8-2008

Stereotype Threat and Women's Perceptions of Leadership Self-Efficacy

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STEREOTYPE THREAT AND WOMEN'S PERCEPTIONS
OF LEADERSHIP SELF-EFFICACY

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Industrial-Organizational Psychology

by
Phillip Lipka
August 2008

Accepted by:
Dr. Mary Anne Taylor, Committee Chair
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ABSTRACT

The following research examined the effects of stereotype threat on women's leadership self-efficacy. Previous research has demonstrated that women's leadership aspirations are negatively affected by the presence of stereotype threat, and the current research served to expand on this literature by examining possible factors that could moderate women's vulnerability to this threat. It was proposed that women with a weaker adherence to sexist beliefs, less investment in gender ideals, and higher self-esteem would be less susceptible to stereotype threat and would perceive themselves as more capable leaders. Participants completed a survey that primed their gender identity in order to invoke stereotype threat or completed a gender-neutral survey in order to maintain an environment free of stereotype threat. Measures of adherence to sexist beliefs, investment in gender ideals, self-esteem, and leadership self-efficacy were administered and regression was used to test the proposed interactions between stereotype threat and each of these three possible moderating variables as predictors of leadership self-efficacy. Results did not support the proposed interactions, indicating that adherence to sexist beliefs, investment in gender ideals, and self-esteem were not moderators of the stereotype threat and women's perceptions of leadership self-efficacy relationship. However, a main effect for investment in gender ideals emerged, although the effect was not in the predicted direction. Possible explanations as to why the findings concerning the predicted interactions were not significant are suggested as well as directions for future research.

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CHAPTER ONE

INTRODUCTION

Women have made considerable progress in attaining equality in leadership positions. Even in non-traditional settings such as the military, research suggests that there are few differences in performance ratings of the effectiveness of male and female leaders (Morgan, 2004). Despite the finding that ratings of actual performance are similar regardless of leader gender, female leaders still often evoke more negative affect than male leaders and may be viewed in terms of negative gender-based stereotypes (Koch, 2005; Ridgeway, 2001). Thus, while more women have gravitated into leadership positions, there is still a need to understand the basis of stereotypes, since these may impact females' employment opportunities.

Ironically, even women may adopt negative beliefs of female leaders under certain circumstances (Dasgupta & Asgari, 2004). Recent research suggests that these damaging stereotypes may be internalized by some women and this may, under certain circumstances, impede performance (McGlone, Aronson, & Kobrynowicz, 2006). This internalization of negative stereotypes and the subsequent impact on female performance is called stereotype threat. In the present study, the role of stereotype threat on women's perceptions of their leadership capabilities was investigated.

Stereotypes

A first step in understanding stereotype threat entails an examination of the nature and content of stereotypes. Madon, Guyll, Hilbert, Kyriabatos, and Vogel (2006) defined stereotypes as "generalized beliefs about social groups" (p. 178) and stated that

stereotyping often occurs due to cognitive capacity limitations. However, there is no concrete, consistent definition of the word "stereotype." In order to help resolve this problem, Kanahara (2006) reviewed the various definitions of stereotype in the literature and reported two central components of the term. The first component is that a stereotype is a consistent cognitive construct or belief. The second component of a stereotype is that it is a group-level concept. That is, a stereotype is a belief about a group of people as a whole, rather than a single individual within that group.

It is well documented in the literature that stereotyping sometimes serves as a benefit for stereotype holders and as a detriment to the stigmatized targets, particularly when aspects of the stereotype are inconsistent with job or occupational demands (Wheeler, Jarvis, & Petty, 2001). For example, stereotypes of managerial positions often contain typically masculine traits, which may lead to more negative evaluations of female managers.

Whereas stereotype holders are afforded the cognitive efficiency that stereotyping allows, targets are not. Furthermore, stereotype holders can apply the cognitive energy they save through the use of stereotypes to other tasks (Macrae, Milne, & Bodenhausen, 1994), whereas stigmatized individuals must exert cognitive effort toward coping with these stereotypes (Meyer, 2003). Moreover, when those who are the target of stereotypes internalize these negative beliefs, they may behave or perform in a way that confirms the negative expectations of others (McGlone et al., 2006). This tendency to behave in ways that confirm others' negative beliefs is at the core of stereotype threat.

Stereotype Threat

Bergeron, Block, and Echtenkamp (2006) defined stereotype threat as "the threat of being at risk of confirming, as being true of oneself, a negative stereotype about one's group" (p. 134). It is also a situational threat that can affect any individual belonging to a group for which a stereotype exists (Spencer, Steele, & Quinn, 1999; Steele, 1997). Steele (1997) identified three conditions that must be present for stereotype threat to take place. The first condition is that there must be societal awareness of the stereotype concerning the group to which the individual belongs. In the context of the current study, this means that a stereotype of females must exist. Ample research suggests that stereotypic views of women as nurturing, emotional, and incapable of leadership are still operating today (Heilman and Okimoto, 2007).

A second condition that must be present for stereotype threat to occur is that the individual must identify with the domain in which the stereotype can take effect. This would entail an internalization of negative beliefs about the capabilities of women. In fact, research suggests that women who internalize negative beliefs may self select out of challenging tasks (Dickerson & Taylor, 2000). Indeed, Smith (2006) found that women who were reminded of the typical female stereotype of an ineffective, emotional, irrational woman subsequently avoided performance-oriented tasks. Related research suggests that women may select a man to fill a leadership position even when she has more leadership-consistent traits than him, and that this effect is exaggerated on male-typed tasks (Ritter & Yoder, 2004).

The last condition that must be present is the stereotype must be relevant to the individual during a situation in which the individual is at risk of confirming the stereotype against the stigmatized group to which they belong, which Steele termed a domain performance situation. So, for example, negative beliefs about women's leadership abilities and internalization of these beliefs would have the strongest impact on a woman's performance in a leader-oriented performance situation. In fact, previous research suggests that, while women may view leadership positions as attractive, they may view these positions as less attainable (Killeen, López-Zafra, & Eagly, 2006).

Stereotype threat also adds extra pressure to an individual in situations in which a stereotype about his or her group threatens an important ability because he or she faces the possibility of being judged by others or confirming the stereotype (Spencer et al., 1999). This added pressure can interfere with an individual's performance in such situations because attention is shifted from performing the task to "a concern with the significance of one's performance in light of a devaluing stereotype" (Steele & Aronson, 1995, p. 798).

The negative effects on stigmatized individuals' performance has most clearly been demonstrated through examining African Americans' academic performance and women's math performance under conditions involving stereotype threat. For example, Steele and Aronson (1995) demonstrated that stereotype threat can impair the test performance of African American students. Steele and Aronson had African American and White students take a test of verbal ability and told half the students the test was diagnostic of intelligence in order to elicit stereotype threat. African Americans who

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believed the test was diagnostic of intelligence performed significantly worse than those who believed it to be nondiagnostic. However, this difference was not found among the White students.

In a similar study, Steele and Aronson told students they were taking a nondiagnostic test of intelligence and primed an African American racial identity in half of the students by simply having them indicate their race on a biographical information form. Students who had their African American identity primed prior to taking the test performed significantly worse than African Americans in the non-race-primed condition. These results demonstrate that simply reminding a stigmatized individual of their stigmatized status is enough to induce stereotype threat and undermine performance on a task that is linked to a particular stereotype, such as test performance of African Americans. Moreover, the mere salience of a stereotype can impede performance on a task even when it is not framed as being ability diagnostic.

