LEADERSHIP EFFECTIVENESS: INVESTIGATING THE INFLUENCES OF LEADER
SEX, GENDER, AND BEHAVIORS ON SELF AND OTHER PERCEPTIONS

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Though increasing numbers of women are entering the workforce, a disproportionate number of women are placed into upper level management positions. Social role and role congruity theory both posit that women in leadership positions are likely to face more negative criticism than men in leadership positions. The purpose of the current study was to examine the influence of gender roles on leader behaviors as well as leaders’ self perceived effectiveness. The study also examined third party raters’ views of female and male leaders. Videotapes of forty-seven mixed sex groups with randomly appointed male and female leaders were used to examine leader behaviors as well as raters’ effectiveness ratings. Leaders’ self perceived effectiveness ratings were also used. Gender roles of the leaders were assessed using the Bem Sex Role Inventory (BSRI). Results of a MANOVA indicated that leader gender roles did not lead to differences in leader behaviors exhibited among those in feminine, masculine, and androgynous groups. For female leaders, femininity was not related to feminine behaviors. Unexpectedly, for male leaders, masculinity was inversely related to masculine behaviors. With regard to raters’ effectiveness ratings of the leaders, no differences were found in ratings based on leader gender. Further, for female leaders, degree of femininity and masculinity was not related to raters’ effectiveness ratings. However, exploratory analyses indicated a significant positive relationship to exist between raters’ effectiveness ratings of female leaders and total time female leaders spoke. A significant inverse relationship was found between raters’ effectiveness ratings and frequency of speech initiations used among female leaders. Significant correlations between male and female leaders’ self perceived effectiveness ratings and self perceived gender roles
were found. Specifically, masculinity was positively related to female leaders self perceived effectiveness while femininity was negatively related to male leader self perceived effectiveness. Overall, the results of the current study were not consistent with social role theory and role congruity theory. Implications for organizations and women’s career development are discussed. Limitations and suggestions for future directions in research are presented.
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CHAPTER 1

INTRODUCTION

Women are expected to constitute approximately 48% of the labor force in 2008 (Bureau of Labor Statistics, 2000). Only 12.4% of top Fortune 500 companies are led by women; and only 13% of U.S. senators are women (Catalyst, 2001). Research has also shown that women who entered management positions in the 1970’s were not advanced as quickly or as far as males entering the same position (Heilman, 1995). This growing number of women in the workforce may appear to represent a push beyond the glass ceiling. However, when actually looking at women in positions of leadership and upper management; statistics show that women experience a disadvantage in comparison to men. While the number of women entering managerial positions has increased, women are still underrepresented in upper levels of management.

When looking at the number of women in managerial positions, internationally, an even poorer picture emerges. According to the International Labor Organization report in 1998, the percentage of women in managerial positions did not exceed 20 percent. Furthermore, women comprised even fewer of those positions in upper level management (“Women in Management”, 1998). Compared to their counterparts in the United States, women in other countries, such as Germany, Japan, China, and the United Kingdom, possess a significantly lower number of middle and upper management positions. According to Davidson (1989), 20% of managers and administrators in the United Kingdom were women. Furthermore, the majority of these occupations were traditionally feminine in nature, such as catering and retail. Though they constituted 40% of the workforce, the number of women in management positions (8%) was also low in Japan (“Unequal Race,” 1993; “Women in Japan,” 1992). Those women who worked in large corporations were often clerical workers who served tea to businessmen (Rosenfeld &
Kallenburg, 1990). These numbers suggest that while a minority of women may hold managerial positions, most women are placed in subordinate positions. Therefore, men continue to hold higher positions of influence in the workplace. Despite the fact that reports show more women are entering the workforce, they do not suggest that gender equality has occurred. The small number of women in management, not to mention upper management positions, indicates little change has occurred in the gender composition of the upper echelons of organizations (Carli & Eagly, 2001).

In order to understand why women have encountered difficulties in advancing into upper levels of management, a variety of theories have been explored (Aguinis & Adams, 1998; Eagly, 1987). The theories concerning differences in perceptions of female and male leaders are important in understanding the difficulties that women experience as they move into upper managerial positions. Much of the research, however, is equivocal due to diverse methodologies utilized among the studies. For example, such studies have involved leaders self perceptions of their own leadership ability (Karlins & Hargis, 1988; Stoker & Van der Heijden, 2001), subordinate ratings of leaders, which is the most common source of leader ratings (Korabik, Baril, & Watson, 1993; Maher, 1997; Yoder, 2001), and third party ratings of leaders (Carli, 1999, 2001). Before exploring these issues, an explanation of the differences between gender and sex as well as definition of leadership and leadership effectiveness will be discussed. Discussing these issues will aid in understanding the difficulties in analyzing perceptions of female leaders as well as why they experience more obstacles as they enter higher positions of power.

**Gender versus Sex.** It is important to note the differences between sex and gender while exploring leadership and leadership effectiveness. The term sex refers to one’s biological sex (i.e., male or female) not gender behaviors, while gender usually refers to words that represent
stereotypical descriptions of behaviors such as feminine, masculine, and androgynous (Bem, 1974; 1981). Bem’s (1974) evaluation of such roles measures masculinity and femininity as independent traits that are desirable to possess as a woman or a man in American culture. Those who are high in both masculine and feminine traits are considered androgynous while those who are low in both of these traits are considered undifferentiated (Bem, 1981). This distinction has been found to matter. Differences in leader emergence have been found when measured by gender (Kent & Moss, 1994; Kolb, 1997) however have not been found when measured by sex (Kolb, 1999). For example, individuals who were classified as masculine or androgynous were more likely to be chosen as preferred leaders compared to those who were classified as feminine or undifferentiated. Furthermore, androgynous and masculine individuals scored significantly higher on measures of leadership attitude and experience than feminine and undifferentiated individuals. Masculine individuals were found to score higher on a measure of self-confidence than feminine and undifferentiated individuals (Kolb, 1999). Kent and Moss (1994) as well as Eagly, Karau, and Klonsky (1992) found similar results suggesting that the distinction between sex and gender is important to consider when investigating gender bias. Therefore, the current study will examine both the relationship of both gender and sex to objective and subjective perceptions of leadership.

Leadership and Leadership Effectiveness. In order to understand the differences between perceptions of female and male leaders, an understanding of the definitions of leadership and leadership effectiveness is needed. The term leadership often refers to “personal characteristics and attributes required of those at the top” (p. 648) (Fletcher, 2004). Hollander and Jullian (1969) state that a “leader provides a resource in terms of adequate role behavior directed toward the group’s goal attainment, and in return receives greater influence associated with status,
recognition, and esteem contributing to legitimacy in making influence assertions and in having them accepted (p. 388).” Further, the term leadership also encompasses effectiveness since behaviors deemed most effective are often considered characteristic of leadership. Leadership effectiveness regards objective performance (e.g., highest sales of the month, highest increase in production) and/or subjective perceptions of a leader’s behavior. Specifically, leadership effectiveness is defined as a leader’s overall ability to lead successfully and is often measured by opinion questionnaires completed by leaders, subordinates, supervisors, or third party observers. It has also been defined as a “positive leader and follower satisfaction, enhanced group and individual performances, and unit cohesiveness” (p. 816) (Yoder, 2001).

Classic studies on styles of leadership described those that were considered agentic or communal. The more agentic styles of leadership were also termed task-oriented and focused on accomplishing a goal by organizing relevant tasks and specifying how work would be done. On the other hand, communal styles were enveloped in a style described as being interpersonally orienting. This referred to leader behaviors that were concerned with creating and maintaining interpersonal relationships by actively encouraging morale and welfare (Bass, 1990). Other styles that have been investigated in the literature relate to democratic and autocratic styles of leadership. Democratic leadership includes the involvement of subordinates in decision making while autocratic styles discourage subordinates from involvement in decision-making.

Transactional and transformational leadership styles were proposed by Burns (1978) in response to his belief that the previous descriptions of leadership failed to include important aspects of leadership. According to Burns, transactional leadership is characterized by behaviors that clarify subordinates’ responsibilities and response to how well they follow through with such tasks. Transactional behavior often involves contingent rewards (providing appropriate
rewards if goals are achieved) and management by exception (intervening before a problem occurs out of its anticipation or correcting a problem) (Bass, Avolio, & Atwater, 1996).

Transactional leaders may be active or passive in their management. Active transactional leaders monitor subordinates for mistakes while those that are passive wait for these mistakes to be brought to their attention before they intervene (Burns, 1978). Another distinguished area of leadership is laissez-faire in which leaders do not take responsibility for leading. They also avoid providing direction and encouraging development of subordinates (Powell & Graves, 2003).

Transformational leadership is characterized by behaviors that are utilized to motivate followers to go beyond their own self-interests to better the organization. This is done by creating performance standards that are very high and training subordinates to obtain such goals. This type of leadership is often considered in terms of four variables including: 1) charisma (displaying behaviors that set up subordinates to see the person as a role model by communicating the importance of the goal), 2) inspirational motivation (demonstrating optimism and enthusiasm about the goal), 3) intellectual stimulation (encouraging subordinates to question assumptions and use new perspectives to aid problem solving), and 4) individual consideration (focusing on the development of subordinates and attending to their individual needs).

Though gender roles are not directly linked to transformational, transactional, or laissez-faire styles of leadership, they appear to have an association with specific gender role characteristics (Eagly & Johannesen-Schmidt). As Yoder (2001) emphasized, given the qualities that define transformational leadership it is easy to think of it as a more feminine-related type of leadership. However, research investigating successful transformational leadership has often utilized or focused on male leaders, such as United States presidents (Conger, 1999; Fiol, Harris, & House; 1999). Yoder suggests that this research often implies that behaviors described as
transformational are deemed appropriate for men as well as women. However, women who display transactional behaviors are viewed as less effective than men who display transactional leader behaviors. Yoder proposes that female leaders are more likely to be freed from criticism they are expected to endure in masculine contexts (e.g., military) when they work in contexts that welcome and accept transformational leadership behaviors (e.g., nursing). Therefore, in accepting work situations transformational leadership behaviors exhibited by women should be viewed to be as effective as men who display similar leader behaviors. In fact, these transformational female and male leaders have been found to be more favorably assessed than those who did not display such behaviors by subordinates in transformational accepting environments (Druskat, 1994). Overall, leadership, itself, appears to restrict women’s behaviors but not men’s behaviors. Men do not appear to be considered less effective if they display either transactional or transformational behaviors; however, women appear to be considered less effective if they display transactional behaviors, especially in nonaccepting environments.

