$, $p < 0.05$, and a marginal effect of diversity justification $F(1, 67) = 3.31$, $p < 0.10$.

As predicted, those in situations of rarity were more likely to perceive a female manager as dominant (mean = 5.85, standard deviation = 1.13) than in a situation of no rarity (mean = 5.21, standard deviation = 1.30). Those whose company's diversity measures were justified through

competitive advantage (mean = 5.80, standard deviation = 1.23) were more likely to perceive the female manager as dominant than those whose company's diversity measures were justified through affirmative action (mean = 5.26, standard deviation = 1.24).

Likability of Female Manager

Analysis of variance of the participants' likability of the manager showed no significant effects of diversity justification $F(1, 67) = 1.41$, $p > 0.10$, rarity $F(1, 67) = 1.41$, $p > 0.10$, or the justification x rarity interaction $F(1, 67) = 0.02$, $p > 0.10$. Contrary to predictions, all participants' likability of the female manager (mean = 4.57, standard deviation = 0.93) was not affected by the condition they were in.

Satisfaction Working for Female Manager, Intended Behaviors Toward the Female Manager, and Likelihood to Join Women's Mentoring/Networking Programs

Analysis of variance of participants' inferences about satisfaction $F(1, 63) < 4.00$, $p > 0.10$ and happiness $F(1, 67) < 3.99$, $p > 0.10$ in working for the female manager was insignificant for the rarity, justification, and justification x rarity interaction effects. Means for intended behaviors toward the female manager (seek her out as a mentor $F(1, 71) < 3.98$, $p > 0.10$; adopt her behaviors $F(1, 71) < 3.98$, $p > 0.10$; network with her $F(1, 67) < 3.99$, $p > 0.10$; learn from her $F(1, 67) < 3.99$, $p > 0.10$; and ask her for work-related advice $F(1, 71) < 3.98$, $p > 0.10$) were not significantly different. Finally, means for the participants' likelihood to join general mentorship programs $F(1, 67) < 3.99$, $p > 0.10$, women's mentorship $F(1, 67) < 3.99$, $p > 0.10$, and women's networking $F(1, 71) < 3.98$, $p > 0.10$ were insignificant across the three effects. Contrary to predictions, each of the four conditions did not influence the inferred satisfaction of working under the female manager, their attitudes toward her, or the likelihood that they would take part in women corporate programs.

Adoption of Stereotypical Masculine and Feminine Traits

Analysis of variance for ratings pertaining to stereotypical masculine traits (aggressive, dominant, and strong-willed) that the participant would adopt revealed a significant main effect of rarity on adopting dominant behavior $F(1, 71) = 7.40$, $p < 0.01$ and a marginal effect of rarity on adopting aggressive behavior $F(1, 71) = 3.06$, $p < 0.10$. Analysis of variance for ratings pertaining to stereotypical feminine traits (compassionate, understanding, and communal) that the participant would adopt revealed marginal effects of the justification x rarity interaction on adoption of the compassionate trait $F(1, 71) = 3.20$, $p < 0.10$ and the adoption of the communal trait $F(1, 67) = 3.44$, $p < 0.10$.

Pertaining to the adoption of masculine traits: In cases of rarity, participants were more likely to adopt dominant behavior (mean = 4.83, standard deviation = 0.88) than in cases of no rarity (mean = 4.19, standard deviation = 1.09). Similarly, participants were more likely to adopt aggressive behavior in situations of rarity (mean = 5.00, standard deviation = 0.93) than in no rarity (mean = 4.58, standard deviation = 1.08). Pertaining to the adoption of feminine traits: in situations of rarity, participants were more likely to adopt compassionate behavior when the company used an affirmative action justification (mean = 4.11, standard deviation = 1.02) rather than a competitive advantage justification (mean = 3.44, standard deviation = 1.34). In situations of no rarity, however, the opposite was true. Participants were more likely to adopt compassionate behavior when the company used a competitive advantage justification (mean = 4.11, standard deviation = 1.41) than an affirmative action justification (mean = 3.67, standard deviation = 1.46). The intended adoption of communal behavior followed a similar pattern. In cases of rarity, participants were more likely to adopt communal behavior when the company used an affirmative action justification (mean = 4.88, standard deviation = 0.78) rather than a

competitive advantage justification (mean = 4.06, standard deviation = 1.52). In situations of no rarity, however, participants were more likely to adopt communal behavior when the company used a competitive advantage justification (mean = 4.88, standard deviation = 1.17) than an affirmative action justification (mean = 4.59, standard deviation = 1.37).

Stereotyped Beliefs about Women Managers Scale

Responses to each of the six statements of the Stereotyped Beliefs about Women Managers Scale were averaged for each participant and an analysis of variance was conducted. Results showed a significant effect of rarity on the adherence to the scale $F(1, 71) = 5.22$, $p < 0.05$ and a marginal effect of the justification x rarity interaction variable $F(1, 71) = 3.13$, $p < 0.10$.

As predicted, in situations of rarity, participants were more likely to hold stereotypical beliefs about women in the company (mean = 3.38, standard deviation = 0.67), than women in a situation of no rarity (mean = 3.01, standard deviation = 0.72). Also as predicted, if the participant is in a situation of no rarity, however, a competitive advantage justification of diversity measures (mean = 2.81, standard deviation = 0.69) can mitigate the holding of stereotypical beliefs compared to an affirmative action justification (mean = 3.20, standard deviation = 0.71).