One might expect similar effects to emerge for women on sex-linked tasks. Indeed, stereotype threat has been shown to negatively affect women in certain situations as well. However, while the stereotype about African Americans encompasses most academic areas, the research on stereotypes about women in academics is more restricted to the areas of math and science (Spencer et al., 1999). For example, Spencer et al. (1999) demonstrated that stereotype threat caused women to underperform on a difficult math test. In this study, half of the participants were told that the math test had shown gender differences in the past in order to induce stereotype threat, whereas the other half of the participants were told the test had been shown to be gender fair. The results indicated that

when participants were told the test demonstrated gender fairness, women and men performed equally well on the test; however, women underperformed compared to men when the participants were told the test had evidenced gender differences in the past. Therefore, it appears that stereotype threat causes a decrease in stigmatized individuals' performance in situations in which the stereotype is applicable. Furthermore, Quinn and Spencer (2001) demonstrated that women are less able to formulate mathematical problem-solving strategies in high stereotype threat conditions. It is important to note that stereotype threat is manipulated in these designs, and that female performance is significantly impeded in gender-primed conditions as compared to non-primed conditions.

Clearly, the research on African Americans and females under conditions of stereotype threat suggests that it can cause performance decrements that would not exist if a less threatening environment were provided. This effect appears to be exacerbated when the targeted group is asked to perform in an area in which their gender or racial group is believed to be incompetent.

While stereotype threat has been demonstrated to negatively affect women's math performance, it would also be beneficial to examine other domains in which stereotype threat negatively affects women. One especially relevant domain is leadership. Eagly (2007) pointed out that, despite women's success in many leadership roles, the continuance of gender-based stereotypes still poses a challenge for many women who wish to attain positions of power. For this reason, it is important to examine the societal sex role stereotypes associated with women as leaders. This discussion will be followed

by a description of how stereotype threat can negatively affect women's perceptions of their leadership capabilities.

Women and Leadership

As noted earlier, Steele (1997) suggested that, in order for stereotype threat to exist, one should show that there is a coherent, persistent stereotype based on a particular characteristic, such as gender. In fact, many societal sex-role stereotypes exist against women that result in the stereotype that women are unsuitable for leadership positions. These stereotypes include that women are weak, passive, dependent, and nurturing (Heilman & Okimoto, 2007; Levin, 1980). Furthermore, Lyness and Heilman (2006) stated that the perceived lack-of-fit between the stereotypically based characteristics attributed to women, such as being kind, caring, and relationship-oriented, and the characteristics attributed to men and believed to be necessary for success in leadership positions, such as being tough, forceful, and achievement-oriented, give rise to the belief that women will perform poorly in these positions.

This recent research is consistent with the nature of gender stereotypes reported more than 25 years ago. For example, Rosen and Jerdee (1974) explained how male administrators feel that women are well-equipped to handle organizational housekeeping work; however, they feel that women lack the stability, toughness, dedication, and judgment required for success in leadership positions, which are typically held by males. While many believe that the nature of these beliefs has shifted over time, up-to-date research suggests that they are more stable than one might expect. For example, Eagly (2007) suggested that there is a widely held belief that there is only one best style of

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leadership and that this style incorporates stereotypically male traits, which may lead some to devalue women's leadership.

This has the potential to lead to discrimination against women in personnel decisions involving promotion, development, and supervision, which is evidenced by the lack of women holding positions of power within organizations. In fact, while women make up about half of the workforce in most developed countries, they represent less than 5% of senior executives (Tharenou, 1999). Even when potentially contaminating variables such as different years of work experience and job status are controlled, there is still evidence of an underrepresentation of women in higher status jobs and lower wages for women, as compared to men, facing the same work demands (Cotter, Hermsen, Ovadia, & Vanneman, 2001).

This underrepresentation of women in elite positions often results in the token status of women in these positions. Yoder (1991) describes one consequence of tokenism for women in leadership positions as an increased pressure to perform well due to heightened visibility and an increase in received attention. Thus, societal sex-role stereotypes also affect women's perceptions of their own leadership capabilities. It is interesting to note that this is consistent with research conducted in the early seventies, a time of transition for women in society. O'Leary (1974) explained how societal sex-role stereotypes served as a barrier to women's job-related aspirations in that they were viewed as having less achievement motivation, a fear of failure, and a motive to avoid success. As noted in research reviewed earlier, this basic concept has not shifted as much as one might expect.

Even when women do obtain positions of power, they are still faced with many disadvantages compared to their male counterparts. Rudman (1998) pointed out that women who act assertively and confidently are not as well received as men who engage in the same behaviors due to the historically based belief that women are less competent and competitive than men. Similarly, Eagly, Makhijani, and Klonsky (1992) found that women managers were rated more negatively than their male counterparts when adopting a direct, task-oriented leadership style. Additional evidence regarding barriers facing women was compiled by Lyness and Thompson (1997). These researchers examined matched samples of female and male executives and, despite their careful matching based on job characteristics, age, and organizational performance and advancement potential ratings, found that the women's jobs had less authority, women indicated experiencing more obstacles, and women reported significantly less satisfaction with future career opportunities than men. In summary, past and current research suggests that behaving in role inconsistent ways, sometimes required in leadership positions, leads to less favorable evaluations of female leaders (Eagly, 2005). These gender differences persist even though much of the data in the literature suggest there are few actual differences in leadership effectiveness between the sexes (Eagly, 2007; Eagly, Karau, & Makhijani, 1995). Research conducted over a quarter of a century suggests that, despite the evidence that women can be effective leaders, they still face the initial obstacle of obtaining legitimacy (Hollander, 1992).

This work implies that a woman's own beliefs about her competencies may be a critical factor in her efforts to succeed due to the fact that stereotypes can serve as a

barrier to a woman's career. A woman's ability to ignore or reject stereotypical beliefs about her own capabilities may very well be a determining factor in her career aspirations. Therefore, understanding the factors that can buffer or exacerbate stereotype threat can also help researchers understand the psychological processes that underlie leadership aspirations in women.

Stereotype Threat and Women's Leadership Aspirations

While the literature on the detrimental effects of stereotype threat on women's math performance is extensive, research examining its effects on women's perceptions of their leadership capabilities is limited and relatively new. However, women are well aware of the stereotype implying that they lack leadership skills (Crocker, Major, & Steele, 1998). Thus, the knowledge of this stereotype could serve to make women vulnerable to stereotype threat within a leadership domain.

Support for this notion is apparent in the empirical literature. For example, Davies, Spencer, and Steele (2005) found that exposing women to gender-stereotypic TV commercials that elicited the female stereotype and, hence, stereotype threat, undermined women's aspirations on a leadership task. Results indicated that women who were exposed to commercials in which women were portrayed in gender-stereotypic roles showed more interest in assuming a non-threatening subordinate role rather than a leadership role, whereas women exposed to neutral, non-gender-stereotypic commercials showed no distinct preference for either role. Therefore, stereotype threat can negatively affect women in the leadership domain in that vulnerability to stereotype threat leads to

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lessened leadership aspirations in women who are primed with the female gender stereotype.

However, the negative effects of stereotype threat on the leadership aspirations of women can be mitigated by presenting information designed to counteract these negative beliefs. For example, Davies et al. (2005) had a group of women watch gender-stereotypic commercials in order to make them vulnerable to stereotype threat. The women then read a description of the leadership task that included an identity-safe sentence stating that, despite controversy over gender-based differences in leadership and problem-solving ability, the experimenters' research has found no gender differences in either ability. Results indicated that, while women as a whole in the stereotype threat condition preferred non-leadership roles, this effect was eliminated among women in the identity-safe condition. Thus, it appears that factors exist that can moderate the relationship between stereotype threat and women's leadership aspirations.