Research regarding leadership suggests that there is a gender effect on leadership; the term leadership has a bias associated with it (Bass, 1990; Kolb, 1997; Yoder, 2001). This bias typically favors men and the masculine gender role (Brenner, Tomkiewicz, & Schein, 1989; Collins, 2000; Powell &Butterfield, 1979; Powell, Butterfield, & Parent, 2002; Schein; 1973; Schein, Mueller, & Jacobson, 1989). Powell, Butterfield, and Parent (2003) compared perspectives of undergraduate and part-time business graduate students across three time periods, 1976-1977, 1984-1985, and 1999. The authors anticipated that the 1999 students would have less preference for masculine characteristics when describing a good manager than their peers in previous years. Over the time periods, the percentage of students who described a good manager as masculine decreased. However, a larger proportion of the students still described a good
manager as being masculine compared to those students who described a good manager as being feminine. Interestingly, a good manager was described as feminine by only a small percentage of female and male undergraduate students (8.5% and 4.5% of 206 students, respectively) and female and male graduate students (0 and 3.8% of 142 students, respectively). The results suggested that a good manager was perceived as having predominately masculine traits.

Research involving perceptions of actual workers has also found leadership to be associated more with masculinity than femininity. Brenner, Tomkiewicz, and Schein (1989) investigated perceptions of male and female managers in four different manufacturing and four different service companies in the United States and found a significant difference in their perceptions regarding characteristics ascribed to successful middle managers using Schein’s (1973) Descriptive Index (SDI). The SDI consists of 92 terms that participants rate on a 5 point scale, which was developed to define sex role stereotypes (gender roles) and characteristics of successful managers. According to the male manager’s responses, a significant and strong correlation was found to exist between men in general and successful managers. However, a significant correlation was not found between the men’s ratings of women and successful middle managers. When the female managers’ perceptions were considered, however, they did not view successful managers as having characteristics more commonly associated with men compared to women.

Schein’s (1973) findings, as well as results from other investigations conducted in the United States (e.g., Brenner, Tomkiewicz, & Schein, 1989; Schein, Mueller, Jacobson, 1989) were also found when investigated in other countries. Schein and various colleagues took an international approach in order to understand the association between the characteristics of successful middle managers and men and women in various countries including the United
Kingdom (Schein & Mueller, 1992; Schein & Davidson, 1993), China and Japan (Schein, Mueller, Lituchy, Liu, 1996), and Germany (Schein & Mueller, 1992). These studies employed the same methodology Schein utilized in the original 1973 study. However, college students were asked to participate instead of actual managers. Among male management students at various universities in each of these countries, a significant and high correlation between men and successful managers was found. There was no correlation between ratings of women and successful managers according to the male students’ responses. The female college students had a similar view to their male counterparts when considering males and managers. However, a difference was found when assessing their views of females and managers. The results from women in Japan and China indicated an almost zero correlation between women and managers, while those in the United Kingdom were moderate. Nevertheless, the correlations concerning the women’s ratings between women and managers ($r = 0.31$) were significantly smaller than those concerning men and managers ($r = 0.60$).

Schein (1994) investigated the specific characteristics associated with men, women, and successful managers among the United States and five other countries stated above. Among men, characteristics most associated with successful management were leadership ability, ambitiousness, competitiveness, desiring responsibility, competency, being skilled in business matters, and analytical ability. The items most associated with successful management for women were leadership ability, competency, promptness, skilled in analytical ability and business matters, and being well informed. The ratings of men and women in general were then compared with characteristics associated with successful managers. Among the male undergraduate students, men were rated significantly higher than women on six of these items, except competency. The female undergraduates rated women lower than men on the
characteristics they associated with a successful manager, though differences did exist between
the ratings of the women depending country of citizenship. Overall, the research provided by
Schein suggests that an overwhelming stereotype and unfavorable attitude toward women in
leadership exists, especially among men. Furthermore, while there may be differences in the
characteristics that are perceived to be associated with successful managers, a successful
manager is often considered to be male.

Early studies indicated that males are considered to possess traits that are associated more
with the idea of effective leaders than females (Powell & Butterfield, 1979; Schein, 1973).
Current research supports this association as well (Cejka & Eagly, 1999; Collins, 2000). In a
comparison of adjectives describing typical female/male college students, guards and prisoners,
Collins (2000) found males were rated as more dominant than females. Furthermore, women
were rated more similar to prisoners than men, but not more subordinate. It is possible that the
guard positions reinforced perceptions of males as dominant because of the masculine nature of
the job’s duties. Deal and Stevenson (1998) also presented a group of undergraduate students
with a similar task. They asked a group of undergraduates to rate prototypically successful
managers. Men assigned more negative characteristics (e.g., bitter, easily influenced, timid) to
the female manager than women. The women assigned more positive characteristics to the
female manager, such as assertive and helpful. Male managers were also described in positive
terms (e.g., creative, social, and persistent) by both females and males, but females were more
likely than males to describe the male manager as dominant.

Cejka and Eagly (1999) examined gender stereotypes as they related to occupational prestige
and success. While feminine characteristics were perceived as least important to general
occupational success, female personality and physical characteristics were considered more
important for success within occupations considered to be feminine. Masculine traits were associated with occupational success, regardless of the sex of those who typically dominate a particular occupation. Higher prestige and earnings were also significantly attributed to masculine personality and cognitive traits. Overall, masculine traits were attributed to occupational prestige, power, and success significantly more often than feminine traits (Cejka & Eagly, 1999). As suggested by various researchers (Brenner, Tomkiewicz, & Schein, 1989; Collins, 2000; Powell & Butterfield, 1979; Schein, 1994), leadership can be characterized as highly masculinized by the use of stereotypically masculine tasks that are evaluated by goal attainment as well as using power over others. These behaviors are often described as agentic and are deemed as appropriate for men and typically inappropriate for women (Street, Kimmel, & Kromrey, 1995).

The view of leadership as a masculine term makes women less likely to be perceived as effective leaders or even to be considered for leadership positions. These general beliefs about leadership may prompt stereotypes to be used such that women and men to take on their prescribed gender roles (males in the leading role and females in the following role), which in turn may lead to greater expectations that women and men will occupy these stereotypical roles (Gerber, 1988). Additionally, stereotypes and expectations about women and men’s gender roles may impact their self-perceptions when they act as leaders. Overall, perceptions of female leaders and how they actually perform play an important role in creating opportunities for females in leadership positions. In order to be considered as effective leaders, women must be viewed as those who can influence and motivate others. However, gender biases are obstacles that can prevent recognition of women for their achievements and abilities (Heilman, 1983; 1995; 2001; Heilman, Block, & Martell, 1995). Subsequently, they can be denied opportunities
for access to positions of authority and leadership. Being perceived as a leader is a relevant step for females to demonstrate their contributions and move from unofficial leadership roles into positions of more authority (Kolb, 1997). Eagly (1987) conceptualizes this idea of gender bias with social role theory.

**Social Role Theory.** A theory that attempts to explain and predict people’s perceptions of leadership effectiveness is Eagly’s (1987) social role theory. According to this view people are expected to participate in activities that are consistent with their defined gender roles. The diverse roles that men and women engage in society can create different stereotypic beliefs and expectations for them (Aries, 1996). Due to cultural expectations that are externalized and internalized about one’s gender, as well as the need to be considered socially desirable, people are likely to act in ways that are consistent with their defined gender roles. From this view, women are typically expected to be expressive and concerned with interpersonal relations between participants while men are expected to be assertive and directive.

**Role Congruity Theory.** Social role theory emphasizes the importance of the context of gender roles and their significance in furthering men and women’s differences in behavioral display. Role congruity theory furthers social role theory by considering the congruity between gender roles and leadership roles along with the specific factors that influence perceptions of congruity and their associated prejudicial consequences (Eagly & Karau, 2002). Eagly and Karau (2002) indicate that the potential for prejudice that female leaders face is due to the dissimilarity between expectations about the female gender role and expectations about typical leaders. They indicate that people generally hold dissimilar beliefs about women and leaders and similar beliefs about men and leaders, which has been exemplified in studies such as Schein’s (1973, 1975, 2001) involving students and managers perceptions of men, women, and successful middle
managers, which were previously described. These studies found significant relationships between perceptions of men in general and successful middle managers while perceptions of women in general and successful managers were almost zero or low, especially for male raters.

Since dissimilarities in beliefs exist between women and leadership, Eagly and Karau (2002) propose that female leaders potentially face two forms of prejudice. They suggest that one form is based on descriptive norms about gender roles; these involve expectations about what a group actually does. When applied to women in leadership positions, descriptive norms involve beliefs about characteristics associated with women and consequent female stereotypical qualities ascribed to them. The second type of prejudice stems from injunctive norms of gender roles, which involve expectations about what people, ideally, should do. When women violate descriptive norms by taking on a leadership role and then fail to exhibit transformational and communal behaviors, they can be negatively evaluated. Therefore, women in leadership positions face two different threats. If they conform to their gender role they are not likely to meet the requirements of the leader role. If they conform to the leader role they are failing to meet the requirements of their gender role. The authors suggest that different moderating variables can lessen the form of prejudice that female leaders experience, such as becoming a woman who takes on a leadership role in a feminine context (e.g., nursing, social services, and education versus the military).

In accordance with social role and role incongruity theory, negative perceptions and stereotypes might be reduced for women in leadership positions by lessening the degree of role conflict between the feminine gender role and leadership position as well as taking on more feminine leadership styles. Certain leadership positions may be considered more feminine or androgynous in nature, therefore possibly lessening the impact of negative perceptions of these
leaders. For example, Yoder and Schleicher (1996) investigated undergraduates’ perceptions of a male and female at the top of their nursing or medical school class. Additional occupations such as day care provider, electrician, and electrical engineer were added to the study. Participants were asked to write a story about the main character as well as rate him or her on personal attributes and social acceptance. Consistent with social role theory, results indicated that the females in gender congruent jobs were rated as more attractive, responsible, and likeable compared to women in occupationally incongruent occupations. Interestingly, this was not found for the men in gender incongruent occupations. Though the men in gender incongruent jobs were considered and classified as more feminine than those in gender congruent jobs, they were not rated more negatively on personal attributes or social acceptance (Yoder & Schleicher, 1996). Social role theory, therefore, only partially explained the results, as the men were not held to the same stereotypical standards as their female counterparts. Role congruity theory would, however, would allow for further explanation because men do not differ from the descriptive norms of leadership, while women do.

Role conflict may also be reduced by female leaders taking on fairly feminine leadership styles that would fit people’s expectations about socially acceptable female behaviors (Eagly, 1987; Eagly & Karau, 2002; Eagly & Johnson, 1990; Eagly, Makhijani, & Klonsky, 1992). When examining the literature concerning evaluations of female and male leaders presenting the same leadership behaviors, Eagly et al. (1992) found that female and male leaders were both favorably rated when they displayed leadership styles considered stereotypically feminine. These behaviors were described as being democratic or interpersonally related. However, a difference emerged between the ratings of male and female leaders when they displayed leadership behaviors that were considered stereotypically masculine. The male leaders were rated more
favorably than the female leaders when displaying autocratic and directive leadership styles. Furthermore, female leaders occupying male dominated positions (e.g., military leaders), who were viewed as autocratic and directive, incurred greater devaluation, especially when evaluated by men (Eagly et al., 1992).