Confidence in Being Successful

Analysis of variance of participants' confidence in being successful in the company showed no significant effect for diversity justification $F(1, 71) = 0.42$, $p > 0.10$, rarity $F(1, 71) = 0.75$, $p > 0.10$, and the justification x rarity interaction $F(1, 71) = 0.42$, $p > 0.10$. Contrary to expectations, all participants demonstrated a higher than average confidence (mean = 5.24, standard deviation = 1.09) regardless of assigned condition.

Attitude Towards Prospective Female Employee

Analysis of variance indicated a very strong main effect of diversity justification on both the participants' likelihood of recommending a prospective female employee for hire $F(1, 63) = 5.01$, $p < 0.05$ and the likelihood of them discouraging the prospective female employee from joining the company $F(1, 71) = 6.44$, $p < 0.05$. However, there was no significant difference in means for the participants' likelihood of "talking up" the company to the prospective female employee for all three effects $F(1, 67) < 3.99$, $p > 0.10$.

In situations where the company used an affirmative action justification, participants were more likely to recommend the female employee for hire (mean = 4.72, standard deviation = 0.89) than in situations of competitive advantage (mean = 4.22, standard deviation = 0.87). While this was true, they were more likely to discourage her from joining the company with an affirmative action justification (mean = 3.00, standard deviation = 1.07) than a competitive advantage justification (mean = 2.31, standard deviation = 1.24).

Table 1 summarizes all significant and marginal findings from the manipulations:

Table 1 ~ Study 1: Summary of Findings from Effects of Manipulations

	Rarity					**Diversity Justification**					**Justification * Rarity Interaction**				
Dependent Measure	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**
Communality of Female Manager															
Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.24**	**0.85**	**3.98**	**2.82**	**0.09**
Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.01**	**0.94**	**3.98**	**2.82**	**0.09**
No Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**3.82**	**1.07**	**3.98**	**2.82**	**0.09**
No Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.36**	**0.99**	**3.98**	**2.82**	**0.09**
Agenticism of Female Manager: Dominant															
Rarity	**5.85**	**1.13**	**3.99**	**4.95**	**0.03**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No Rarity	**5.21**	**1.30**	**3.99**	**4.95**	**0.03**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
A/A Justification	n.a.	n.a.	n.a.	n.a.	n.a.	**5.26**	**2.29**	**3.99**	**3.31**	**0.07**	n.a.	n.a.	n.a.	n.a.	n.a.
C/A Justification	n.a.	n.a.	n.a.	n.a.	n.a.	**5.79**	**2.41**	**3.99**	**3.31**	**0.07**	n.a.	n.a.	n.a.	n.a.	n.a.

Adoption of Aggressive Behavior	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**
Rarity	**5.00**	**0.93**	**3.98**	**3.06**	**0.08**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No Rarity	**4.58**	**1.08**	**3.98**	**3.06**	**0.08**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adoption of Dominant Behavior															
Rarity	**4.83**	**0.88**	**3.98**	**7.40**	**0.008**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No Rarity	**4.19**	**1.09**	**3.98**	**7.40**	**0.008**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Adoption of Compassionate Behavior															
Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.11**	**1.02**	**3.98**	**3.20**	**0.08**
Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**3.44**	**1.34**	**3.98**	**3.20**	**0.08**
No Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**3.67**	**1.46**	**3.98**	**3.20**	**0.08**
No Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.11**	**1.41**	**3.98**	**3.20**	**0.08**
Adoption of Communal Behavior															
Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.88**	**0.78**	**3.99**	**3.45**	**0.07**
Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.06**	**1.52**	**3.99**	**3.45**	**0.07**
No Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.59**	**1.37**	**3.99**	**3.45**	**0.07**
No Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**4.88**	**1.17**	**3.99**	**3.45**	**0.07**
Stereotyped Beliefs About Women Managers Scale	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**
Rarity	**3.38**	**0.67**	**3.98**	**5.22**	**0.03**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No Rarity	**3.01**	**0.72**	**3.98**	**5.22**	**0.03**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**3.29**	**0.59**	**3.98**	**3.13**	**0.08**
Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**3.47**	**0.76**	**3.98**	**3.13**	**0.08**
No Rarity x A/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**3.20**	**0.71**	**3.98**	**3.13**	**0.08**
No Rarity x C/A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**2.81**	**0.69**	**3.98**	**3.13**	**0.08**
Recommend Prospective Female Employee for Hire	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**	**M**	**SD**	***F* crit**	***F***	***p*-value**
A/A Justification	n.a.	n.a.	n.a.	n.a.	n.a.	**4.72**	**0.89**	**4.00**	**5.01**	**0.03**	n.a.	n.a.	n.a.	n.a.	n.a.
C/A Justification	n.a.	n.a.	n.a.	n.a.	n.a.	**4.22**	**0.87**	**4.00**	**5.01**	**0.03**	n.a.	n.a.	n.a.	n.a.	n.a.
Discourage Prospective Female Employee from Joining															
A/A Justification	n.a.	n.a.	n.a.	n.a.	n.a.	**3.00**	**1.07**	**3.98**	**6.44**	**0.01**	n.a.	n.a.	n.a.	n.a.	n.a.
C/A Justification	n.a.	n.a.	n.a.	n.a.	n.a.	**2.31**	**1.24**	**3.98**	**6.44**	**0.01**	n.a.	n.a.	n.a.	n.a.	n.a.