While identity safety serves as one moderating factor, it is possible that others could serve the same purpose. For example, the extent to which a woman rejects stereotypes suggesting that women lack leadership skills, as well as her overall well-being, may serve as a buffer against stereotype threat. More specifically, adherence to sexist beliefs, investment in gender ideals, and self-esteem could all moderate the effect of stereotype threat on women's perceptions of their leadership capabilities. It seems logical to expect that not all women are equally vulnerable to internalizing gender stereotypes. If this is the case, then those women who do not internalize negative beliefs

and have more confidence may be less influenced by gender priming than those women who adopt negative views of females' leadership abilities.

Moderators of Stereotype Threat Effects: Sexist Beliefs, Gender Ideals, and Self-Esteem

Adherence to sexist beliefs. Sexism is generally defined as discrimination on the basis of gender (Benson & Vincent, 1980) and has distinct traditional and modern manifestations. While traditional sexism is overt and exhibited through the differential treatment of women, beliefs in traditional gender roles, and support for negative stereotypes against women, modern sexism is less obvious and is displayed in more covert manners due to the advancement of gender equity issues and the amount of concern surrounding topics such as sexual harassment, sex discrimination, and gender equality in employment in modern day society (Swim, Aikin, Hall, & Hunter, 1995). Furthermore, traditional sexism is based on the assumption that women are inferior to men (Cameron, 1977), whereas modern sexism is based on the belief that women are no longer victims of discrimination (Swim et al., 1995). However, while traditional and modern sexism have many distinguishable features, they are similar in the fact that they both result in the unequal treatment of women.

Moreover, it is important to note that an extensive amount of literature within the field of sociology has attributed the persistence of sexism to the pervasiveness of gender stereotyping (see Cross & Markus, 1993, for a review). Therefore, in the context of the current study, the internalization of sexist beliefs based on gender stereotypes is viewed as a factor that would increase the susceptibility of women to stereotype threat. In fact, research has suggested that such self-stereotyping by the use of gender stereotypes can

impact performance, particularly on male-typed tasks such as spatial ability tasks (James & Greenberg, 1997). It is believed that this increase in adherence to sexist beliefs for women also under conditions of stereotype threat will result in lower leadership self-efficacy, or an impaired belief in one's abilities as a leader. Conversely, those women who reject sexist beliefs would be expected to be less impacted by stereotype threat and subsequently have higher leadership self-efficacy than their counterparts.

Investment in gender ideals. A second factor that may moderate the impact of stereotype threat on women's leadership self-efficacy is their investment in gender ideals. Although this concept may, at first glance, appear to be the same as sexist beliefs, it differs in the fact that it focuses on the "ideal" woman, rather than on stereotypically negative beliefs, and on the extent to which a woman wants to attain the "ideal" status. Wood, Christensen, Hebl, and Rothgerber (1997) explain that investment in gender ideals refers to the importance that an individual places on representing the ideal, or standard, for their gender. Therefore, individuals who invest in gender ideals feel it is important to adhere to gender norms and expectations and often behave in a manner that is consistent with gender roles (Sanchez & Crocker, 2005).

In terms of stereotype threat, it may be the case that this investment makes a woman more vulnerable. For a woman who believes that these idealized female traits are incompatible with leader roles, and places a great importance in meeting the idealized standards, stereotype threat may lead her to believe that she is not suited for leader tasks. Thus, one would expect that her leadership self-efficacy would be lower, particularly in a stereotype threat situation, than a woman who does not adopt the idealized female role.

The practical implication of an investment in gender ideals is also worth noting. Gender-linked traits for men in the business arena, and often in other areas of life, are more culturally valued than for women. Therefore, it is not surprising that an investment in gender ideals is associated with better psychological well-being for men as compared to women (Hearn, 2004; Swim, 1994). In fact, Sanchez and Crocker (2005) found that an investment in gender ideals was harmful to women's well-being because their worth was based on external contingencies such as perceived academic competency and the opinions of others.

In the context of managerial and leadership tasks, similar effects have been noted by researchers. Women tend to underperform relative to men in masculine-typed tasks under stereotype threat conditions. However, this effect is moderated by gender role identification; those women who have a more masculine role identification and reject the female role identification do not show these performance deficits. Thus, having a strong identification with feminine sex roles may exacerbate the impact of stereotype threat for women in the leadership domain (Bergeron et al., 2006).

Self-esteem. Hyde (2004) defined self-esteem as "the level of global positive regard that one has for oneself" (p. 99). The classic definition of the construct includes feelings of general worth and self-confidence (Rosenberg, 1965). Furthermore, individuals with high self-esteem have clearer and more positive views of themselves compared to individuals with low self-esteem (e.g., Baumeister, Tice, & Hutton, 1989; Campbell, 1990). Individuals with high self-esteem are also more capable of affirming overall self-adequacy, which makes them less vulnerable to threats to their global sense

of adequacy (Steele, Spencer, & Lynch, 1993). Moreover, high levels of self-esteem are related to a greater willingness to assume leadership positions (Linimon, Barron, & Falbo, 1984) and self-esteem in women is related to educational self-efficacy (Rayle, Arrendondo, & Kurpius, 2005). Because high self-esteem is related to individuals' maintenance of their self-concept when experiencing threats to their self-adequacy and a willingness to assume positions of leadership, it seems logical to assume that high self-esteem could serve to mitigate the negative effects that stereotype threat has on women's perceptions of leadership self-efficacy.

The Current Study

Leadership self-efficacy. The dependent variable of interest in the current study is leadership self-efficacy. Leadership self-efficacy refers to an individual's perceptions of his or her own general capabilities to lead (Murphy, 1992). Research has shown that leadership self-efficacy is effective in predicting leadership, group, and organizational outcomes (Chemers, Watson, & May, 2000; Murphy, 2001).

From a practical standpoint, some researchers have found that high levels of leadership self-efficacy can heighten a woman's identification with the leadership domain (Hoyt, 2005). Therefore, it is important to examine the underlying factors that contribute to leadership self-efficacy. More specifically, this research posits that it would be beneficial to examine an adherence to sexist beliefs, investment in gender ideals, and self-esteem to determine if they moderate the relationship between stereotype threat and women's perceptions of leadership self-efficacy. Through identifying moderating factors,

it may be possible to develop effective methods of combating stereotype threat for women in leadership positions.

To summarize, it is expected that stereotype threat will weaken women's beliefs in their capabilities as a leader, but that the negative impact of this threat will be moderated by individual differences. The first hypothesis states that there are differences in the extent to which women adopt negative gender-based stereotypes when judging their own performance, and that those women who internalize negative stereotypes will be most impeded by stereotype threat. In other words, women who have negative views of the capabilities of their own gender will have lower leadership self-efficacy after exposure to stereotype threat than those who do not have these negative views. Similarly, the second hypothesis suggests that an investment in traditional gender ideals will exacerbate the effects of stereotype threat on leadership self-efficacy. Women with more traditional views will have lower leadership self-efficacy after exposure to stereotype threat than those who do not hold these traditional views. Self-esteem is proposed as a third moderator of stereotype threat, in that women who have high self-esteem will show more resistance to the potentially negative effects of stereotype threat than women with low self-esteem. Thus, the third hypothesis is that self-esteem will interact with stereotype threat. Therefore, it is proposed that an adherence to sexist beliefs, investment in gender ideals, and self-esteem all serve as moderators of the relationship between stereotype threat and women's perceptions of leadership self-efficacy.

Hypotheses

Based on the literature concerning the moderator variables of interest for the current study, as well as literature focusing on stereotype threat and societal sex-role stereotypes concerning women as leaders, the following three hypotheses were developed:

Hypothesis 1: Among women who experience stereotype threat, those with a high level of adherence to sexist beliefs will have lower leadership self-efficacy than women with a low level of adherence to sexist beliefs.