A leader can be perceived very differently depending on the gender congruency between her behaviors and the context in which she is involved (Eagly, Karau, & Makhijani, 1995). Social role theory and role incongruity theory both suggest that women face more critical evaluations and less social acceptance if they display behaviors considered more masculine in nature, especially in contexts that are considered to be masculine (Eagly et al., 1992; Eagly & Karau, 2002; Yoder & Schleicher, 1996). Men, however, do not face similarly harsh evaluations when demonstrating behaviors considered more feminine in nature or when described as leaders in “feminine” contexts. Apparently a double standard exists that perpetuates a less flexible idea of effective leadership for women. When women are leaders in contexts that are considered stereotypically feminine (e.g., nursing), they receive more positive evaluations than women who are leaders in contexts considered to be stereotypically masculine in nature (e.g., doctor). When women display behaviors that are inconsistent with acceptable gender roles and are in contexts considered to be masculine, they have apparently violated two sets of stereotypical beliefs (women display more communal, interpersonal, democratic leader behaviors and men are leaders). These expectations and stereotypes are likely to mediate negative preconceptions that can impact women’s own self perceptions and negatively affect their actual performance as leaders in the form of a self-fulfilling prophecy (Eagly, 1987). However, women who view themselves as masculine may feel more confident in their abilities since they may view themselves to be more congruent with the leadership position than feminine females. The next
section explores self perceptions of female and male leaders in an attempt to understand the influence of these perceptions on actual leader behaviors and the effectiveness ratings they receive.

**Leader Self Perceptions.** Self ratings are important as they may provide insight into the evaluations of others. For example, if men view themselves as competent in certain areas, they may generalize this information to other males. Swim and Sanna (1996) conducted a meta-analysis on attributions of successes and failures concerning male and female leader behaviors, which may help explain why women rate their own abilities more critically than men do. They found that men and women attributed men’s successes to stable causes of ability while women’s successes were seen as an unstable cause of ability and motivation, suggesting that women were not seen as being consistently able to perform well in masculine contexts. When failures on masculine tasks were examined, women and men attributed men’s failures to unstable causes of low effort (e.g., the male leader was not feeling well the day he led the group, therefore he did not contribute as much to the group as he would if he were healthy). However, they considered women’s failures to be due to a stable lack of ability, indicating that women, as well as men, viewed women as less effective leaders.

Gender differences may follow from such self-ratings and impact supervisor and/or subordinates ratings of leader effectiveness. Therefore, gender role stereotyping in regards to leader self perceptions may impact leader performance as well as advancement (Powell, 1999). Lewis and Fagenson-Eland (1998) found that male managers in a Federal government agency rated themselves as being higher in initiating structure behaviors (e.g., aggressiveness, high self confidence, and low emotionality) than female managers in the same agency. Specifically, leader gender was found to be the only independent variable among four other variables (age,
education, number of years in the organization, and their particular professional field) that accounted for a significant amount of variance in the leaders’ self ratings. The authors suggest that the leaders perhaps were using gender role stereotypes when rating themselves on such behaviors such that initiating structure behaviors were considered positive when associated with men, masculinity, and leadership. However, these same behaviors may be considered less attractive among women leaders, which could have contributed to their lower self ratings regarding initiating structure behaviors.

If gender impacts how one rates herself with regard to the kinds of leadership behaviors she exhibits, it may also affect how effective she views herself to be as a leader (Karlins & Hargis, 1988; Stoker & Van der Heijden, 2001). In general, women have been found to rate their leadership abilities more critically than males (Bennett, 2000; Furnham, 2002; Heilman, Simon, & Pepper, 1987). An investigation conducted by Heilman et al. (1987), regarding a merit based manipulation among undergraduate women and men, found gender differences in self perceived effectiveness. When women and men, who were either told they were appointed as leaders due to merit or preference, were asked to evaluate their performance as leaders on a communication task, differences emerged for the women but not for the men. Specifically, women who were told that they were appointed as leaders because there were not enough females signing up for the experiment (preference condition), apparently devalued their ability as a leader, took less credit for successful outcomes, reported less interest in continuing as the leader, and characterized themselves as lacking general leadership skills. Their female counterparts, however, who were told they were appointed leaders because of their excellent performance on the task, rated themselves on the aforementioned attributes significantly more positively than the females in the preference condition. Such a discrepancy was not found when comparing the males in the merit
and preference conditions, suggesting that women were more affected by the experimental manipulation.

A variety of explanations may be related to the results of the study. One possible explanation may be that the college women were less secure in the leadership role than actual female leaders, thus they may have been more susceptible to the manipulation. Perhaps the women in the preference condition were less confident about their ability to lead than those in the merit based condition because of the ambiguity of situation and lack of affirmation of their abilities. Since the women in the preference condition were not given information that disconfirmed possible thoughts that they were not effective leaders, they then could have continued to ascribe to the view that they lacked ability to be effective leaders. As Swim and Sanna (1996) found, women were significantly more likely not to attribute their successes to stable internal abilities, which may contribute to them seeing themselves as ineffective leaders. However, given that leadership is often seen as masculine in nature, the males could have been more comfortable with the leadership position, regardless of being appointed as the task leader due to merit or preference.

Furthermore, female leaders tend to be more gender stereotypical than men in their self-ratings (Furnham, 2002; Lewis & Fagenson-Eland, 1998; Mayo & Christenfeld, 1999). This suggests that female leaders may view themselves as deviant from the female gender stereotype when they take on leadership positions. As a result of more stable internal attributions to failures as leaders as well as gender role stereotypes, an increase in more critical self-evaluations among female leaders would be expected. Lewis and Fagenson-Eland’s (1998) findings seemed to accommodate this suggestion as they found a significant difference between men and women’s evaluations of their own leader behaviors. Males rated themselves significantly higher on the
attributes of leader structure behaviors (e.g., low emotionality, aggressiveness, self confidence) than females. Interestingly, females did not describe themselves as high in consideration behaviors (e.g., emotionality and nurturance) and did not attribute this characteristic to their own gender. Perhaps these women were attempting to identify with the stereotypical aspect of a leader, which was in contrast to their own gender roles. By not identifying with stereotypical gender roles, they may have viewed themselves as more congruent with the leadership position.

When examining undergraduates perceptions of themselves as a powerful person in general and in specific powerful roles (i.e., CEO, political leader, or important research center director), Lips (2000) found that females rated all roles as less positive and less possible to attain than did males. The specific roles appeared to require more stereotypical masculine abilities and may have been considered congruent with masculine roles and incongruent with their gender, which seemed to impact the women’s ratings of themselves as less powerful. However, they even considered any general powerful role as difficult to attain, which seems to suggest they equated power with masculinity. Unfortunately, Lips (2000) did not provide specific powerful occupations considered to be more feminine in nature, such as nursing or social work, which may be more congruent with acceptable stereotypical feminine leadership positions.

Men’s higher ratings of themselves as leaders when compared with women suggest that social norms and stereotypes do influence both self and others evaluations, as would be expected according to role congruity theory as well as social role theory. This information suggests that women are more likely to exhibit overly critical self perceptions of their own leadership abilities than men. Further, gender roles may moderate how women view themselves as leaders. By viewing themselves as masculine, they may feel more comfortable in the leader role and may see themselves as more effective than women who ascribe to more traditional gender congruent
views. The way a person views herself affects how she behaves and how she views others behaviors. The next section will investigate actual leader behaviors that men and women exhibit along with characteristics of these behaviors that are attributed to their gender.

**Leadership Style.** Research concerning leadership effectiveness has primarily utilized subjective ratings and opinions of subordinates and third party raters to judge the overall abilities of leaders (Lewis, 2000; Lucas & Lovaglia, 1998). Perceptions of female leaders often reflect leadership styles in terms of stereotypes. This suggests that stereotypes and not actual objective standards are often used when evaluating the effectiveness of leaders. Therefore, one may question whether subjective evaluations regarding female leaders as less effective than male leaders are correct. Do women actually perform differently or less effectively than men in leadership positions or are they only perceived as less effective? Leadership styles are often described in terms of stereotypical behaviors that are expected to be displayed by women and men who lead.

Stereotypical male leadership behaviors are often described as being autocratic, agentic, directive, and task-oriented which actually involve behavioral displays of assertiveness, independence, dominance, and directed toward goal attainment. In contrast, stereotypical female leadership behaviors are often described as democratic, communal, and interpersonally oriented which actually involves expectations of communality, friendliness, and collaboration (Bass, 1990; Bass & Avolio, 1992; Cann & Siegfried, 1990; Eagly & Johnson, 1990). Gender bias does not only affect other’s perceptions of male and female leaders, but can lead to a self-fulfilling prophecy that can influence the way women and men lead (Gerber, 1988). Furthermore, since men and women leaders are often viewed as different from each other, based on self evaluations,
subordinate and third party ratings, one might anticipate that there are actual differences in the way they lead.

The literature concerning the actual styles of leadership exhibited by women and men is mixed (Bass & Avolio, 1992; Eagly & Johnson, 1990; Gibson, 1995; Kelly, Hale, & Burgess, 1991; Thompson, 2000; Van Engen, Van der Leeden, & Willemsen, 2001). Thompson (2000) did not find gender differences in behavioral displays of leadership among educational leaders as reported by their subordinates. Van Engen et al. (2001) also did not find differences in leadership behavior given shop assistants ratings of their managers in various department store shops. Further analysis also revealed that there was not a significant effect of gender or gender typing of the department on any of the leadership styles. Since the authors did not directly investigate the leaders’ perceptions of their actual exhibited behaviors, the findings are limited. However, Van Engen et al. argue that self reports tend to be more stereotypical than behavioral ratings given by others. They mention that a few studies (Eagly & Johnson, 1990; Korabik, Baril, & Watson, 1993) have found that female leaders describe their leadership styles as more feminine than others do. Van Engen et al. did not compare the behavioral ratings of subordinates to self reports of managers; therefore their study is limited in regard to this information. Further, they did not actually investigate the actual behaviors of the managers to clarify if there was a difference in styles of leadership behaviors exhibited by male and female managers.

Gibson (1995) investigated gender differences in leadership behaviors across four different countries and found that women and men did not differ on many dimensions of their self reported leadership behaviors and styles. The majority of the men and women were mid-level managers who had occupied their positions for one or two years. All managers were given the Leadership Effectiveness Questionnaire (Flamholtz, 1986) which measures the emphasis a
leader places on five behavioral (goal emphasis, interaction facilitation, work facilitation, supportive behavior, and personnel development) and six leadership style dimensions (autocratic, benevolent autocratic, consultative, participative, consensus, and laissez-faire) and was developed to be used in corporate settings. The differences that were found were based on men placing greater emphasis on setting goals while women were found to emphasize facilitation of interactions, which reflects congruity of the leaders with their gender roles.