A/A = Affirmative Action; C/A = Competitive Advantage; n.a. = not applicable (for either insignificant data or mismatch of effects and interactions); M = mean; SD = standard deviation

Sex Role Egalitarian Scale and Dependent Measures

Regression analyzes of participants' standardized gender role egalitarian score versus dependent measures revealed a significant relationship between egalitarian beliefs and (1) the participants' perceived satisfaction of working under the female managing director (coefficient = 0.42, $p < 0.05$) and (2) the participants' adoption of communal behavior (coefficient = 0.47, $p = 0.05$). Analysis also revealed a marginal relationship between the scale and (1) the perceived competency of the female managing director (coefficient = 0.31, $p < 0.10$) and (2) the likelihood of seeking out the female managing director as a mentor (coefficient = 0.27, $p < 0.10$). Consistent with predictions, the more egalitarian beliefs a female employee holds about gender roles, the more likely she is to have positive perceptions of a female manager, adopt advantageous behavior by seeking her out as a mentor, and hold a more favorable attitude about working under her.

Regression analysis of the interaction variable between the standardized egalitarian score and rarity versus the dependent measures revealed four significant relationships between egalitarian beliefs and (1) the perception that the female manager is dominant (coefficient = -0.57, $p < 0.05$), (2) the likelihood of joining the company's women's networking group (coefficient = 0.69, $p = 0.05$), (3) the intended adoption of aggressive behavior (coefficient = -0.47, $p < 0.05$), and (4) the stereotyped beliefs about women managers (from the SBWM scale) (coefficient = -0.328, $p < 0.05$). Also consistent with predictions, in the presence of gender equality, the more egalitarian beliefs a female employee holds about gender roles, the more likely she is to positively perceive a female manager, feel comfortable in joining a women's networking group, feel less compelled to adopt aggressive behavior, and less likely to believe in the stereotypical discrepancies in performance evaluations between male and female managers.

Regression analysis of the interaction variable between the standardized egalitarian score and diversity justification versus the dependent measures revealed no significant or marginal findings.

Table 2 summarizes all significant and marginal findings from the sex role egalitarian scale:

Table 2 ~ Study 1: Summary of Findings from Effects of Sex Role Egalitarian Scale

	StdEgal			StdEgal x Rarity		
Dependent Variable	**R^2**	**Coef**	***p*-value**	**R^2**	**Coef**	***p*-value**
Competency of Female Manager	**2.90%**	**0.3055**	**0.071**	***	***	***
Agenticism of Female Manager: Dominant	***	***	***	**4.30%**	**-0.57**	**0.038**
Satisfaction working under female manager	**4.90%**	**0.4169**	**0.029**	***	***	***
Seek out female manager as a mentor	**2.70%**	**0.2666**	**0.081**	***	***	***
Join Women's Networking	***	***	***	**3.60%**	**0.6946**	**0.054**
Adopt communal behavior	**3.40%**	**0.4673**	**0.057**	***	***	***
Adopt aggressive behavior	***	***	***	**4.10%**	**-0.468**	**0.045**
Stereotyped Beliefs About Women Managers Scale	***	***	***	**4.10%**	**-0.328**	**0.04**

*StdEgal = standardized z-score for egalitarian score; *** = no significant findings for interaction variable*

Discussion

Even though hypotheses 1a, 1b, 1c, and 1d are only partially supported, these results indicate three very important findings about the effects of rarity and diversity justification on female employees' perceptions of a female manager, choice of behavioral traits, and attitude towards prospective female employees. First, although the evidence is inconclusive about a female

employee's extent in which she internalizes a female social identity in an organization based on unequal and equal proportions of females and males, patterns in rare female and non-rare female situations are clearly identifiable (Hypothesis 1a). The evidence demonstrates a pattern between a female employee's perception of a female manager and the behavioral traits she believes she needs to adopt in order to be successful in the company. Pertaining to agentic, masculine traits, women in situations of rarity, perceive a female manager in an organization to be dominant *and* will choose to adopt aggressive and dominant behavior far more than when she is in a situation of gender equality. Thereby, they may be choosing to emulate the agenticism that they perceive of the female manager. This implies that rarity causes them to both believe that higher level female employees who have achieved a high position are more "masculine," particularly more dominant, and that they must be "masculine" to achieve similar success. Gender equality decreases this perception and need. The emulation of this dominant and aggressive behavior can be both favorable and unfavorable for the female employee. It is favorable in the way that stereotypically male-oriented characteristics are commonly believed to be vital for success in managerial positions. Those with more female-oriented characteristics are perceived to be incompetent (Heilman, 1995, 2001) and less likely to be successful. However, it puts the female employee in a position where she is easily victimized by the "backlash effect," a previously studied perceptual bias. This effect holds that employees who are asked to form quick impressions of assertive female targets form less favorable impressions because of the very fact that they demonstrate less communal behavior (Flynn, 2007). According to gender-based stereotypes, women are expected to behave in a certain manner involving communality (niceness, sensitivity, etc.) rather than male, agentic behavior (Heilman & Okimoto, 2007) and any discrepancy between expectations and observations causes negative perceptions. It is thus

ironic that the exact dominant and aggressive behavior that a female employee thinks will make her successful (judged by the perception that a successful female manager has this trait), is in fact something that can be also detrimental to her success in the organization.