Hypothesis 2: Among women who experience stereotype threat, those with a high investment in gender ideals will have lower leadership self-efficacy than women with a low investment in gender ideals.

Hypothesis 3: Among women who experience stereotype threat, those with low self-esteem will have lower leadership self-efficacy than women with high self-esteem.

CHAPTER TWO

DESIGN AND METHOD

The independent variable in the current study was stereotype threat and the
dependent variable was women's self-efficacy regarding their leadership abilities.
Adherence to sexist beliefs, investment in gender ideals, and self-esteem were all
examined as possible moderators of this relationship.

The study was a between subjects design. The stereotype threat and non-
stereotype threat conditions were created through the completion of a survey that either
primed a gender identity or did not. Participants filled out one of these surveys followed
by a measure of leadership self-efficacy prior to completing the measures of the
moderators in order to guarantee that the survey served as a prime and not the moderator
measures. Questionnaires incorporating the moderators of interest as well as filler
questionnaires that were unrelated to gender were filled out next. The filler
questionnaires were included in order to decrease the salience of gender when completing
the measures of the moderator variables.

Participants

Given that past research has already established that stereotype threat impacts
only individuals for whom the stereotype is relevant to a stigmatized social identity (e.g.,
Davies et al., 2002; Davies et al., 2005; Steele & Aronson, 1995), all participants were
female. Initially, 111 participants recruited from the online Subject Pool of a medium-
sized southeastern university completed the study. However, 11 participants' data were
excluded from the study because they indicated they were not aware of the societal

stereotype implying that women lack leadership skills. This resulted in a sample of 100 female undergraduate students ranging in age from 18-24 ($M = 18.86$, $SD = 1.24$). The majority of participants (90%) were Caucasian, with seven participants identifying as African American, two identifying as Asian American, and one identifying as African American and Caucasian. Participants received class credit for their participation.

Materials

Adherence to sexist beliefs. Adherence to sexist beliefs was measured using the Sexist Attitudes Toward Women Scale (SATWS, see Appendix A) developed by Benson and Vincent (1980). The SATWS is designed to measure "attitudes which function to place females in a position of relative inferiority to males by limiting women's social, economic, and psychological development" (Benson & Vincent, 1980, p. 278). The scale is composed of 40 items which cover the following seven dimensions of sexism: 1) women are genetically (biologically, emotionally, intellectually) inferior to men; 2) men should have greater rights and power than women; 3) sex discrimination in education, work, and politics is acceptable; 4) women should not engage in traditional male roles and behaviors and should engage in traditional female roles and behaviors; 5) the women's liberation movement should not be supported; 6) derogatory labels and stereotypes are acceptable in describing women; and 7) it is acceptable to judge women based on their physical attractiveness (Benson & Vincent, 1980).

Items are rated on a 7-point Likert scale and the anchors of the original SATWS were reversed in order to avoid confusion (1 = *strongly disagree* and 7 = *strongly agree*). Total scores range from 40 to 280, with higher scores indicating higher levels of sexism.

Benson and Vincent (1980) demonstrated high internal consistency reliability for the SATWS with alphas ranging from .90 to .93 and, more recently, Schram (1996) reported an alpha of .86. The alpha for the current study was .84. Some evidence of the predictive validity of the SATWS has been evidenced by its strong correlation with a willingness to evaluate women based solely on attractiveness (r=.68, p<.01) and an appreciation of sexist humor (r=.76, p<.01) (Benson & Vincent, 1980).

Investment in gender ideals. The two-item measure (see Appendix B) developed by Wood et al. (1997) was used to measure investment in gender ideals. The two items assess how personally important an individual feels it is to be similar to the ideal man or woman, as defined by societal standards, and are rated on a scale from 1 (*not at all*) to 9 (*a great deal*). For females, the questions read as follows: (a) "How important is it for you to be similar to the ideal woman?"; (b) "To what extent is being similar to the ideal woman an important part of who you are?" Sanchez and Crocker (2005) found the measure to be highly reliable with an alpha of .88. The alpha for the current study was .80.

Self-esteem. The Rosenberg Self-Esteem Scale (RSES: Rosenberg, 1965, see Appendix C) was used to assess self-esteem. The RSES measures individuals' self-confidence and general worth and contains 10 items rated on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Total scores range from 10 to 40 with higher scores indicating higher self-esteem. The measure was designed to optimize unidimensionality and face validity and alphas from the scale have ranged from .77 to .88 (Robinson,

Shaver, & Wrightsman, 1990). The alpha for the current study was .83. Typical test-retest correlations range from .82 to .88 (Blascovich & Tomaka, 1993).

Personality measures. Measures of extraversion, conscientiousness, and intellect were interspersed among the measures of the moderators in order to decrease demand effects and the salience of gender and were included in any analyses. The 10-item scales from the International Personality Item Pool (IPIP: Goldberg, 1999, see Appendix D) for each trait were used. Participants were asked to rate how much they agreed with each statement as descriptive of themselves on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Alphas for the extraversion, conscientiousness, and intellect scales are .87, .79, and .84, respectively (Goldberg, 1999).

Stereotype threat. Priming surveys adapted from Shih, Pittinsky, and Ambady (1999) by Steele and Ambady (2006) were used to induce stereotype threat and non-stereotype threat conditions (see Appendix E for priming surveys). In order to create the stereotype threat condition, participants were asked to fill out a page-long set of questions that served to prime their gender identity. This survey asked participants to indicate their sex, answer questions about whether they live in a co-ed or single-sex environment, indicate which living environment they prefer, and provide some advantages and disadvantages for each. Participants in the non-stereotype threat condition were asked to fill out a survey with comparable gender-neutral questions about their telephone service.

Perceptions of leadership self-efficacy. The Self-Efficacy for Leadership (SEL) measure (see Appendix F) developed by Murphy (1992) was used to assess perceptions of leadership self-efficacy. The SEL contains eight items that measure individuals'

perceptions of their general leadership capabilities. Items are rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability of the SEL has been shown to range from .75 to .86 and the measure has demonstrated convergent and discriminant validity with measures such as self-esteem and ratings of perceived leadership experience (Murphy, 1992; Murphy & Ensher, 1999). The alpha for the current study was .81.

Design

The current study utilized a between subjects design with stereotype threat serving as the manipulated variable. Half of the participants were assigned to the stereotype threat condition and the other half were assigned to the non-stereotype threat condition. The independent variable was exposure to stereotype threat. This was operationalized as whether participants completed a gender priming survey that induced stereotype threat or one that did not, and the dependent variable was participants' perceptions of their leadership capabilities. Participants' levels of adherence to sexist beliefs, investment in gender ideals, and self-esteem were measured after exposure to the experimental manipulation in order to determine if these factors moderated the relationship between stereotype threat and women's perceptions of leadership self-efficacy. After completing the survey, participants filled out a questionnaire assessing their perceptions of their leadership capabilities.

Procedure

Due to the fact that previous research has demonstrated that a male experimenter can exacerbate the negative effects of stereotype threat for female participants (e.g.,

McGlone et al., 2006), the same female experimenter ran all participants. Participants were greeted by the experimenter when they entered the laboratory room and told that they were participating in a study examining personality traits, interests, and personal beliefs. Data was collected with groups of 2 to 15 participants.

The experimenter handed out packets that contained all measures and materials for the study labeled with the letter "A" or "B" to participants. The letters were used to distinguish between participants in the stereotype threat condition and those in the non-stereotype threat condition. The experimenter who ran the participants was blind to which letter corresponded to which condition in order to eliminate demand effects and only the principle researcher had knowledge of which letter coincided with which condition. Half of the participants began by completing the stereotype threat condition survey and the other half began by completing the non-stereotype threat condition survey. After completing one of these surveys, participants filled out the SEL in order to measure perceptions of leadership self-efficacy. Measures of moderators, which were counterbalanced and interspersed with measures of personality traits in order to decrease the salience of gender and to further decrease demand effects, were filled out next. Participants finished by answering questions that assessed whether they were able to discern the actual intentions of the study and their knowledge concerning the societal stereotype that implies women lack leadership skills (see Appendix G).