Kelly et al. (1991) found significant differences in the leadership styles of men and women who were managers, when directly investigating the leaders’ self ratings. They found that the men’s behaviors fell into categories including characteristics such as dominance, assertiveness, competitiveness, and persuasiveness. The women exhibited behaviors that involved characteristics of ambitiousness, creativeness, trustworthiness, and friendliness. Similarly, in Eagly and Johnson’s (1990) meta-analysis, men were described as having more task-oriented leadership styles than women, while women were described as having more interpersonally oriented leadership styles. Overall, the men and women in Kelly et al. study seemed to be identifying with behaviors that were congenial to their gender roles.

Yoder, Schleicher, and McDonald (1998) investigated, transcribed, and coded actual leader behaviors of women, under various conditions of credibility, while leading groups of men to complete the Lost on the Moon task. They utilized Carli’s (1990) descriptions of various verbal behaviors exhibited by leaders such as number of disclaimers, tag questions, intensifiers, and number of times the leader interrupted the group to code differences in leader behaviors. The authors found that use of tag questions and number of interruptions were used significantly more by trained leaders than credibly trained leaders. Though Yoder, Schleicher, and McDonald (1998) investigated the actual behaviors of the leaders, they did not investigate the relationship
between these specific behaviors and leaders’ identified gender role as well as self perceived effectiveness, which would aid in the analysis of gender stereotypes and the impact of these on leader behaviors. Furthermore, they only utilized female leaders and all male subordinate groups, therefore limiting the implications of the study to specific types of female-led groups.

Research on the leadership styles of men and women also has found that exhibited behaviors may differ depending on whether interactions occur within same sex or opposite sex interactions. Carli (1990) investigated gender differences in verbal behaviors among male and female mixed-sex and same-sex dyads. Participants were asked to rate their agreement or disagreement on certain topics (i.e., drinking age should be lowered to 18 in Massachusetts or the federal government should provide free day care services to parents who work), which the author had previously investigated and found to be neutral to both sexes with regard to their interest, knowledge, or opinion. The dyads were randomly paired except for the fact that they were to found to disagree on both topics. In the dyads, women were found to use significantly more tentative language (e.g., hedges, disclaimers, and tag questions) when they were paired with men than when they were paired with women. Carli suggests that tentative language may serve a positive function for women when they interact with men. According to Meeker and Weitzel-O’Neil (1977), women are expected to be less competent as well as display noncompetitive behaviors because dominant behaviors may be considered attempts to gain influence or status. Therefore, the women in the study may have used tentative language as an indirect strategy to have influence in the discussions.

Use of interruptions was also investigated by Carli (1990). Interruptions were considered to be masculine behaviors and expected to be exhibited more by men as well as to be successfully used more by men than women. However, results indicated that men did not
interrupt more than women and were not more successful in their use of interruptions. Carli suggested that gender differences did not emerge in interruptions because the subjects did not know one another well and did not have time to get to know one another. Further, the author considered the task to be formal, which may have decreased the amount of interruptions. A leader was not appointed among the dyads nor was a goal given to them (e.g., try to convince the other person of the dyad of one’s own opinion), which could have led to a decreased use of interruptions as each person may have not felt that they needed to convince the other person or come to some kind of conclusion as part of the task.

Dindia (1987) investigated the effects of sex of subject and his/her partner on the frequency of various kinds of interruptions in interactions among same-sexed and mixed-sex dyads. The dyads were asked to talk for thirty minutes and were not given a topic to discuss. Dindia found that men did not interrupt more than females. However, more interruptions were made in opposite sex dyads than same sex dyads. Women were found to use assertive interruptions as much as men; however, men were found to use more disconfirming interruptions than women in mixed sex dyads. Also, women and men were found to use agreement interruptions more in mixed sex than same sex dyads. Dindia suggested that interruptions did not serve as a function of dominance nor did males have higher dominance or status in the interactions than the women in the dyads due to the results. The unstructured nature of the task could have contributed to the lack of significant findings regarding number of interruptions made. Further, Dindia did not address the increased number of disconfirming interruptions made by males in mixed sex dyads. These types of interruptions consisted of tangentialization interruptions, which involved minimization of the speaker’s message, as well as subject changes, which included no awareness of the initial speaker’s message along with no common theme with
the speaker’s message. These types of interruptions seem to indicate a type of dominance being displayed among the male subjects. This kind of dominance would be considered consistent with male gender roles as well as male defined leadership, which was found in Lewis and Fagenson-Eland (1998) whereby men rated themselves significantly higher than women on leader behaviors considered aggressive that had low emotional tone. Unfortunately, both Dindia as well as Carli (1990) used dyads, which limits the findings as they cannot be generalized to larger groups, which may further impact the leader behaviors of women and men.

Carli (2001) suggests that contextual factors should also be considered when investigating leader behaviors. She suggests that the number of women and men in a group as well as the type of task can influence the types of behaviors that are exhibited by leaders. Karakowsky, McBey, and Miller (2004) investigated that influence of proportional representation of men and women as well as gendered tasks on verbal interruptions. They placed participants into one of three groups: male dominated (five males, one female), female dominated (five females, one male), and balanced (three men and three women). The authors also varied the gender of the task by asking the groups to discuss both a female and a male stereotyped task. The male stereotyped discussion involved participants to come to an agreement on a vignette about a “hard nosed” business negotiation strategy about cars between two protagonists. The female stereotyped discussion was based on a scenario that involved negotiation of job responsibilities between two protagonists in which sexual harassment was implied. They attempted to control for identified gender roles by using participants BSRI scores as covariates. Results indicated that numerical majority men interrupted significantly more than numerical majority women. Though not significant, they found that there was a trend for numerical minority women to interrupt more than numerical minority men. The authors
suggested that the majority women may have interrupted less because they surrounded by a
greater number of women than men, therefore they engaged in behavior that was stereotypical
for their gender. The authors also suggested that women in the minority interrupted more
because they may have felt isolated from the numerical majority and were engaging in behaviors
that reduced feelings of powerlessness. Therefore, to fit in and feel more in control they may
have attempted to act in ways that fit with the majority.

A significant interaction between gender orientation of the task, gender of participant,
and numerical majority/minority status was also investigated by Karakowsky, McBey, and
Miller (2004). Number of interruptions significantly decreased for women compared to men as
they moved from engaging in gender congruent tasks in groups that were male dominated to
gender incongruent tasks in groups that were female dominated. Therefore, the gender
orientation of the task had a significant impact on number of interruptions for women, even when
they became part of the numerical majority. According to role congruity theory, gender roles
have a powerful impact on behavior even with a competing leadership role. The women in this
study appeared to be more negatively impacted as the discrepancy between the gender
orientation of the task and their gender roles increased. However, the participants were not
placed into groups with a designated leader, which limits the findings as they apply to actual
leaders and their behaviors. However, it can be implied that women’s behaviors may be impacted
more by their prescribed gender roles. As women engage in tasks that increase the saliency of
their gender role and are increasingly discrepant from their gender role, the amount of power
displays (e.g., interruptions) they utilize may decrease.

Though studies are equivocal about differences existing between the way men and women
lead, examination of their objective performance can aid in identifying if any of these differences
impact how effective they actually are as leaders. Kaminski, York, Enkey, & Bowers (2002) as well as Rivero (2003) actually set out to investigate objective leader effectiveness of men and women leaders. Objective scores were obtained by finding the difference between individual group members scores and group score, as led by a female or male leader, on the “Lost on the Moon” group survival task (Hall, 1971). While Rivero did not find a significant difference to exist between the male and female leaders’ objective scores, Kaminski et al. (2002) found female leaders to perform better objectively than their male counterparts. These studies, unfortunately did not examine specific leader behaviors to further examine whether the leaders actually displayed different behaviors, which may have been impacted by their identified gender role (e.g., masculine, feminine, etc.) as well as influenced self-perceived effectiveness.

Prescriptive and injunctive norms of leadership appear to affect leadership styles and leaders views of their leadership abilities. However, the association between the gender congruency of behavior and self-perceived effectiveness has not been examined, which would allow for greater understanding of the impact of these behaviors on effectiveness ratings. Nevertheless, studies have investigated the impact of gender and gender roles on subordinate and third party ratings, which suggest that women can be negatively impacted by others’ stereotypes about what they consider acceptable gender behavior as well as leadership behavior (Cooper, 1997; Korabik, Baril, & Watson, 1993). Since role congruity theory suggests that women face two threats of prejudice, they should face more prejudice than men in leadership positions, though the context can minimize or maximize such prejudice for women. The next sections will, therefore, discuss subordinate and third party subjective ratings of leaders as they relate to the devaluation of women in leadership positions as well as the differences that emerge based on the gender congeniality of the context.
Leader Behavior and Subordinate Ratings of Leader Effectiveness. Differences in women and men’s perceptions of leadership, in general, as well as self-perceptions of actually being leaders suggest that differences would exist when they view other men and women in leadership positions. The literature concerning subordinates’ views of their leaders indicates that differences do exist in men and women’s perceptions of whom they do and do not find effective (Korabik, Baril, & Watson, 1993; Pratch & Jacobowitz, 1996; Tata, 1998). However, these differences vary depending on the gender composition of groups rating the leader (Eagly, Karau, and Makhijani, 1995; Yoder, Schleicher, & McDonald, 1998), the gender of the leader and attitudes of the rater (Cellar, Sidle, Goudy, & O’Brien 2001; Hutchinson, Valentino, & Kirkner, 1998), as well as the context of the leadership position (Cooper, 1997). Eagly, Karau, and Makhijani (1995) reported in their meta-analysis of 88 studies that the percentage of men among leaders and subordinates impacted perceptions of leadership effectiveness not only for women, but for men too. That is, men were given more favorable effectiveness ratings compared to women when they were rated by other men and the leadership role was in a masculine context. These findings have been exemplified in studies with undergraduate students as well as subordinates in actual work settings (Hutchinson et al., 1998; Yoder et al., 1998).