The perception of a female manager's communal behavior and the need to adopt communal traits both reflect a similar pattern as well, although it is dependent on both rarity and diversity measure justification (Hypothesis 1c). In a situation of rarity, a female employee in a company with a culture of mere legal compliance (affirmative action justification) is more likely to perceive a female manager as communal (supportive, understanding, sensitive, and caring) and believe in the need to adopt this compassionate and communal behavior than a female employee in a company that values the intrinsic nature of diversity. This may be initially counter-intuitive because it is thought that a woman in a condition of rarity and affirmative action policies would be more likely to adopt agentic behaviors, believing masculine traits would lead to success in a company that adopts diversity measures for the sole sake of avoiding legal penalties. Prior research has shown that "token" women who belong to work groups with dominant male culture identify more with men (Kanter, 1977). But, there is a two-fold consequence of this issue – women in this type of scenario may be well aware that they will be facing many disadvantages based on their gender and would therefore feel the need to adopt communal behavior in order for the men around them to like and accept them. The mere presence of men around them may also make their female identity very salient to them, pushing them back into stereotypical feminine behavior. This is consistent with the "cognition" phase in the experiences of a focal individual in diverse work groups (Elsass & Graves, 1997). Focal individuals categorize themselves based on features, traits, and behaviors consistent with gender and other salient characteristics (Lord & Foti, 1986) and based on situational factors (e.g. relative representation of minority group)

(Elsass & Graves, 1997). From here, stereotypical role expectations are internalized by the individual affecting behavior and performance (Shih, Pittinsky, & Trahan, 2006; Shih, Pittinsky, & Ambady, 1999). Salient women would thus confine themselves to typical gender role expectations. The major downfall in this is that while they may be more accepted by their male counterparts, perceptions of their competencies take a tremendous hit. Ultimately, in the potentially hardest situation to be in (with rarity and affirmative action), women are more likely to adopt traits that will further add to their already disadvantaged position.

There is, however, an even more interesting finding from this evidence: the perception of communality of a female manager and the perceived need to adopt communal traits are nearly the same in the "hardest" situation (rarity and affirmative action) and the possibly "better" situation (no rarity and valued diversity). In other words, when there is supposedly less pressure to compete with men and the culture of the organization is based more on competency, women may be adopting communal behaviors and falling prey to the same effects of the negative perceptions of their competency. It is important to note, though, that in the latter situation, a company that has significant minority representation and places emphasis on the competitive advantage of diversity is perhaps more likely to form a culture where competency is far more valued and traits less looked upon than the former situation. In effect, the negative consequences that may result from the adoption of communal traits may not be as severe as those in the former situation.

The second important finding demonstrates another negative effect of gender rarity: those in situations of rarity are more likely to believe in the performance evaluation discrepancies between male and female managers. In other words, "token" women succumb to the beliefs that

they need to constantly prove themselves, behave in a typical masculine way, perform better than men, etc. In essence, these women are burdened with the perception that their gender group's success in the organization would be far more difficult than their male counterparts; this adds to feelings of threat and distress and the feeling that they will be unsupported in the company (Moore, Gunberg, Greenberg, 2004). This adds yet another reason to why gender rarity could have detrimental effects on the minority gender. Increasing minority representation in an organization, however, is not the only action that a company can take to decrease these effects. Looking at the interaction between rarity and company diversity culture, it is very visible that with gender equality and a culture that values diversity, these distressing beliefs that women hold can be mitigated greatly. Company justification of diversity measures can therefore have an impact in decreasing the negative perceptions and feelings that women may have about the evaluative differences between men and women.

These stereotyped beliefs about women managers may also indicate why female employees may prefer male managers to female managers. Considering this evidence is occurring within the context of a finance company, a typically male profession, it is highly plausible that women with more stereotyped beliefs (in situations of gender rarity) would make other women in the organization an "outgroup" and men an "ingroup." This formation of ingroups and outgroups, otherwise known as ingroup favoritism (Brewer & Campbell, 1976) is a component of intergroup attitudes. Past research has shown that individuals derive part of their positive self-concept from perceiving ingroups relatively favorable in comparison to relevant outgroups (Stagnor & Thompson, 2002). In an effort to psychologically avoid the perceived disadvantages that women managers have in the organization, female employees may create for themselves self-identification with males and utilize ingroup favoritism towards these males. These beliefs may

violate the commonly held sex similarity paradigm that demographic similarity between two individuals (particularly pertaining to sex) leads to a positive bias because of perceived similarity in attitudes, values, and interpersonal attraction (Byrne, 1971). This finding is ironic in the fact that a female employee in a situation of gender rarity would perhaps need the most help and assistance from other established female employees, more so than those in situations of gender equality – but, she is far more likely to be distracted by perceived gender differences.

The final finding further adds evidence to the conclusion that the way in which an organization justifies its diversity measures can indeed have an impact on female employees' perceptions (Hypothesis 1b). Diversity justification is not just a simple statement of organizational beliefs; in essence, an organization is creating a culture that resonates among employees. While the gender composition of a female employee's team did not have an impact on her attitudes toward prospective female employees, the diversity justification had a very significant impact on the likelihood that she would hire a prospective female employee and discourage her from joining the company. It was initially surprising to see that a female employee was more likely to recommend a female employee for hire in the affirmative action condition rather than the competitive advantage condition. But, further analysis demonstrates the impact that the justification had on the mindset of the female – based on absolutely no information about competency or qualifications, a female employee was following the "rules" of the affirmative action policy and recommending her for hire. When the culture of the company leaned towards valued diversity, however, recommendation was low because there was no information about the background of the prospective female and therefore, it wouldn't be suitable to hire her just based on her gender. This point is further reinforced with the idea that women under affirmative action policies would discourage the prospective female from joining, possibly attributable to the fact

that they felt the policy was unfair. This finding not only shows the impact that diversity justification may have on the mindset of female employees, but it also demonstrates the importance of organizations emphasizing the advantages that minority representation can have rather than simple legal compliance. Competitive advantage justifications may be able to ensure that (1) employees are hired based on competency and qualifications rather than their gender, and (2) that women perceive the hiring procedures as fair and are likely to encourage further minority representation in the organization.