After completing the packet, participants were informed that the study was over and that the actual intent of the study was to test the effects of stereotype threat on women's perceptions of leadership self-efficacy and not the relationship between

personality traits, interests, and personal beliefs. Participants were then given a debriefing

form (see Appendix H) that informed them they could refuse to have their information

included in the study; however, all participants agreed to the use of their data. After

reviewing the debriefing form, participants were given a copy of the form for their own

records.

CHAPTER THREE

RESULTS

Initial Analyses

Descriptive statistics, reliability of measures, and intercorrelations among measures are reported in Table 1. Prior to examining the hypotheses, simple descriptive statistics of the dependent variable and the moderators were examined to ensure that an adequate range and a normal distribution of variables existed. The initial analyses revealed that a few of the variables suffered from range restriction. More specifically, the leadership self-efficacy ($M = 3.98$, $SD = .47$), adherence to sexist beliefs ($M = 2.93$, $SD = .57$), and investment in gender ideals ($M = 5.1$, $SD = 1.54$) variables all evidenced range restriction. These scales ranged from 1 to 5, 1 to 7, and 1 to 9, respectively. The leadership self-efficacy and investment in gender ideals variables displayed negative skewness (-.35 and -.43, respectively), indicating overall higher scores on the measures, whereas the adherence to sexist beliefs variable displayed positive skewness (.28), indicating overall lower scores on the measure.

Internal consistency of the dependent variable and the moderators were also examined to ensure that the scales met professional criteria for reliability. The internal consistency of these measures was .80 or above. As a next step, correlations between the variables of adherence to sexist beliefs, investment in gender ideals, and self-esteem were examined to determine if they were distinct variables. The correlations between the variables were low to moderate and non-significant, indicating that they were, indeed,

relatively independent variables. The correlations between these variables are reported in Table 1.

Tests of Hypotheses

Prior to testing the proposed interactions, the possible effect of a variable, which will be called leadership domain identification (LDI), on the dependent variable of leadership self-efficacy was tested. LDI was operationalized as participants' self-reports of their leadership experience and interest in obtaining positions of leadership (see Appendix I for the questionnaire). In order to test for the potential significance of LDI, hierarchical regressions were run in which leadership domain identification was treated as a control variable and leadership self-efficacy served as the dependent variable. The main effect for LDI was significant in models including stereotype threat, each of the moderating variables, and the interaction between stereotype threat and each of the moderating variables. Regression results concerning LDI for models including each of the moderating variables and the proposed interactions were as follows: adherence to sexist beliefs, $\beta = .42$, $t(99) = 6.48$, $p = .00$; investment in gender ideals, $\beta = .40$, $t(99) = 6.31$, $p = .00$; and self-esteem, $\beta = .41$, $t(99) = 5.77$, $p = .00$. These results indicated that as LDI increased, so did participants' perceptions of their leadership self-efficacy in models concerning each of the moderating variables of interest for the current study. LDI was also significantly related to leadership self-efficacy ($r = .47$, $p < .01$). Thus, LDI emerged as an important control variable in all analyses.

A regression was also run in order to determine if there was a significant main effect for stereotype threat on leadership self-efficacy before testing the proposed

interactions. This served as a test of the strength of the manipulation utilized in the study. Results indicated that there was not a significant main effect for stereotype threat, $\beta = -.01$, $t(99) = -.13$, $p = .90$. Implications for this non-significant finding are included in the discussion section. Clearly, since there was no main effect for stereotype threat, higher-order interactions involving stereotype threat were unlikely. However, these were still tested along with the main effects of variables involved in each interaction.

Tests of moderating effects involve a test of statistical interactions between predictors on the dependent measure with appropriate planned comparison t-tests as follow-up analyses. All data concerning the hypotheses are included in Table 2. *Hypothesis 1* proposed that there would be a significant interaction between stereotype threat and adherence to sexist beliefs on leadership self-efficacy. It was expected that women in the stereotype threat condition with a strong adherence to sexist beliefs would have the lowest leadership self-efficacy compared to women in any other condition. In order to test this hypothesis, a hierarchical regression was run with LDI entered first, followed by stereotype threat, then adherence to sexist beliefs, and, finally, the interaction between stereotype threat and adherence to sexist beliefs with leadership self-efficacy serving as the dependent variable. There was not a significant interaction, $\beta = .02$, $t(99) = .13$, $p = .90$. Thus, *Hypothesis 1* was not supported and a planned comparison t-test was not necessary. Furthermore, there was not a significant main effect for adherence to sexist beliefs, $\beta = -.10$, $t(99) = -1.06$, $p = .29$.

Similarly, *Hypothesis 2* suggested that there would be an interaction between investment in gender ideals and stereotype threat. It was expected that stereotype threat

would negatively impact leadership self-efficacy, but the effect would be pronounced for women with a high investment in gender ideals. In order to test this hypothesis, a hierarchical regression was run with LDI entered first, followed by stereotype threat, then investment in gender ideals, and, finally, the interaction between stereotype threat and investment in gender ideals with leadership self-efficacy serving as the dependent variable. There was not a significant interaction, $\beta = -.04$, $t(99) = -.71$, $p = .48$. Thus, *Hypothesis 2* was not supported and a planned comparison t-test was not necessary. There was a significant main effect for investment in gender ideals, $\beta = .05$, $t(99) = 2.02$, $p <$ .05; however, this was only when the main effect was entered after the control variable and not along with the interaction. This indicated that as investment in gender ideals increased, so did leadership self-efficacy. It is interesting to note that this relationship is in the opposite direction than what was expected based on the review of the literature. Possible explanations for this unanticipated finding are contained in the discussion.

Finally*, Hypothesis 3* proposed a significant interaction between self-esteem and stereotype threat. In other words, it was expected that women exposed to stereotype threat would have significantly lower leadership self-efficacy, but the effect would be pronounced for those with low self-esteem. Ultimately, it was expected that the leadership self-efficacy of women with low self-esteem who are exposed to stereotype threat would be lower than women in any other condition. In order to test this hypothesis, a hierarchical regression was run with LDI entered first, followed by stereotype threat, then self-esteem, and, finally, the interaction between stereotype threat and self-esteem with leadership self-efficacy serving as the dependent variable. There was not a

significant interaction, $\beta = -.03$, $t(99) = -.15$, $p = .88$. Thus, *Hypothesis 3* was not supported and a planned comparison t-test was not necessary. Furthermore, there was not a significant main effect for self-esteem, $\beta = .01$, $t(99) = .11$, $p = .91$.

In summary, none of the hypothesized interactions were supported. However, there was a significant main effect for investment in gender ideals, indicating that higher levels of the variable were associated with higher leadership self-efficacy in women.

CHAPTER FOUR

DISCUSSION

The present research served to identify possible moderating variables in the
relationship between stereotype threat and women's perceptions of leadership self-
efficacy. It was hypothesized that adherence to sexist beliefs, investment in gender ideals,
and self-esteem would interact with stereotype threat as predictors of women's leadership
self-efficacy. However, hierarchical regression analyses run on data collected from 100
female college students indicated that none of the hypothesized interactions of the current
study were supported. In other words, adherence to sexist beliefs, investment in gender
ideals, and self-esteem did not serve as moderators between the stereotype threat and
women's perceptions of leadership self-efficacy relationship. Since none of the
hypotheses were supported, it is important to note potential reasons as to why the
proposed interactions were not significant.