Hutchinson et al. (1998) investigated the effect of supervisor gender on employees’ perceptions of their supervisors’ behaviors as well as commitment to the agency at which they were working. Commitment to the agency was measured with the Organizational Commitment Questionnaire (OCQ; Mowday, Steers, & Porter, 1979), which investigated employees’ felt loyalty to the organization, willingness to exert effort to achieve the organization’s goals, as well as willingness to accept the organization’s values. Regardless of the gender of the supervisors, the employees indicated that their female and male supervisors, who were rated high in both task
and interpersonal skills, were considered to have more positive effects on their attitudes toward the agency than those considered to have low consideration and initiating structure behaviors. However, a gender effect concerning the employees’ commitment to the agency was found such that those who worked for a male supervisor, who was rated high in initiating structure and consideration, were significantly more committed to the agency than those with female supervisors who displayed the same behaviors. The authors suggest that gender role expectations may have contributed to employee’s commitment ratings such that male supervisors were expected to be task oriented, which is also congruent with masculine and leader behaviors. Given that the male supervisor was also concerned about the employees was possibly considered additional “icing on the cake.” While female supervisors met the norms for acting in a way consistent with their gender role through their interpersonal orientations, they violated gender role expectations by displaying task oriented behaviors. Therefore, the task orientation of female leaders may have contributed to negative employee attitudes (lower commitment ratings). The authors mention that they did not record actual leader behaviors, which might have aided in identifying which behaviors were considered appropriate by the employees to have a better understanding of what behaviors influenced employee commitment ratings.

Tata (1998) discovered similar gender differences among nonmanagerial employees who were evaluating supervisors who had denied one of their requests. Differences between effectiveness ratings of nonassertive male and female managers were not found. However, assertive male managers were considered more effective than assertive female managers. Tata suggests that the unassertive male managers were not viewed unfavorably because their behaviors may have been viewed as reflecting politeness and “saving the face” of the employee, whose request they were denying. However, women who were assertive were rated more
negatively than assertive men because their behaviors were perceived as impolite and as devaluing the employee, which deviate greatly from the supportive and communal stereotypical behaviors that are expected of women. Given that the assertive women in Tata’s study were acting in a manner inconsistent with their gender roles and were placed in masculine type task, they were in fact in a position that highlighted the discrepancy between prescribed feminine gender roles and leader roles. Therefore, role congruity theory would expect that they would be rated as less effective than their male counterparts.

Others have found subordinates perceptions of male leaders to be negatively affected, when the male leaders display behaviors incongruent with their prescribed gender roles (Jago & Vroom, 1982; Korabik, Baril, & Watson, 1993). When investigating undergraduate students perceptions of leaders in a mock supervisory experience, male and female subordinates rated their leaders as less effective when they displayed gender incongruent behaviors (Korabik et al., 1993). Students were placed into groups with one supervisor and three subordinates and asked to role play a conflicting situation between the subordinates. The supervisor’s conflict resolution style was assessed and transcribed and the subordinates’ evaluations were investigated. Results suggested that men and women actually did not display different conflict resolution behaviors. However, women, who were perceived as displaying a dominating style, were rated by their subordinates as less effective than men displaying the same behavior. Additionally, men who used an obliging style were rated as less effective than women using the same style.

Lucas and Lovaglia (1998) also investigated undergraduates’ perceptions of male and female leaders and found that female leaders were rated as equally competent as the male leaders. Two studies were conducted with mixed-sex groups who were asked to complete either a masculine task (i.e., acting as jurors to reach a verdict in a trial with a randomly appointed
leader acting as a foreperson) as well as a feminine task (i.e., planning a Christmas party for an electronics company). Those members in the feminine task were told that the leader was chosen based on his or her scores on a word matching task given to all participants. They were told that those persons who scored the highest would be the best at facilitating consensus in the groups, which was actually a manipulation of the experiment. Those groups in the masculine condition were assigned randomly appointed leaders. After the tasks were completed, the group members were asked to evaluate their leaders. When data was combined across both studies, female leaders were perceived as competent as the male leaders. According to Schein (1994), men and women indicated that competency was associated with successful managers as well as with women. Given that Lucas and Lovaglia used competency as a means of measuring subjective perceptions of the male and female leaders effectiveness, it could be expected that both men and women would perceive women just as competent as men on both of the tasks. However, Lucas and Lovaglia’s results indicated an interesting finding such that the groups led by women rated their group’s performance significantly lower than those led by men. The authors suggested that these results may have been related to double standards in which certain circumstances require women to be held to higher standards than men (Foschi, 1992). Therefore, women can be considered equally competent to men according to minimum standards of comparison and less competent according to higher standards of comparison (Foschi, 1992; 1996). The authors suggested that lower evaluations of the groups led by females could possibly represent a “displacement of negative evaluations of female leaders” (p.633). Nevertheless, the information gleaned from Lucas and Lovaglia’s combined data from the feminine and masculine tasks should be interpreted with caution since they legitimized the leader position in the female task and not the masculine task.
Yoder, Schleicher, & McDonald (1998) attempted to overcome possible negative biases in males’ perceptions of female leaders through appointment, training, and credibility on evaluations of female leaders. While certain women were given training on a masculine task before introduction into a group, only half were told not to disclose this information. To give other leaders credibility, a male experimenter informed certain groups that the woman had received extra training. The appointed and trained leaders were rated as less effective in influencing behavior compared to the appointed, trained, and credible leaders. When a male legitimized a female’s abilities, the influence of negative gender incongruent stereotypes appeared to diminish. This may be due to the males associating dominance with the male experimenter, therefore leading to acceptance of the female leader’s position. Unfortunately, they did not investigate perceptions of male leaders and female subordinates as well as mixed gender groups. However, these results suggest that when women are given the necessary training and skills needed to aid others, male subordinates appear to be likely to require external sources of legitimacy and appointment to overcome prejudice of role incongruity of the female leader in a masculine task to perceive her as an effective leader.

Unfortunately, the previously discussed studies of Tata (1998), Korabik et al. (1993), and Lucas and Lovaglia (1998) did not investigate if differences existed between male and female raters’ evaluations of male and female supervisors. Eagly and Karau (2002) suggest that assertive behaviors exhibited by women are likely to be resisted and evaluated less favorably, especially by men because they are less likely to have experience with female managers. As a result, they are then more likely to have a restricted view of leadership that involves more masculine stereotypical traits than feminine or androgynous traits. In fact, gender differences have been
found when investigating evaluations of leaders by male and female raters. (Carli, 1990; Dinidia, 1987)

Carli (1990), who investigated various verbal behaviors among men and women in mixed and same sexed dyads, also examined how influential the men and women were given their communication styles. Participants were asked to rate their opinion on a topic before as well as after their discussion with their partner. Participants’ opinion change was considered a measure of how influential they were with their partner. A significant correlation was found between men’s opinion change and use of tentative language by women. Men were found to be more influenced by women’s tentative language compared to when they spoke assertively. Carli anticipated that women would be more influenced by assertive compared to tentative women. She indicated that when interacting with others of the same sex, women would prefer a woman who is assertive because tentativeness may signify less competency and lower status. However, women’s opinions were not influenced by the tentativeness or assertiveness communicated by their partner, whether the person was male or female. However, Carli suggested that perhaps a difference was not found for women’s opinion change, with regard to how tentative other female’s were in their communication styles, because of the small number of female pairs (n = 30) as well as limited degrees of freedom. She indicated that the power may have been too small to be able to detect a difference.

As a result, Carli (1990) performed a second experiment to investigate if women would be more influenced by an assertive woman compared to a tentative woman. She also wanted to test if there was a causal relationship between communication style and influence. Undergraduate students were asked to rate a number of topics to identify one that was sex neutral (the bus system used by the college should charge each time a student uses the bus). Male and female
confederates were asked to audiotape assertive and tentative versions of a message regarding the topic, which were then played for participants. After listening to the message, the participants were asked to rate their opinion on the topic as well as the knowledge, competence, powerfulness, intelligence, and confidence of the speaker.

Overall, tentative speakers were considered to be significantly less confident, powerful, competent, intelligent, and knowledgeable than assertive speakers. The speakers, who were men, were considered to be more knowledgeable than those who were women. Results indicated that women were significantly more influenced by assertive than tentative women, though they were equally influenced by assertive and tentative men. However, men were significantly more influenced by tentative than assertive women. The men may have been more influenced by the tentative speaker because she was acting in a manner consistent with the female gender role. Further, these women could have been considered less threatening, especially since tentativeness was considered to lead to lower ratings on a number of variables such as competency. Women, on the other hand, may have been more influenced by assertive women because they found them to act in a manner more consistent with the leader role.

Kaminski, York, Enkey, & Bowers (2002) as well as Rivero (2003) investigated followers’ perceptions of male and female leaders’ effectiveness as compared to leaders’ actual ability to facilitate group performance. Both studies involved the use of the “Lost on the Moon” group survival task (Hall, 1971) and asked followers to rate their randomly appointed leader’s effectiveness upon completion of the task. Individual members were given the task to complete individually. Then the members were asked to complete the task as a group with a randomly appointed leader. An objective effectiveness score was obtained by subtracting the mean of the individual’s scores from the score obtained from the group score. Results in both studies
revealed that subordinates rated male and female leaders equally effective. Kaminski et al. (2002) found that women were objectively more effective than men while Rivero did not find a significant difference in objective performance of men and women. While Kaminski et al. conducted their study at a small selective college in the Midwest, Rivero conducted their study at a liberal state college in Texas, suggesting that two diverse student populations were not utilizing gender biases when evaluating the leaders.

In general, subordinates’ evaluations of female leaders tend to be more negative than those of male leaders, though women have been found to perform equally as well as men. Women seem to have to maintain a delicate balance of feminine and masculine characteristics to come across as effective leaders; when they do not they are viewed as ineffective leaders. For example, a trial concerning sex discrimination of a woman in a large accounting firm may highlight the impact of evaluations of women who take on masculine roles and behaviors. This case highlights the prejudice women can face when they deviate from descriptive leader norms (e.g., men are expected to be in the leader role) and injunctive norms of female gender roles (e.g., women are expected to ideally display communal behaviors). Ann Hopkins was a woman in a large accounting firm who was known for her firm and directive agentic leadership behaviors. She was also considered competent in her job duties. However, she was denied partnership primarily because of her agentic style and lack of conformity to the female gender role (Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991). Similar to the studies previously discussed, Ann Hopkins was negatively evaluated because of displaying gender incongruent behaviors. However, she was extremely affected by gender stereotypes as she lost her job and was not just given a negative evaluation.
To fully appreciate the various evaluations of women in leadership positions as well as the behaviors they display, third party perceptions and ratings will be considered as another area of possible discrimination against women since people are more likely to utilize stereotypes to aid in the decision making process because of having less interpersonal experience and interaction with the leader to whom they are exposed.

**Third Party Ratings of Leaders.** Third party ratings of leaders are important to consider when investigating evaluations of leaders. Third party ratings may involve individuals or groups of individuals who are asked to evaluate a leader based on an interaction they watch that occurs between a leader and subordinate. Women have been found to be devalued and rated as less effective than men when displaying more masculine (agentic) characteristics. Therefore, similar findings should be present in the literature regarding third party ratings and perhaps be stronger since the raters are required to utilize their own ideas and stereotypes regarding women and acceptable leadership behaviors.