Lastly, it is important to note the role that a female employee's views on the equality of gender responsibilities play in her perceptions. As expected, the more egalitarian views a woman holds, the more likely she is to view other females as competent, be satisfied with a female boss, seek out a female manager as a mentor, and feel more comfortable adopting typical feminine qualities that she may or may not naturally possess (Hypothesis 1d). But, most importantly, it shows that within a company that has gender equality, egalitarian women are most likely to take advantage of women-specific activities, such as networking activities, and least likely to adhere to stereotypical beliefs about women. Although it is very difficult for an organization to actually change the beliefs of an employee (since these beliefs are based on a variety of other factors such as religion, culture, upbringing, etc.), an organization can make sure to have gender equality in an organization so that women can be in an environment of equality, potentially shaping their beliefs. It is, however, important that an organization justifies gender equality through the intrinsic value of diversity rather than simple legal compliance because of the challenges the latter brings, as describe above.

Study 2

Context of a Target and Its Impact on the Perceptions of the Target's Performance

Background and Hypothesis

Whereas Study 1 examines the context of a female perceiver, Study 2 examines the context of the target and effects on perceptions. Another underlying factor that is predicted to contribute to implicit sex-based discrimination is attribution bias, or the way in which people explain the causes of one's or someone else's behaviors. There are two main attributions: internal (assigns causes to characteristics of the target) and external (assigns causes to circumstances outside the control of an individual). Examples of internal attributions include competency or skill, while examples of external attributions include luck or chance. When an employee's successful performance is, for example, attributed to external circumstances (when in fact, it is based on competency), the success may likely go unrecognized and will not be accounted for in promotion or delegation considerations (George & Jones, 2005). The context of a target can heavily influence these afore-mentioned attributions.

Thirty years ago, academics Howard Garland and Kenneth Price studied attribution biases in the workplace with respect to female managers in traditionally male jobs. Their studies found that both males and females attribute successful performance of female managers to external attributes, while the same success of a male manager is attributed to internal aspects (Garland & Price 1977). The reasoning behind this was that traditional gender-based expectations suggest that women are not competent at traditionally male jobs; so, when women managers fail at a task, the very act conforms to expectations and thus would be attributed to the lack of competency or other positive internal attributes, whereas deficiencies in the success of a male manager are less likely to be attributed to a lack of competence and are assigned external blame

such as bad luck (Garland & Price 1977). Additionally, studies were conducted by Marsha Jacobson and Walter Koch on how attributions were assigned in the context of affirmative action and performance evaluations. It was shown that when employees *knew* that a female manager was appointed because of gender-based considerations, they were more likely to attribute successes of the project led by the manager externally and failures internally (Jacobson & Koch 1977). Conversely, if the female manager was appointed because of merit, she received more credit when the project was successful and less blame when it failed (Jacobson & Koch 1977). Though these studies give insight into the correlation between success and failure of a female manager and the assignment of internal and external attributions, the studies were based on the assumption that the hiring policy of an employee was clearly known. In today's workplace, the assignment of attributes occurs when people *do not know* if a woman or a minority is chosen on the basis of her gender or merit and are instead left to make inferences based on whether or not she is an affirmative action beneficiary. Relevant research has shown that in situations where the affirmative action policy of an organization is ambiguous and gender rarity exists (a low proportion of females in relation to males, which is typical in male-dominated industries), employees use affirmative action policy to justify the hiring of a female employee, as though the policy was explicitly stated (Heilman & Blader, 2001). This is perhaps one of the biggest downfalls of the affirmative action policy. First created in 1967 and firmly established in public and private organizations by the Glass Ceiling Commission of the Civil Rights Act of 1991, affirmative action policies were intended to increase the number of minorities in an organization. After its continued use (and in some organizations, even after the discontinuation of its use), the assumptions that people made about the presence of minorities in organizations reverted to the

concept of preferential selection. This lasting impact has, therefore, made rarity an influential contextual determinant of perceptual inferences.

Study 2 combines the prior research conducted on the correlation between performance of females and attributions, and the assumptions of rarity, with the prediction that:

Hypothesis 2: *When both male and female employees are put in a situation where inferences are made as to the hiring/promotion of a female manager (affirmative action policy is uncertain), employees will be more likely to attribute successes of the manager-led project to external factors and failures to internal factors when it is assumed that the manager was hired based on gender (context of gender rarity) than when the manager is assumed to be hired based on merit (context of no gender rarity). This phenomena will be more likely to happen when the target is a female rather than when the target is a male.*

Method

Participants and Design

Participants were 115 male and female MBA students from the New York University Stern School of Business, completing a course in Negotiations and Consensus Building. Cash prizes were raffled off in exchange for their participation.

The design of the study was a 2 x 2 x 2 factorial with the gender of the target (male or female), rarity of the gender of the target (male rarity, female rarity, or no rarity), and performance of the target (success or failure), as the manipulations. The "target" was the person who was evaluated in the questionnaire. Participants were randomly assigned one of these eight conditions.

Procedure and Stimulus Materials

Participants were each given a survey packet. The packet consisted of introductory materials, a fictitious evaluation form, and a questionnaire.

The packet began with an introduction to the study, a brief, irrelevant explanation that the purpose of the study was to measure the effectiveness of performance evaluations and the specific trend of managers to recollect examples of an employee's performance, as part of the evaluative process. Following this, background information about a fictitious engineering company, ILS Engineering, was found. [An engineering company was chosen as it is one of the professions that are still today considered to be very "masculine" in nature, and emphasis on a male-dominated industry was needed to remove any interference from participants' preconceptions of occupations that are more gender equitable today]. ILS Engineering was described as a mid-sized company that provided engineering and information technology services to world-wide clients. Participants then read about the evaluation policy that took place in ILS every six months. Finally, participants were introduced to the team that contained the gender rarity manipulation, described in the next section.