To begin with, the survey used in the current study may not have been effective in
priming participants' gender identity. This assertion is supported by the non-significant
main effect for stereotype threat on women's perceptions of leadership self-efficacy. This
indicates that the manipulation used in the current study did not adequately induce an
environment of stereotype threat for women who completed the gender priming survey.
Moreover, while the survey has been found to be effective in priming gender in the past,
the studies utilizing this survey were concerned with more behavioral outcomes, such as
performance on a math test (e.g., Shih et al., 1999; Steele & Ambady, 2006), whereas
leadership self-efficacy in the current study was determined through participants' self-

reports. Thus, participants' leadership self-efficacy may not have been affected by the prime because it is less behaviorally based than the outcomes assessed in previous studies.

Recent research has framed stereotype threat as a cognitive process that impedes performance in a number of ways (Schmader, Johns, & Forbes, 2008). It may have negative results on actual performance by causing stress, by reducing individuals' ability to monitor their own performance, and by introducing negative thoughts that intrude and impede performance. This argues for a general negative effect of stereotype threat on performance. Applying this framework to the current study, one would expect that actual performance would be more impeded by stereotype threat than more stable belief systems such as leadership self-efficacy.

Additional evidence suggests that the specificity and strength of the stereotype threat manipulation may be an important factor in the effects of the threat. Stereotype threat manipulations that emphasize the role of cognitive ability in test performance may negatively influence the performance of all participants, even when the manipulation is expected to impact performance of only African Americans (Hollis-Sawyer & Sawyer, 2007). In contrast, stereotype threat manipulations that are strong and specific to a targeted group tend to have a greater impact on participants. For example, those manipulations that specifically mention gender as a factor in test performance have a stronger impact on subsequent test scores (Vick, Seery, Blascovich & Weisbuch, 2008). The manipulation used in the current study was relatively subtle, and this may account for the fact that it did not have a strong impact on participants.

Another factor that may have limited the current study's significant findings was the range restriction that was apparent in some of the variables. Of particular importance may be the range restriction that occurred in the dependent variable of leadership self-efficacy. More specifically, the vast majority of the participants in the current study rated their leadership self-efficacy above the midpoint of the scale ($M = 3.98$, $SD = .47$; the scale ranged from 1 to 5, with 3 serving as the midpoint of the scale). There are two logical explanations as to why this may have occurred.

First, the sample used in the current study consisted of college students from a university that is known to be relatively selective of the students that are admitted. Thus, it is likely that the participants in the current study had much leadership experience prior to participating in the study, which could have attributed to the high scores on the SEL. Indeed, when examining participants' self-reports of their leadership experience and interest in obtaining positions of leadership, which was previously termed LDI, results indicated that the distribution was negatively skewed (-.34), evidencing that the majority of the participants scored on the higher end of the scale ($M = 3.50$, $SD = .63$). LDI was also significantly related to leadership self-efficacy ($r = .47$, $p < .01$). Second, participants' extensive leadership experience may be associated with a strong identification with the leadership domain, which may have attributed to the non-significant findings of the current study. For example, Hoyt (2005) found that women with high levels of leadership self-efficacy demonstrated a heightened identification with the leadership domain after exposure to the stereotype implying that women lack leadership abilities. Thus, the gender prime used to induce stereotype threat in the current

study may have served to elicit a reactance response in participants rather than undermining their beliefs in their abilities as leaders.

While the current study's proposed hypotheses were not supported, there was a significant main effect for investment in gender ideals on leadership self-efficacy. However, this relationship was in the opposite direction than expected. A greater investment in gender ideals was positively related to leadership self-efficacy. This indicated that women who placed a great amount of importance on representing the ideal for their gender also reported higher levels of leadership self-efficacy than women with less of an investment in gender ideals. This is in contrast to much of literature which demonstrates the persistence and ubiquity of gender stereotypes in modern society. For example, in a longitudinal study conducted over 17 years from 1974 to 1991, Lueptow, Garovich, and Lueptow (1995) demonstrated that, despite changes in sex roles, sex-typing has remained stable and even slightly increased over the years. Moreover, as previously mentioned, societal stereotypes exist today implying that women are unsuitable for leadership positions because they lack the characteristics associated with successful leadership (e.g., Eagly, 2007; Heilman & Okimoto, 2007; Lyness & Heilman, 2006). Thus, the findings of the current study contradict previous research. It may be beneficial for future research to study this relationship further.

One possible explanation for this unexpected finding may be the use of college students as participants in the current study who may have more liberal views concerning societal sex roles than the general population, which may affect their perceptions of how society defines the ideal woman. Another possible explanation as to why the current

study's findings are inconsistent with previous research concerns the measure used to assess participants' investment in gender ideals. More specifically, the investment in gender ideals measure did not discriminate between participants who believe that society defines the ideal woman in a more traditional manner from those who believe society defines the ideal woman in a more non-traditional manner. Rather, the measure only asked participants to think about how society defines the ideal woman and not how traditional or non-traditional they believed this definition to be. Thus, if the participants in the current study viewed the ideal woman as being more non-traditional, then it seems logical that an investment in gender ideals was positively related to women's perceptions of leadership self-efficacy.

Furthermore, it may be important to note that the research reported earlier by Davies et al. (2005) suggests that the effects of stereotype threat may be buffered when women are told that there are no negative effects of gender on performance. Thus, if a woman has an internalized belief system that gender is unrelated to performance in leadership roles, then this should serve as a buffer as well, reducing the effects of gender priming and, in turn, stereotype threat.

Another finding of the current study which was also inconsistent with previous research was the lack of a main effect for self-esteem on leadership self-efficacy. This is despite the fact that self-esteem was positively associated with leadership self-efficacy ($r = .23, p < .05$). One possible explanation as to why a significant main effect for self-esteem did not emerge was its high correlation with LDI ($r = .42, p < .01$). Thus, while the current study did not evidence a significant main effect, it may be important to note

the implications of a positive relationship between self-esteem and leadership self-efficacy since it has been demonstrated in the past. As previously mentioned, past research has demonstrated that higher levels of self-esteem are associated with a greater willingness to assume positions of leadership (e.g., Linimon et al., 1984). Therefore, increasing women's self-esteem could serve to reduce or eliminate the gender discrepancies that exist within the leadership domain by increasing the number of women in elite positions. One practical idea on how to accomplish this is to provide mentors for women who wish to obtain positions of leadership. In fact, research has shown that participating in a mentoring program can serve to increase an individual's self-esteem (King, Vidourek, Davis, & McClellan, 2002). Furthermore, Ragins (1989) claimed that, while mentoring is important for men, it essential for women because mentors can serve to abate discrimination women may face in both selection and treatment. Indeed, research has linked participating in a mentoring relationship with the career advancement of women (Maniero, 1994). Thus, mentoring programs could serve to, not only increase the self-esteem of women who wish to obtain elite positions, but could help these women to actually obtain those positions as well.

While none of the hypotheses were supported, future research may benefit from conducting a similar study that addresses the limitations apparent in the current study. As previously mentioned, many of the variables suffered from range restriction. Thus, future research may want to utilize a broader sample of participants rather than only college students who may be highly identified with the leadership domain. On a similar note, it may be beneficial to study women actually in the workforce engaging in leadership

positions in order to increase the generalizability of any findings. Moreover, utilizing women from a wide variety of age cohorts may increase the distribution of scores on many of the measures. This may be especially relevant for the adherence to sexist beliefs and investment in gender ideals measures. Lastly, increasing the sample size would help to increase the likelihood of detecting the proposed interactions.