Kawakami, White, and Langer (2000) presented videotapes of female leaders displaying gender congruent and incongruent behaviors to male members of a rotary club as well as groups of undergraduate men. Warm nonverbal behaviors (e.g., leaning forward, frequent eye contact and smiling) were considered stereotypical feminine traits, while cold and dispassionate nonverbal behaviors (i.e., leaning away, avoiding direct eye contact, and lack of smiling) were considered reflective of a masculine style. The nongenuine female leader (i.e., one whose behaviors reflected her discomfort with her role) was hypothesized to be evaluated as less effective than a genuine leader, who did not experience role conflict. The men considered the warm leaders as more effective than the cold leaders, while the cold uncomfortable leaders were considered the poorest leaders out of the four conditions. These results suggest that these men
viewed women, who displayed more gender congruent leadership styles, as more effective than the women who displayed gender incongruent styles. However, the male rotary club members rated the genuine leaders equally effective, whether they displayed warm or cool behaviors. The authors proposed that the nongenuine leaders were acting in a fashion that was more scripted than those in the genuine condition, who were considered able to overcome gender role biases. They stated that the nongenuine leaders could not overcome gender role biases because they were exhibiting behaviors that suggested they were not paying attention to the current matter and instead preoccupied with how they were being perceived by others and the outcome of the “performance.” Thus, the nongenuine leaders displayed rigid and inflexible behaviors. The rigid style may be perceived as more agentic and masculine; therefore the nongenuine leaders may have unknowingly displayed gender incongruent behaviors.

Other researchers have utilized descriptions of job applicants and subsequent hiring decisions to demonstrate possible biases and stereotypes that may be used when evaluating people’s perceptions of whom they consider effective candidates for jobs (Biernat & Fuegen, 2001; Biernat & Kobrynowicz, 1997; Rudman & Glick, 2001). Rudman & Glick (2001) investigated student’s evaluations of men and women applying for a feminine or masculine managerial job. The participants were asked to watch a videotaped agentic or communal, male or female applicant and evaluate him or her for a computer lab position. Agentic applicants displayed self-promoting behaviors and competency while communal applicants displayed similar agentic qualities along with cooperative and interdependent behaviors. The applicants were rated on qualities of competency, social skills, and likeability. While the communal male and female applicants were rated as being equally hireable, the agentic female applicant was viewed as less hireable than the agentic male for the job. Furthermore, she was rated as less
socially skilled and likeable than the agentic male. The authors suggested, though they did not examine, that if the agentic women displayed competence without dominance (e.g., aggressiveness and competitiveness) along with communal behaviors, they would have been perceived just as hireable as the communal women. The suggestions given by the authors suggest that women face a double standard and should be careful to adhere to stereotypically acceptable behaviors even when interviewing for jobs.

Instead of using videotaped scenes, Biernat and Fuegen (2001) presented introductory psychology undergraduate students with a feminine or masculine job title and description (either executive secretary or executive chief of staff) along with a resume with a woman or man’s name with the same credentials. The students were asked to consider what standards they would use to short list an applicant, which included a small number of applicants that would still be considered for the job, or hire the person applying for the position. They were also asked to describe what standards they used to short list or hire an applicant. The data suggested that the female participants evidenced bias in their short listing and hiring decisions. They held the female applicants, regardless of job type, to lower standards to be short listed, however held them to higher standards for hiring compared to the male applicants. The male students did not indicate different standards for short listing and hiring male or female applicants. The authors suggested that the women may have been harsher raters of all of the women applicants, whose resumes asserted and emphasized their skills and qualifications, because of feelings associated with competition. As discussed by Cooper (1997), these women may have been facing the “Queen Bee Syndrome.” That is, female participants viewed the women applicants as rivals for the few positions in upper management that are actually open to women; therefore, they were less likely to hire the woman for either position. The authors also suggest that perhaps the
women and men in the study were attempting to be fair and nonsexist by not favoring members of their own sex.

In contrast to the results previously described, Aguinis and Adams (1998) did not find differences in third party perceptions of men and women rating the effectiveness of leaders. Aguinis and Adams examined perceptions of videotaped male and female customer service managers demonstrating either assertive or nonassertive influencing behaviors. A significant difference between gender and type of influence was not found. However, a general dislike for the nonassertive manager, whether female or male, was also found, which may have overpowered the influence of gender in the conditions.

Third party ratings of leaders’ emotional expressions have also been found to affect perceptions of their effectiveness. Lewis (2000) asked male and female undergraduates to watch videotapes of male and female CEO’s expressing various emotions. Differences in male and female CEO evaluations by third party raters were found when the leaders presented one of three emotional tones (i.e., neutral, sad, or angry) while discussing their company’s financial hardships and encouraging employees to work harder (Lewis, 2000). Female leaders, who expressed sadness, were evaluated significantly less effective than those who displayed neutral emotional displays or anger. Meanwhile, male leaders were rated the same, regardless of the emotion they expressed. Given that CEO positions are mainly occupied by men and thus are likely to be associated with men and masculine behaviors, the women exhibiting sadness, thereby exhibiting a feminine trait in a very masculine context, may have been displaying the most gender-context incongruent behavior leading to their ratings to suffer the most. Further, women in Lips (2000) study rated the position of CEO as less positive and possible to attain compared to men, who found such a position positive and possible. The women involved in Lewis’ study may have then
shared a similar view of the CEO position as Lips’ (2000) participants and regarded the sad female CEO as reflecting and demonstrating feelings of inadequacy and incompetence (behaviors in direct opposition to those expected to be displayed by leaders), therefore rating her as the least effective leader.

Glumb and Hulin (1997) found female supervisors, who expressed anger or no anger in a videotaped situation, were given higher satisfaction ratings by third party raters than male supervisors in both conditions. The authors investigated the perceptions of undergraduate students as well as those of blue collar and white collar workers, who did not differ in their evaluations. The videotaped scripted situations involved a supervisor reprimanding a subordinate for violation of work procedures, thus the dialogue was the same for all supervisors and conditions. The difference between the angry and non-angry supervisors was facial expressions, gestures, as well as tone and loudness of voice. They suggested that the women were rated more positively because of women being given a lower status in the workplace; people may have lower expectations of those women in authority positions. Glumb and Hulin proposed that those viewing the videos may have ascribed to this view and were surprised by the woman’s ability to effectively address the situation, therefore over evaluating her performance in comparison to that of her male counterpart.

Evaluations of emotional and agentic female supervisors may then depend on the context in which they are presented. Since these studies appeared to place women in upper level management positions, they appear to be at a disadvantage to display certain feminine characteristics, such as crying. However, if these women display only masculine characteristics, their evaluations may suffer due to assumptions regarding negative stereotypes about gender incongruent behaviors. However, when they are considered to be as effective as men, their
ability may be over evaluated, due to lower expectations of women in supervisory roles. Women in such positions seem to have to maintain a delicate balance between displays of feminine and masculine characteristics in order to receive similar evaluations to men, whether they are rated by subordinates or third party raters.

Review and Purpose of the Proposed Study

Leadership is often considered to be part of the masculine domain (Collins, 2000; Schein, 1994). As a result, stereotypes have considerable influence on behaviors regarded as acceptable among women leaders, which are often more restricted than those considered acceptable leader behavior among men (Eagly & Johnson, 1990; Kelly et al., 1991). Eagly’s (1987) social role theory suggests that women and men behave differently due to different stereotypical beliefs and expectations set out for them that are externalized and internalized based on their defined gender roles. Therefore, people are expected to participate in activities that are consistent with their defined gender roles (Aries, 1996). Role congruity theory suggests women are likely to face prejudice in a leadership position because men are considered to be leaders because of their sex, while women’s sex itself puts them at a disadvantage.

Women and men have been found to differ in their perceptions of behaviors that they find acceptable among men and women who are leaders. Even when female leaders objectively perform similarly or better than male leaders (Kaminski et al., 2002), they can be subjectively viewed as less effective than male leaders. Role congruity theory would explain that the women leaders are obviously violating stereotypes about the leadership role because they are actually occupying a role men are assumed to hold. Therefore, they are at a more of a disadvantage than their male counterparts.
Role congruity theory also suggests that gender incongruent actions by displayed by women in leadership positions can have a negative impact on others’ perceptions of female leaders’ effectiveness. When investigating actual leader behaviors Hutchinson et al. (1998) as well as Tata (1998) found women who displayed gender incongruent leader behaviors to be rated as less effective than those who displayed gender congruent behaviors. Further, Carli (1990) found sex of a rater can moderate ratings of men and women in leadership positions.

With regard to leaders’ perceptions of their own effectiveness, women who behave according to internalized stereotypical gender roles (e.g., feminine females) may be less attracted to leadership roles because of a great discrepancy between their ideas about acceptable female behaviors and leader behaviors (Eagly & Karau, 2002; Lips, 2000). Therefore, women who have less internalized stereotypical gender roles (e.g., masculine females) may feel more comfortable and more attracted to leadership roles since their perceived masculinity would lessen the discrepancy between their ideas about being female and being in a leadership position. Men are expected to view themselves as compatible with the leader position; however, they may be negatively impacted in regards to self perceived effectiveness when they see themselves as being feminine. They may view themselves as incongruent with masculine expectations regarding male and masculine stereotypes as well as leadership stereotypes, which may lead to lower self perceived effectiveness ratings (Eagly & Karau, 2002).

The proposed study is an extension of Rivero’s (2003) study involving the examination of subjective and objective differences in leadership effectiveness along with impact of traditionality on self and other perceptions of leader effectiveness. The purpose of the current study was to examine the impact of leader sex and gender roles on leader behaviors as well as perceptions of leader effectiveness.
Hypotheses

Hypothesis 1. Gender roles can have a significant impact on one’s behaviors (Eagly, 1987), therefore, it was expected that (H1a): both feminine and androgynous leaders would display more feminine behaviors than would masculine leaders. It was also expected that (H1b) both masculine and androgynous leaders would display more masculine behaviors than would feminine leaders.

Hypothesis 2. Given that leader sex and gender role can influence behavior (Eagly & Karau, 2002), it was hypothesized (H2a) a positive relationship would exist between degree of masculinity and masculine behaviors for male leaders. Also, it was hypothesized that (H2b) a positive relationship would exist between degree of femininity and feminine behaviors for female leaders.

Hypothesis 3. According to role incongruity theory (Eagly & Karau, 2002), prejudice toward female leaders occurs because of the incongruity between the descriptive aspect of the female gender role and the leadership role. Thus, it is hypothesized that third party raters would rate male leaders as more effective than their female counterparts.