Following the introduction to the company was a replicated, fictitious employee performance evaluation form for either a female or male employee. It was created from real performance evaluations found in human resources departments of various organizations, to make it as authentic as possible. The evaluation contained four sections: The first contained seven general appraisal factors (technical skills, quality of work, teamwork, etc.) with a 7-point scale ranging from "Exceeds Performance Expectations" to "Unacceptable." No ratings were specified for each appraisal factor in order to prevent the employee's competency from interfering with the participants' responses. In this way, competency for both male and female employees was constant. A solid black line was instead put in place for each of the seven scales. The second section contained the final manipulation, a description of either a successful or unsuccessful performance in that year. The third section was a rating of overall performance, a 5-point scale,

ranging from “Outstanding” to “Unsatisfactory.” This was once again blocked with a solid line. The final section was an acknowledgment with signatures.

Following this information was the questionnaire.

Experimental Manipulations

(1) Gender of Target: The performance evaluation was either for a female employee (Rebecca) or a male employee (David). Each participant received only one of these evaluations, not both.

(2) Rarity of Gender of Target: Rarity was manipulated through a short description of eight team members in ILS Engineering. For the female target, there was either female rarity (one female and seven males) or no rarity (four females and four males). Likewise, for the male target, there was either male rarity (one male and seven females) or no rarity (four females and four males). In summary, each participant received one of four conditions: a female target in a condition of female rarity, a female target in a condition of no rarity, a male target in a condition of male rarity, or a male target in a condition of no rarity. The description of the team members included their name, gender, and position (all equivalently “Engineer: Geotechnology”).

(3) Performance: As part of the second section of the performance evaluation, participants either received a description of a successful performance or an unsuccessful performance.

The successful performance stated:

> This period, Rebecca (David) assisted in a project to secure an appropriate construction site for one of the company’s most valuable clients. S(he) was crucial in researching key information, gathering appropriate data, and conducting relevant studies for the project. Ultimately, s(he) was very successful in her (his) duties and contributed significantly in strengthening the company’s relationship with the client.

The unsuccessful performance stated:

> This period, Rebecca (David) assisted in a project to secure an appropriate construction site for one of the company's most valuable clients. S(he) failed to research key information, gather appropriate data, and conduct relevant studies for the project. Ultimately, s(he) was very unsuccessful in her (his) duties and did not contribute to strengthening the company's relationship with the client.

Dependent Measures

Dependent measures can be categorized into four sections. The first measured what factors participants thought played a role in the hiring of the target (factors included education, work experience, gender, technical skills, and interviewing scales). Participants answered on a 7-point Likert Scale (*small role-large role*). The goal of this was to see how much participants thought the target's gender played a role in hiring compared to the other competency factors.

The second section aimed to measure internal and external attributions. The following statement contained internal attribution factors: This employee is… (1) competent, (2) does not work hard, (3) is qualified, (4) has what it takes to succeed. The following statements contained external attribution factors: a) This employee is... (1) lucky and (2) has a difficult job, and b) ILS Financial… (1) provides good resources and (2) values its employees. Participants were asked to rate the degree to which they agreed or disagree with the statement on a 7-point Likert Scale (*strongly-disagree-strongly agree*). In addition, participants were asked in a free response question to explain why they thought the target performed the way he/she did.

The third section measured the actions participants would take concerning the target. Participants were posed the question, "If you had the authority, how likely would you be to do the following for this employee?" followed by three actions: (1) recommend for promotion, (2) delegate greater responsibilities, and (3) give a merit-based raise. This was asked using a 7-point Likert

Scale (*not very likely-very likely*). It also asked participants using a 7-point Likert Scale (*worse than others-better than others*), how they thought the target compared to others in the team.

The final section inquired about participants' inferences about the hiring policy of ILS Engineering. This was used to gauge the effects of rarity on people's assumptions. On 7-point Likert Scales (*strongly disagree-strongly agree*), participants were asked how much they thought ILS Engineering's hiring policies were (1) fair, (2) affirmative-action based, (3) effective, and (4) based solely on merit.

Results

Data Analysis Overview

The following Analyzes of Variance (ANOVAs) were conducted on each dependent measure: (1) a 2 x 2 ANOVA was conducted using the performance and gender of target manipulations, (2) a 2 x 2 ANOVA was conducted using the performance and rarity manipulations, (3) using only the data with a female target, a 2 x 2 ANOVA was conducted using the performance and rarity manipulations, and (4) a 2 x 2 x 2 ANOVA was conducted using all three manipulations.

Note: Significant findings that may have appeared based on the sole effect of the performance manipulation (with no interactions with the other two manipulations) were ignored based on the consideration that successful performance would naturally result in higher ratings of competency and qualifications of the employee and more positive ratings of the company.

Factor Roles in Hiring

All four ANOVA tests revealed insignificant variances among the manipulations, $p > 0.10$.

Internal and External Attributions

The ANOVA tests revealed insignificant variances among the manipulations, $p > 0.10$, for internal attributions. However, there were some significant findings pertaining to external attributions. Among female targets, there was a marginal effect of the female rarity x performance interaction variable $F(1, 51) = 3.55$, $p < 0.07$ on the "difficult job" external attribution. A three way ANOVA of all the data revealed a significant effect of the performance x rarity x target gender interaction variable $F(1,155) = 3.83$, $p = 0.05$ on the "lucky" external attribution.