APPENDICES

Appendix A

Sexist Attitudes Toward Women Scale

Instructions: Please read each statement carefully, and then circle the number which best represents your response. Make sure you respond to all items and use the following scale:

1	2	3	4	5	6	7
strongly			*neither disagree*			*strongly*
disagree			*nor agree*			*agree*

1. If I had a daughter, I would discourage
   her from working on cars.   1   2   3   4   5   6   7

2. I get angry at women who complain that
   American society is unfair to them.   1   2   3   4   5   6   7

3. Our society puts too much emphasis on
   beauty, especially for women.   1   2   3   4   5   6   7

4. Women shop more than men because
   they can't decide what to buy.   1   2   3   4   5   6   7

5. Most women who join protests for
   women's rights do it just for the
   thrill of protesting.   1   2   3   4   5   6   7

6. It bothers me if a man is interested in a
   woman only if she is pretty.   1   2   3   4   5   6   7

7. It bothers me to see a man being told
   what to do by a woman.   1   2   3   4   5   6   7

8. I think having children is a woman's
   greatest fulfillment.   1   2   3   4   5   6   7

9. Men are instinctually more courageous
   than women in the face of danger.   1   2   3   4   5   6   7

10. I think that women should spend a lot of
    time trying to be pretty.   1   2   3   4   5   6   7

11. I can really understand why there needs to be a women's liberation movement.　　1　2　3　4　5　6　7

12. Women rely more on intuition and less on reason than men do.　　1　2　3　4　5　6　7

13. Women should not be as sexually active before marriage as men.　　1　2　3　4　5　6　7

14. Men are just as easily influenced by others as women are.　　1　2　3　4　5　6　7

15. I think women should be more concerned about their appearance than men.　　1　2　3　4　5　6　7

16. Men will always be the dominant sex.　　1　2　3　4　5　6　7

17. I dislike it when men treat women as sexual objects.　　1　2　3　4　5　6　7

18. I think that the husband should have the final say when a couple makes a decision.　　1　2　3　4　5　6　7

19. Women should have all the same rights as men.　　1　2　3　4　5　6　7

20. I see nothing wrong with a woman who doesn't like to wear skirts or dresses.　　1　2　3　4　5　6　7

21. Women should be handled gently by men because they are so delicate.　　1　2　3　4　5　6　7

22. Women should be prepared to oppose men in order to obtain equal status.　　1　2　3　4　5　6　7

23. I am suspicious of a woman who would rather work than have children.　　1　2　3　4　5　6　7

24. I think that women are naturally emotionally weaker than men.　　1　2　3　4　5　6　7

25. On the average, women are as
intelligent as men.   1   2   3   4   5   6   7

26. If a husband and wife both work full
time, the husband should do half of
the housework.   1   2   3   4   5   6   7

27. I like women who are outspoken.   1   2   3   4   5   6   7

28. I see nothing wrong with men
whistling at shapely women.   1   2   3   4   5   6   7

29. It bothers me more to see a woman who
is pushy than a man who is pushy.   1   2   3   4   5   6   7

30. A working wife should not be hired for a
job if there is a family man who needs it. 1   2   3   4   5   6   7

31. Women can handle pressure just as well
as men can when making a decision.   1   2   3   4   5   6   7

32. Men are naturally better than women
at mechanical things.   1   2   3   4   5   6   7

33. A woman's place is in the home.   1   2   3   4   5   6   7

34. I think that many TV commercials
present a degrading picture of women. 1   2   3   4   5   6   7

35. I think a woman could do most
things as well as a man.   1   2   3   4   5   6   7

36. I think that men are instinctually
more competitive than women.   1   2   3   4   5   6   7

37. I think women have a right to be angry
when they are referred to as a "chick." 1   2   3   4   5   6   7

38. It would make me feel awkward to
address a woman as "Ms."   1   2   3   4   5   6   7

39. I see nothing wrong with men who are
primarily interested in a woman's body. 1   2   3   4   5   6   7

40. If I had a choice, I would just as soon
work for a woman as for a man.   1   2   3   4   5   6   7

Investment in Gender Ideals Measure

Instructions: Please think of **how society defines** the ideal man and the ideal woman and circle the number that best represents your responses to the following two questions based on the scale provided below:

1	2	3	4	5	6	7	8	9
Not at all								*A great deal*

1. How important is it for you to
be similar to the ideal woman?   1   2   3   4   5   6   7   8   9

2. To what extent is being similar
to the ideal woman an important
part of who you are?   1   2   3   4   5   6   7   8   9

Appendix C

Rosenberg Self-Esteem Inventory

Instructions: Below is a list of statements dealing with your general feelings about yourself. Please circle how much you agree or disagree with each of the following statements using the following options:

1	2	3	4
strongly disagree	*disagree*	*agree*	*strongly agree*

1. On the whole, I am satisfied with myself.   1   2   3   4

2. At times, I think I am no good at all.   1   2   3   4

3. I feel that I have a number of good qualities.   1   2   3   4

4. I am able to do things as well as most other   1   2   3   4
    people.

5. I feel I do not have much to be proud of.   1   2   3   4

6. I certainly feel useless at times.   1   2   3   4

7. I feel that I'm a person of worth, at least on   1   2   3   4
    an equal plane with others.

8. I wish I could have more respect for myself.   1   2   3   4

9. All in all, I am inclined to feel that I am a failure.   1   2   3   4

10. I take a positive attitude toward myself.   1   2   3   4

Personality Measure

Instructions: Please indicate how much you agree with each statement as descriptive of yourself by circling the moat appropriate number using the following scale:

1	2	3	4	5
strongly disagree	*disagree*	*neither disagree nor agree*	*agree*	*strongly agree*

I believe that I:

Extraversion

1. Am the life of the party	1	2	3	4	5
2. Don't talk a lot.	1	2	3	4	5
3. Feel comfortable around people.	1	2	3	4	5
4. Keep in the background.	1	2	3	4	5
5. Start conversations.	1	2	3	4	5
6. Have little to say.	1	2	3	4	5
7. Talk to a lot of different people at parties.	1	2	3	4	5
8. Don't like to draw attention to myself.	1	2	3	4	5
9. Don't mind being the center of attention.	1	2	3	4	5
10. Am quiet around strangers.	1	2	3	4	5

Conscientiousness

1. Am always prepared.	1	2	3	4	5
2. Leave my belongings around.	1	2	3	4	5

3. Pay attention to details.	1	2	3	4	5
4. Make a mess of things.	1	2	3	4	5
5. Get chores done right.	1	2	3	4	5
6. Like order.	1	2	3	4	5
7. Often forget to put things back in their proper place.	1	2	3	4	5
8. Follow a schedule.	1	2	3	4	5
9. Shirk my duties.	1	2	3	4	5
10. Am exacting in my work.	1	2	3	4	5

Intellect

1. Have a rich vocabulary.	1	2	3	4	5
2. Have a vivid imagination.	1	2	3	4	5
3. Have difficulty understanding abstract ideas.	1	2	3	4	5
4. Have excellent ideas.	1	2	3	4	5
5. Am quick to understand things.	1	2	3	4	5
6. Am not interested in abstract ideas.	1	2	3	4	5
7. Use difficult words.	1	2	3	4	5
8. Do not have a good imagination.	1	2	3	4	5
9. Spend time reflecting on things.	1	2	3	4	5
10. Am full of good ideas.	1	2	3	4	5

Priming Surveys

Gender Priming Survey

Interest Survey

We are interested in your opinions and experiences about certain aspects of young adult life.

Age: _____

Year in college: _____

Sex: M   F

Do you live in on-campus or off-campus housing?

_____ on-campus   _____ off-campus

Do you have a roommate?   _____ yes   _____ no

Do you live in a co-ed or single-sex environment?