Hypothesis 4. Social role theory and role incongruity theory both suggest that women in leadership positions face a double standard and can be negatively evaluated for deviating from their gender role, while men do not face negative evaluations whether or not they deviate from their stereotypical gender role (Eagly & Karau, 2002). Therefore, it was hypothesized that degree of masculinity and femininity would be related to raters’ effectiveness scores for female leaders such that degree of masculinity would be negatively related to effectiveness ratings while degree of femininity would be positively related to effectiveness ratings.
Hypothesis 5. Masculinity may mediate perceptions of perceived effectiveness for women since it may contribute to feeling more compatible with the leader role. Therefore, (H5a) it was hypothesized that degree of masculinity would positively predict female leaders’ self-perceived effectiveness ratings. Though men are expected to view themselves as compatible with the leader position, if they perceive themselves to be more feminine they may also view themselves as less effective due to viewing themselves as “gender-incongruent” (Eagly & Karau, 2002). Therefore, (H5b) it was hypothesized that degree of femininity would be inversely related to male leaders’ self-perceived effectiveness ratings.
CHAPTER 2

METHOD

Data was collected by a gender and leadership research team at the University of North Texas during the fall of 2004 as well as spring and summer semesters of 2005. Archival data was also used, which had been collected during the spring, summer, and fall semesters of 2002 and spring 2003. The study consisted of three phases with the first phase partially completed in 2002 and the second phase partially completed in 2003. The team for the first phase was led by Dr. Patricia Kaminski, Christina York, and Arlene Rivero. Three male undergraduate research assistants also aided with data collection when the archival data was originally collected. An additional three male and five female undergraduate research assistants also aided in the completion of the first phase as well as with the second phases of the study.

Participants. Participants were undergraduate volunteers from the University of North Texas. A total of 191 participants were involved in the first phase of the study (94 males and 97 females) were divided into 47 small groups of four (2 male and 2 female in each group) for the first phase of the study. The leaders were randomly assigned within gender by having one member in each small group appointed as the leader such that 23 male and 24 female leaders were evaluated while performing a group task. The group task required the leader and group members to rank a number of items in terms of importance for survival if they were lost on the moon.

Each small group was assigned a number and the gender of the leader was designated through the small group number (even number = male leader; odd number = female leader). Experimenters were also assigned according to gender so that an equal number of female and male researchers assisted equal numbers of male-led and female-led groups. Information
regarding one male leader’s behavior was not used because of poor sound and visual information on the tape, on which this particular leader and group were recorded. Therefore, 22 male led groups and 24 female led groups were used for analyses regarding leader behavior.

The age of the leaders ranged from 17 to 37 (\(M = 20.79, SD = 3.76\)). Freshmen composed 43.5% of the leaders, while 10.9% were sophomores, 30.4% were juniors, and 15.2% were seniors. Caucasians made up 68.1% of the leaders, followed by 12.8% African Americans, 10.6% Hispanic American, 2.1% Asian American, and 6.4% “other.” Statistical comparisons were made between the female and male leaders on all relevant demographic information (i.e., ethnicity, GPA, ACT scores, SAT math and verbal scores, age, class, political affiliation, birth order, class officer, club officer, greek officer, supervisor/manager, and team captain) and no significant differences were found. Descriptive statistics and tests of significance comparing male and female leaders can be seen in Appendix A, Tables 1, 2, and 3.

In the second phase of the study, a total of 96 participants (48 males and 48 females) were divided into 16 small groups (3 males and 3 females in each group) and asked to watch the videotaped groups and individually rate the leader. The videotapes of the groups were randomly assigned to the raters to view. The age of the raters ranged from 18 to 38 (\(M = 21.90, SD = 3.79\)). Twenty six percent of the raters were freshmen, 12.5% sophomores, 26% juniors, and 35.4% seniors. Caucasians made up 57.3% of the raters, followed by 14.6% African Americans, 13.5% Hispanic, 4.2% Asian, and 10.4% “Other”. Statistical comparisons were made between the female and male raters on all relevant demographic information (i.e., ethnicity, GPA, ACT scores, SAT math and verbal scores, age, class, political affiliation, birth order, class officer, club officer, greek officer, supervisor/manager, and team captain) and no significant differences were
found except for class officer, club officer, and major. Descriptive statistics and tests of significance comparing male and female leaders can be seen in Appendix A, Tables 6, 7, and 8.

**Instruments**

*Group Task.* The “Lost on the Moon” group survival task (Moon Task; Hall, 1971) was utilized as the group activity from which leader effectiveness was measured, which has been used in past literature on group decision-making (Hall, 1971; Hall & Watson, 1970; Sell & Kline 1995; Yoder 1998). Hall (1971) indicated that optimal group performance results from active debate and involvement from all group members.

NASA created this activity as an objective test in their organization. It was utilized for its objective scoring system, which is scored by comparing participants’ answers to those generated by experts at NASA. The task requires participants to rank 15 items in order of importance to group survival if the group were stranded on the moon (see Appendix B). This task has been cited as masculine in nature (Yoder, 1998), meaning that it is an exercise perceived to be more aligned with stereotypically male interests and also a task in which males are thought to be more successful.

*Leader Effectiveness Rating Scale.* A leader effectiveness rating scale (LERS) designed by Kaminski et al. (2002) was used to measure members’ as well as panelists’ perceptions of the leaders. It was theoretically derived from the literature and is also based on criteria for leadership described by Jay Hall as essential for completion of the “Lost on the Moon” task (1971). This scale includes 15 items related to the overall effectiveness of the leader and is scored on a 7-point Likert scale. It consists of three subscales (masculine, feminine, and global). The feminine and masculine subscales consist of 6 items each (e.g., “How well did the leader listen to the ideas of the group members?” and “How often did the leader appear to be in control of the group?”)
and the global subscale consists of 3 items (e.g., “How effective was this leader as a leader of the group?”). Scores were derived by adding the items and then dividing the total by 15. Higher scores indicate higher effectiveness ratings.

For the current sample of leaders, the overall internal consistency coefficient was found to be $\alpha = .90$. Subscales were also analyzed separately; internal consistency coefficients of $\alpha = .72$ were obtained for the feminine subscale, $\alpha = .79$ for the masculine subscale, and $\alpha = .78$ for the global subscale. For the raters, the overall internal consistency coefficient was $\alpha = .92$. Subscales for the rater version of the LERS were also analyzed separately; internal consistency alphas were $\alpha = .79$ for the feminine subscale, $\alpha = .90$ for the masculine subscale, and $\alpha = .92$ for the global subscale. A leader version, group member version, and rater version of the LERS were created to assess self and other perceptions in leadership effectiveness, respectively. The leader version of the LERS was written in first person while the group and panel member LERS were written in third person. The leader (see Appendix C) and rater versions (see Appendix D) of the LERS were used for the current study.

Coding Leader Behavior. The LERS Coding Form (LERS-CF) was created as a coding form for various leader communication behaviors (see Appendix E). Gender differences in use of language have been found in the literature (Carli, 1990; Lakoff, 1975; Yoder et al., 1998). Carli (1990) found women’s use of language led to differences in evaluations made by men and women. Carli was able to investigate language by having trained assistants code a number of specific verbal behaviors. The behaviors that were coded by Carli (1990) involved tag questions, intensifiers, hedges, interruptions, verbal reinforcers and disclaimers. These behaviors were coded in the current study by using the criteria discussed by Carli, who relied on information provided by Lakoff (1975).
Lakoff argued that since women are assumed to have less powerful gender roles, they would be expected to use less direct, powerful, and assertive language. According to Lakoff, statements become less powerful and assertive when tag questions, intensifiers, hedges, disclaimers, and verbal reinforcers are added to them. Tag questions were defined as “declarative statements that were followed by a question concerning the statement” (Carli, p. 942). An example of a tag question was “Water seems more important than dehydrated milk, don’t you think?” Intensifiers were defined as adverbs that are used to “provide emphasis but are considered by some researchers to be less powerful than absolute superlatives” (Carli, p. 942). Examples of intensifiers included the use of words such as so, very, and really. Adverbial phrases used in the middle of sentences that communicated moderation or no particular meaning were defined as hedges. Examples of hedges included the use of kind of, sort of, like, and perhaps (e.g., “Matches are like a not very needed resource”). Verbal reinforcers were defined as adverbs that indicated agreement by the leader and were used after or while a group member spoke, such as saying right, yes, mm-hmm, and sure.

According to Hewitt and Stokes (1975), disclaimers are considered to be “verbal device(s) employed to ward off and defeat in advance doubts of negative typifications which may result from intended conduct” (p. 3). Carli coded disclaimers as defined by Hewitt and Stokes as phrases including “I am no expert” or “I may be wrong” that immediately came before a statement or expressed opinion (e.g., “I may be wrong, but water seems to need to come before food”).

Number of interruptions were also included and coded whenever a leader attempted to make a statement when a group member was speaking. Interruptions were coded as successful when the leader was able to continue his/her statement immediately after interrupting and “gain
the floor” (Carli, 1990, p. 945). The interruption was coded as unsuccessful if the leader was unable to “gain the floor” and a group member continued with his/her statement.

Overall, tag questions, intensifiers, hedges, disclaimers, and verbal reinforcers, and unsuccessful interruptions were considered feminine leader behaviors in the current study. They were investigated individually as well as added together to develop a total feminine behavior variable.

Frequency of gesturing and number of speech initiations made by the leader as well as total time speaking by the leader were also coded. Balkwell and Berger (1996) performed factor analyses on a number of variables from Dovidio, Brown, Heltman et al. (1988) study, who compared the frequency of a number of nonverbal and verbal behaviors of men and women in mixed dyads. They found that speech initiations, frequency of gesturing, time speaking as well as a few other variables (i.e., looking while speaking and looking while listening) composed a distinct factor related to leadership and control in the situation, which are considered masculine characteristics. Dovidio et al.s. descriptor regarding gesturing was used for the current study. Frequency of gesturing was measured by counting the number of expressive hand movements that occurred while the leader was speaking.

Overall, frequency of gesturing, speech initiations, time speaking, and successful interruptions were considered masculine behaviors in the current study. These behaviors were investigated individually as well as added together to develop a total masculine behavior variable.

Total time the group used to complete the task was also recorded by the coders. The totals from tallying the frequency scores were divided by the total time the leader spoke, except
for total time the leader spoke, which was divided by the total time the group spent to complete the task.