Contrary to predictions, among female targets, those who were successful and rare (mean = 4.46, standard deviation = 0.78) were attributed as having a "difficult job" more than when they were in gender equality (mean = 3.85, standard deviation = 1.21). However, women who failed and were rare (mean = 4.31, standard deviation = 1.49) were attributed as having a "difficult job" more than when they were in gender equality (mean = 4.92, standard deviation = 1.12).

Consistent with predictions, a female who was successful (mean = 3.56, standard deviation = 0.36) was more likely to be attributed as being "lucky" than a man who was successful (mean = 2.83, standard deviation = 0.42), given that they were both in positions of gender equality. Contrary to expectations, however, a successful male in male rarity was more likely to be attributed as being "lucky" (mean = 3.69, standard deviation = 0.40) than a successful female in female rarity (mean = 2.86, standard deviation = 0.38).

Behavior towards the Target

All four ANOVA tests revealed insignificant variances among the manipulations, $p > 0.10$.

Inferences about Hiring Policy

A 2 x 2 ANOVA (rarity x performance) revealed a significant effect of rarity on participants' beliefs that the company had an affirmative action policy $F(1, 51) = 5.17$, $p < 0.05$. A 2 x 2 ANOVA (rarity x performance) of only female targets also revealed a significant effect of rarity on these participants' beliefs $F(1, 51) = 10.64$, $p < 0.01$.

Inconsistent with prior research about the assumptions made about gender rarity, participants were more likely to assume an affirmative action hiring policy when a male was rare (mean = 3.92, standard deviation = 1.22) than when a female was rare (mean = 3.12, standard deviation = 1.35). Participants were also more likely to assume an affirmative action hiring policy when a female was not rare (mean = 4.38, standard deviation = 1.42) than when a female was rare (mean = 3.12, standard deviation = 1.34.

Discussion

It is possible that the lack of conclusive evidence to support Hypothesis 2 and the various inconsistencies with the hypothesis demonstrate an actual change in perceptions over the thirty years following the research of Garland & Price, 1977, and Jacobson & Koch, 1977. Even leaving aside the rarity manipulation, there were no significant differences in the assignment of internal or external attributes (with the exception of a successful female in gender equality being attributed as "lucky" more than a successful male in gender equality), or behaviors toward the male and female targets. The increasing female representation in the workplace and in higher education, and the changing beliefs about the roles of women in society, could be causing a decrease in the differences in evaluations between men and women. It can also indicate a shift in the general attitude of women in management. Prior research has shown that a general positive

attitude toward female managers in the workplace can increase internal attributions of female success (Eskilson & Wiley, 1996). However, very recent research suggesting negative attributional rationalization of women's success in mixed-sex dyads (Heilman & Haynes, 2005) and personal derogation of women who are successful in male gender-typed tasks (Heilman, Wallen, et. al., 2004) seems to suggest that this change has not fully occurred.

In support of this, there is evidence that seems to suggest that the presumptions of the rarity manipulation underlying the structure and design of the experiment may have been inaccurate. More specifically, the presumptions of rarity were based on the inference that female rarity causes inclinations towards believing in the affirmative action hiring of the "token" female and that gender equality would cause less inclinations toward this belief. This was witnessed in previous research (Heilman & Blader, 2001). Study 2, however, demonstrated an opposite effect, where affirmative action policy was assumed in the situation of male rarity more than female rarity, and it was assumed in the situation of female equality more than female rarity. The assumptions that participants were making were, therefore, not what was previously predicted, probably because of another determining context that was not examined. The research of Heilman and Blader, 2001, was conducted in the context of acceptances into an educational institution, whereas this study was conducted in the context of hiring into a corporate company within a male-dominated professional field, engineering. In our society, the use of affirmative action policies are widely accepted and publicly acknowledged in educational institutions. However, these policies are quite ambiguous and unknown when dealing with private, corporate organizations – for example, there can be corporations that market diversity measures to retain public support, in the spirit of political correctness, but they may not adhere to actual representation of minority groups. Therefore, whereas in an educational context, the small

representation of females is likely to be seen as preferential selection, in a corporate context, the same small representation of females is not seen so much as preferential selection but probably as more of a neglect to actually hire more females. When there is only one man in an organization where one would expect to be all men, it is not surprising that participants would assume that the reason there is this discrepancy is because those women were hired based on preferential selection. This is especially true in a field like engineering where gaps in gender representation are common knowledge. This finding not only indicates the impact that context can have on the assumptions of preferential or merit-based hiring, but it also indicates that gender equality *does not necessarily decrease* the assumption of affirmative action policies. In other words, even when there is gender equality compared to female rarity, employees could still be inclined to assume preferential hiring.

This finding can be used to explain why there were inconsistencies with the "difficult job" and "lucky" external attributions. A part of the hypothesis was that unsuccessful females in gender equality would be attributed as having a "difficult job" more than an unsuccessful female in gender rarity. The fact that the evidence pointed to the contrary, may demonstrate that gender equality rather than gender rarity was associated with preferential selection. The same is true for the "lucky" attribute: a successful male in male rarity was more likely to be attributed as being "lucky" than a female in female rarity – there may have been an association between female rarity and merit-based hiring, believing that the target woman must have been really competent in order to be hired into an engineering company. Therefore, they were less likely to externally attribute her success.