_____ co-ed   _____ single-sex

Would you prefer to live in a co-ed or single-sex environment?

_____ co-ed   _____ single-sex

Please list one or two reasons why you would prefer a co-ed environment.

Please list one or two reason why you would prefer a single-sex environment.

Interest Survey

We are interested in your opinions and experiences about certain aspects of young adult life.

Age:

Year in college:

Do you live in on-campus or off-campus housing?

_____ on-campus   _____ off-campus

Do you use the university telephone service?   Yes   No

How satisfied are you with your telephone service?

    1   2   3   4   5   6   7   8   9
not at all   very

Would you prefer to have a different telephone provider?   Yes   No

Please list one or two reasons why you would prefer a different telephone provider.

Please list one or two reasons why you are happy with your current telephone provider.

Appendix F

Self-Efficacy for Leadership Scale

Instructions: Please read each statement carefully. Then indicate the extent to which you agree or disagree with each of the statements, using the following scale:

1	2	3	4	5
strongly disagree	*disagree*	*neither disagree nor agree*	*agree*	*strongly agree*

1. I know a lot more than most students about what it takes to be a good leader   1   2   3   4   5

2. I know what it takes to make a group accomplish its task.   1   2   3   4   5

3. In general, I'm not very good at leading a group of my peers.   1   2   3   4   5

4. I am confident of my ability to influence a group I lead.   1   2   3   4   5

5. I have no idea what it takes to keep a group running smoothly.   1   2   3   4   5

6. I know how to encourage good group performance.   1   2   3   4   5

7. I am able to allow most group members to contribute to the task when leading a group.   1   2   3   4   5

8. Overall, I doubt that I could lead a group successfully.   1   2   3   4   5

Appendix G

End of Study Questions

1. How would you describe the purpose of this study to peers?

2. Are you aware of the societal stereotype that implies that women lack leadership skills (circle one)?

Yes   **No**

Appendix H

Debriefing Form

Thank you for your participation in this study.

Purpose of the study
You were originally told that you would be participating in a study examining personality traits, interests, and personal beliefs. However, this was not the real purpose of the study. The purpose of this study was to examine the effects of stereotype threat on women's perceptions of leadership self-efficacy. Stereotype threat is the risk of confirming a negative stereotype about one's group as being true of oneself (Bergeron, Block, & Echtenkamp, 2006). Deception was necessary in order to elicit an environment in which stereotype threat was present without the knowledge of the participants. This study will be helpful in understanding the phenomenon of stereotype threat and how it affects women's perceptions of their leadership capabilities. This study will also provide insight into factors that help reduce vulnerability to stereotype threat.

Final Report
If you would like to receive a report of this study (or a summary of the findings) when it is completed, contact the primary investigator listed below.

Concerns
If you have any questions about the study, or about the deception involved, please feel free to contact either individual listed at the bottom of this form. If you have any questions or concerns about this study or your rights as a research participant, please contact the Clemson University Office of Research Compliance at 864.656.6460.

Please keep a copy of this form for your future reference. Once again, thank you for participating in this study.

Dr. Mary Anne Taylor   Phillip Lipka
410L Brackett Hall   315 Brackett Hall
864.656.4174   586.202.6828
taylorm@clemson.edu   plipka@clemson.edu

Please initial below as to whether you agree to have your responses included in this study or not:

_____ I **AGREE** to have my responses included in this study.

_____ I **DO NOT AGREE** to have my responses included in the study.

Leadership Domain Identification Questionnaire

Instructions: The following questions concern interests in holding leadership positions. Please use the scale below to answer how much each of the following statements is descriptive of you as a person:

1	2	3	4	5
Does not describe me at all	*Does not describe me*	*Neither does nor does not describe me*	*Describes me*	*Describes me very well*

1. I have a genuine interest in having leadership positions.   1   2   3   4   5

2. I hope to obtain a position of leadership in my future career.   1   2   3   4   5

Instructions: The following questions concern your previous experience as a leader compared to your peers. Please use the scale below when responding to the following questions:

1	2	3	4	5
Very limited	*Limited*	*Average*	*Extensive*	*Very extensive*

3. In high school, I would describe my social experience as a leader as being…   1   2   3   4   5

4. In high school, I would describe my academic experience as a leader as being…   1   2   3   4   5

5. In college, I would describe my social experience as a leader as being…   1   2   3   4   5

6. In college, I would describe my academic experience as a leader as being…   1   2   3   4   5

Table 1: Descriptive Data, Internal Consistency Reliability of Measures, and Intercorrelations Among Measures

Variables	M	SD	1	2	3	4	5	6
1. Age	18.86	1.24	--	-.15	.08	-.10	-.11	-.01
2. Adherence to Sexist Beliefs	2.93	.57		**.84**	.11	.01	.07	-.10
3. Investment in Gender Ideals	5.10	1.54			**.80**	-.19	.05	.22*
4. Self-Esteem	3.15	.43				**.83**	.46**	.23*
5. Leadership Domain Identification	3.50	.63					**.72**	.47**
6. Leadership Self-Efficacy	3.98	.47						**.81**

* $p < .05$, ** $p < .01$; Adherence to Sexist Beliefs variable ranges from 1-7, with 7 indicating a more positive level of the variable. Investment in Gender Ideals variable ranges from 1-9, with 9 indicating a more positive level of the variable. Self-Esteem variable ranges from 1-4, with 4 indicating a more positive level of the variable. Leadership Domain Identification and Leadership Self-Efficacy variables ranges from 1-5, with 5 indicating a more positive level of the variable. Reliability coefficients are reported in the diagonal in bold.

Table 2: Hierarchical Regression Results

Dependent Variable	Model	Independent Variable	ΔR^2	β	t	p-value
Leadership Self-Efficacy	1	Leadership Domain Identification	.299	.41	6.47	.00
	2	Leadership Domain Identification	.000	.41	6.44	.00
		Stereotype Threat		- .01	-.16	.88
	3	Leadership Domain Identification	.014	.42	6.52	.00
		Stereotype Threat		-.02	-.20	.84
		Adherence to Sexist Beliefs		-.10	-1.41	.16
	4	Leadership Domain Identification	.000	.42	6.48	.00
		Stereotype Threat		-.02	-.20	.84
		Adherence to Sexist Beliefs		-.11	-1.06	.29
		Stereotype Threat X Adherence to Sexist Beliefs		.02	.13	.90
Leadership Self-Efficacy	1	Leadership Domain Identification	.299	.41	6.47	.00
	2	Leadership Domain Identification	.000	.41	6.44	.00
		Stereotype Threat		-.01	-.16	.88
	3	Leadership Domain Identification	.028	.40	6.31	.00
		Stereotype Threat		-.01	-.09	.93
		Investment in Gender Ideals		.05	2.02	.05
	4	Leadership Domain Identification	.004	.40	6.31	.00
		Stereotype Threat		-.01	-.09	.93
		Investment in Gender Ideals		.07	1.94	.06
		Stereotype Threat X Investment in Gender Ideals		-.04	-.71	.48
Leadership Self-Efficacy	1	Leadership Domain Identification	.299	.41	6.47	.00
	2	Leadership Domain Identification	.000	.41	6.44	.00
		Stereotype Threat		-.01	-.16	.86
	3	Leadership Domain Identification	.000	.41	5.81	.00
		Stereotype Threat		-.01	-.16	.88
		Self-Esteem		.00	.01	.99
	4	Leadership Domain Identification	.000	.41	5.77	.00
		Stereotype Threat		-.01	-.16	.88
		Self-Esteem		.01	.11	.91
		Stereotype Threat X Self-Esteem		-.03	-.15	.88

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