Conclusively, this provides enough insight to suggest further research into the assumptions that are made about preferential and merit-based hiring with respect to gender rarity and the context in which the hiring takes place. It is important to note that although these findings about the assumptions of hiring policy were found, participants did not significantly differ in their responses to how much they thought that gender played a role in the hiring of the target employee. This discrepancy may be attributable to a social desirability bias and a hesitance in directly pointing out the role of gender in the hiring of a specific person, but a comfort in talking about hiring policies of the general company. Nevertheless, the former findings may very well indicate that years after the first implementation of affirmative action policies, the workforce would assume increased representation of traditional minority groups, and that the absence of this significant representation could be, in essence, a sign of a lack of preferential selection within the organization.

General Discussion

These two studies have revealed important points about the consequences of contextual determinants surrounding both the perceiver and the target.

Study 1 demonstrated that rarity of a female perceiver, by itself, can negatively influence their perceptions of how female managers must act in an organization relative to male managers, which adds to their feelings of distress and the constant need to prove themselves. Rarity can also lead to the adoption of agentic behaviors, which may be thought to be necessary to be on a more equal level with males, but can lead to a severe backlash (Flynn, 2007). But, it is not just the gender rarity of the perceiver that is important; it is also the culture that they are in, which can be influenced by how the organization markets its diversity measures. It is one thing to hire

minorities to avoid legal repercussions. This imparts to employees the idea of preferential selection (witnessed by participants' hiring of a female employee with no competency information); this process is viewed by many to be rather unfair and can cause repercussions to the "preferred group." It is another thing to impart to employees the competitive advantages that minority groups bring to the organization in terms of the conglomeration of values, approaches, experiences, ideas, and thinking behaviors that lead to better decision making (Watson, Kumar, & Michaelson, 1993) and increased creativity (Cox & Blake, 1991). This provides a more equitable environment to employees and a fairer process based on competency. The stress on competitive advantage can help mitigate the repercussions that women can have when they choose to adopt their agentic or communal behavior. It can also influence their overall positive encouragement of similar minority groups to join the organizations. This influence of justification diversity measures is very important because even if a company, for example, does not have complete control of gender equality because not enough members of the minority group are applying for positions, it has tremendous control over the culture that they create for the organization. It is essentially a tool that managers can use to influence perceptions and behavior.

Study 2 inadvertently revealed an interesting point about rarity of the perceived target: gender equality in a stereotypically male company, is not necessarily, by itself, going to suppress the assumptions that females are hired because of preferential selection. Overabundances of women in male-typical jobs can just as likely, if not even more likely, suggest affirmative action hiring compared to female rarity. This reinforces the point that organizations must do more than manipulate minority representation; perhaps if the target was within an explicit culture based on meritocracy, inferences about affirmative action hiring would have been decreased. The

development of a culture that supports and believes in the intrinsic advantages of diversity can perhaps make this difference.

These studies are not absent of limitations, however. First of all, they were both conducted in an experimental rather than a laboratory setting, and measured intended, not actual, behaviors. The effects that were measured contain very socially sensitive issues and many behaviors that people think they will exhibit are not ones that they do end up exhibiting. In addition, many employees may exhibit behaviors and attitudes when they are put into actual situations of rarity, affirmative action culture, etc., but not be able to predict these intended behaviors. In responding to the reasons of women's preferences of female managers over male managers, Study 1 did not compare the perceptions of female managers to that of male managers, but it would be interesting to explore this in further studies. Finally, although similar patterns were found between how a female employee perceives the agentic and communal behavior of a female target and the subsequent masculine and feminine behaviors she chooses to adopt, it does not establish an exact causal relationship. In other words, it does not confirm that a woman chooses certain behaviors because of the behaviors she sees in a successful manager. This may also be of interest for future studies.

Nevertheless, these studies do demonstrate that introducing gender equality in male-dominated industries alone is not necessarily going to mitigate sex-based discrimination in the workplace or lessen assumptions of preferential treatment. It needs to be coupled with a culture that values diversity for the intrinsic benefits that it brings, to potentially decrease negative behaviors and attitudes of perceivers, and to increase positive perceptions of traditionally underrepresented targets.

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Appendix A

Adaptation of Traditional-Egalitarian Sex Role Scale (TESR)

Larsen & Long, 1988

Item	Original Part-Whole Correlation
1. The man should be more responsible for the economic support of the family than the woman.*	0.48
2. The belief that women cannot make as good supervisors or executives as men is a myth.	0.48
3. Having a job is just as important for a wife as it is for her husband.	0.64
4. In groups that have both male and female members, it is more appropriate that leadership positions be held by males.*	0.54
5. Having a challenging job or career is as important as being a wife and mother.	0.56
6. Men make better leaders.*	0.52
7. Almost any woman is better off in her home than in a job or profession.*	0.60
8. A woman's place is in the home.*	0.63
9. The role of teaching in the elementary schools belongs to women.*	0.63
10. A man who has chosen to stay at home and be a house-husband is not less masculine.	0.48

* These items were reverse coded.

Items were responded to on a 5-point Likert Scale (*strongly disagree-strongly agree*). The higher the score, the more egalitarian the views about sex roles.

Appendix B

Stereotyped Beliefs About Women Managers Scale

Moore, S., Grunberg, L. & Greenberg, E., 2004

1. Women managers have their ideas challenged more often than do managerial men.

2. Women managers have to perform much better than male mangers in order to succeed.

3. Women mangers must behave in a typically masculine. way in order to be taken seriously.

4. Compared to male managers, female managers must continually prove themselves.

5. Women managers have their work judged more critically than do men managers.

6. Compared to male managers, female managers are often uncomfortable in taking credit for their successes.

Items were responded to on a 5-point Likert Scale (*strongly disagree-strongly agree*). The higher the score, the greater the belief in the disparity between the performance evaluation differences of managerial men and women.