Following Cicchetti (1994), intraclass correlation coefficients were calculated to obtain reliability of the codes regarding frequency of each of the leader behaviors. According to Cicchetti, interexaminer reliability based on the Pearson product moment correlation may be misleading. Ciccetti suggests high correlations can be obtained, though ratings may be very far apart, as long as the ratings covary in the same order. Kazdin (1982) also reported that the product moment correlation only assesses the extent to which scores hang together and not whether they are close with regards to absolute values. The Intraclass correlation coefficient, compared to the product-moment correlation, corrects for interrater agreement based on chance alone and can distinguish between ratings made by various sets of examiners (Cicchetti, 1994). According to Cicchetti and Sparrow (1981), the level of clinical significance is poor when the correlation coefficient is below .40, fair when it is between .40 and .59, good when it is between .60 and .74, and excellent when it is between .75 and 1.00. Intraclass correlations for coders on all leader behaviors were excellent. Specifically, the intraclass coefficients were .98 for hedges, .88 for tag questions, .95 for intensifiers, .96 for successful interruptions, .90 for unsuccessful interruptions, .98 for verbal reinforcers, .99 for leader gestures, .93 for speech initiations, .99 for total time the leader spoke, and 1.00 for total time it took the group to complete the task. The correlations became 1.00 after the investigator made the final decision about what codes were used if discrepancies were found between coders.

In the current study, coders were paired and trained to independently code the behaviors of the leaders using the LERS-CF. First, each trainee was assigned to code different behaviors. The trainees then coded archival gender and leadership videotapes according to their specific
codes until intraclass coefficients were .80. They were provided with a written list of the codes as well as descriptors and examples of each code. While in training, trainees were required to justify their ratings for each code. The coding on the videotapes by the trainee was reviewed by the lead author of the LERS-CF. Trainees met as a group with the investigator or communicated with the investigator individually to discuss errors and clarify questions regarding coding. These meetings or individual communications were also used to update the coding form by adding descriptors to aid in coding behaviors of the leaders. The final codes made by the pairs were analyzed by the investigator. The investigator resolved discrepancies to determine which rater’s scores should be used in the analyses.

*Gender Roles.* The Bem Sex Role Inventory (BSRI) (Bem, 1974) was used to assess level of masculinity and femininity of the leaders. The BSRI contains descriptive items or traits that represent each gender type. Participants rated how much of each trait they felt they possessed on a 7-point Likert scale. It consists of 60 questions of which 20 reflect stereotypical feminine traits, 20 stereotypical masculine traits, and 20 neutral items. A person’s ratings are taken for each scale and divided by 20 to obtain separate score for the feminine, masculine, and gender neutral scales. For Bem’s (1981) sample, a femininity median raw score ($M = 4.82, SD = .59$) of 4.90 was used such that a score above 4.90 on the femininity scale would place someone high in femininity. Any score below 4.90 would indicate that a person was low in femininity. Further, according to Bem, a masculinity median raw score ($M = 4.95, SD = .68$) of 4.95 was used such that a score above 4.95 would place someone high in masculinity. Any score below 4.95 would indicate a person was low in masculinity. After it was determined whether a person was high or low in each of these domains, they were then categorized into one of the four BSRI categories. A person who obtained a raw score above 4.90 on the femininity scale and above 4.95 on the
masculinity scale was considered androgynous. A person who obtained raw scores below 4.90 on the femininity scale and below 4.95 on the masculinity scale was considered undifferentiated. A person who obtained a raw score above 4.90 on the femininity scale and below 4.95 on the masculinity scale was considered feminine. A person who obtained a raw score below 4.90 on the femininity scale and above 4.95 on the masculinity scale was considered masculine.

Median scores were derived for the current sample since Bem’s (1981) sample data were based on a sample obtained from 1978. Based on the current sample, a femininity median raw score \( M = 4.83 \), \( SD = .58 \) of 4.85 was used such that a score above 4.85 on the femininity scale would place someone high in femininity. Any score below 4.85 would indicate that a person was low in femininity. Further, a masculinity median raw score \( M = 4.91 \), \( SD = .81 \) of 4.91 was used such that a score above 4.91 would place someone high in masculinity. Any score below 4.95 would indicate a person was low in masculinity. The same procedure Bem used for classifying masculine, feminine, androgynous, and undifferentiated leaders was used except the current samples median raw scores for the femininity and masculinity scales were used. Descriptive statistics for male and female leaders and each of the BSRI categories can be found in Appendix A, Table 7. Means and standard deviations for masculinity and femininity raw scores based on undifferentiated, androgynous, feminine, and masculine categories for male and female leaders can be found in Appendix A, Tables 8 and 9. Also, intercorrelations between masculine and feminine items for male and female leader are provided in Appendix A, Tables, 10 and 11.

Reliability for the BSRI is computed separately for the masculinity and femininity scales. The internal consistency alphas were .80 and .86, respectively (Bem, 1974). In testing its validity, Bem and Lenney (1976) found that those who were “sex typed” (masculine or feminine)
were significantly more likely than androgynous participants to prefer “sex-appropriate activity” and to resist “sex-inappropriate” activity.

Internal consistency alphas were calculated for the BSRI scales with the current sample of leaders and raters. Internal consistency coefficients for the masculine and feminine scales for the leaders were $\alpha = .86$ and $\alpha = .74$, respectively. The internal consistency coefficients for the masculine scale for the female leaders were $\alpha = .88$ and $\alpha = .85$ for the male leaders. For the feminine scale, the internal consistency coefficient for female leaders was low as $\alpha = .64$. Two items from the feminine scale were eliminated, items #5 and #53 (i.e., “cheerful” and “does not use harsh language”) to obtain $\alpha = .72$ for the female leaders. Items #5 and #53 were then also eliminated for the male leaders on the BSRI feminine scale resulting in an internal consistency coefficient $\alpha = .78$. The low internal consistency alpha for the BSRI feminine scale with the current sample of female leaders suggests that the items are likely outdated. As such, the feminine scores developed by Bem (1974) are not likely to be valid. Therefore, raw scores were used when using BSRI feminine and masculine scales in the current study.

Social Desirablity. The BSRI also provides a measure of social desirability that was used in the current study. In her original manuscript, Bem (1974) developed a social desirability score based on neutral traits that were independently judged by both sexes to be no more desirable for women or men. Further, these traits did not significantly differ in desirability based on judgments made by men and women. Ten positive and ten negative personality characteristics were then chosen. The social desirability score then “indicated the extent to which a person describes himself (sic) in a socially desirable direction on items that are neutral with respect to sex” (Bem, 1974, pp. 159).
Researchers, such as Pedhazur and Tetenbaum (1979), questioned the validity of the social desirable neutral items. They found some of these traits were related to factors associated with femininity or were considered more positive than some feminine traits on the BSRI. In the current study, the original BSRI social desirability items were relied on as a measure of social desirability, since no other measures of social desirability were used during the initial data collection (the majority of the data was collected before the current study was conceived).

Internal consistency reliability of the items used in Bem’s 1974 manuscript was computed with the current sample of leaders. The internal consistency coefficient obtained for the social desirability scale for all leaders was $\alpha = .65$. One item was removed (i.e. item #60, “Conventional”) and $\alpha = .70$, which is considered to be adequate reliability. Correlations with leader BSRI masculine and feminine scales were obtained to ensure that social desirability was accounted for in later analyses if it was significantly related to either of the scales. A small significant correlation was found between the BSRI feminine scale and social desirability for the entire sample of leaders, $r (45) = .27, p < .05$. Social desirability was not found to have a significant relationship with the BSRI masculine scale. Correlations between masculine and feminine BSRI scales and social desirability were also computed for male and female leaders separately. No significant correlations were found for males or females with regard to the relationship between social desirability and either of the masculine or feminine scales.

Correlations were also conducted to examine if a relationship existed between social desirability and the leadership effectiveness rating scale (LERS) scores obtained from the leaders. A small significant correlation was found between social desirability and LERS scores obtained from all leaders, $r (45) = .36, p < .01$. A moderate significant correlation was also found between social desirability and LERS scores obtained from male leaders, $r (20) = .49, p < .05$. A
significant correlation between social desirability and LERS scores obtained from female leaders was not found.

**Demographic Form.** A demographic form (see Appendix F) was also used to record basic background information and possible influences on participants’ performance in the study. It inquired about ethnicity, GPA, standardized test scores (i.e., SAT and/or ACT scores), leadership experience, religious and political preferences, birth order, and previous exposure to the “Lost on the Moon” task.

**Procedure**

*Recruitment.* Announcements were made in undergraduate classes to recruit students for the study and sign-up sheets were posted in the psychology building. The study was also available for sign-up through the sona-system, which was created for students to obtain access via the internet to various studies offered through the UNT psychology department. Psychology students were informed in their classes that an electronic bulletin board (sona-system) was available to them to access studies offered through the department, since they were required to obtain a specific number of hours participating in studies. Once students accessed the sona-system they could choose among a variety of studies. Students in psychology classes were also offered extra credit in a psychology course if they participated in the study. Traditionally, male undergraduates are less likely to volunteer for research than are females; therefore, an added incentive was offered to ensure an adequate number of participants. Thus, all participants were allowed to enter their name in a raffle for 1 of 4 $25 prizes. Another raffle, which was for one prize of $100, was also offered to the participants involved in the second phase of the study.

*Phase 1 Groups.* Each participant was greeted by the male or female researcher and was asked to enter a room after all four participants arrived for the study. The participants then
completed an informed consent form (see Appendix E) and were given a copy of the “Lost on the Moon” survival task. The instructions for the task were printed on the handout and participants were allotted 10 minutes to complete the task individually. Afterwards, a researcher then asked the participants to enter a second room that had four chairs and a video recorder set up to record the interactions of the group. The researcher asked the participants to sit in each chair, one by one, whereby each male sat by a female. Once the participants were seated the researcher then turned on the video camera. The researcher appointed a leader, who was announced, depending on the assigned small group number. The leader was given a moon task and asked to lead the group in completing the moon task within the allotted time of 20 minutes. Then the participants and newly appointed leader sat together to work as a group to complete the task while being videotaped.

Upon completion of the group Moon Task, each participant was given a BSRI, LERS and demographic form. Before leaving the study, all participants were given a debriefing information sheet (see Appendix H). Participants were also given the opportunity to enter their name in the raffle.

The groups that were videotaped were randomly selected to be recorded onto 16 individual videotapes. Since 47 groups were recorded individually, three were copied onto one videotape, with the exception of one tape that had two groups copied onto it. These videotapes were used to present to the individual raters.

Phase 2 Individual Raters. The raters were undergraduate volunteers from the University of North Texas and were randomly assigned to one of 16 groups comprised of an equal number of women and men. All individual raters were asked to sign a consent form (see Appendix I) after they arrived and before they engaged in the task. Questionnaire packets were
counterbalanced such that half of the raters received the demographic form and BSRI before they viewed the tapes and the other half completed these forms after viewing the tape. Participants were then asked to watch the videotaped group tasks and rate the effectiveness of the leaders of each group individually. They worked individually to fill out a leader effectiveness rating sheet after watching each of the three groups and three group leaders. Specifically, they were shown a videotape of one leader and group interaction and then were asked to rate the leader after the videotaped group completed their task. This process continued for the other presentations of videotaped leaders and groups.
CHAPTER 3
RESULTS

Data Preparation

For analyses involving leader behaviors, one outlier was removed, which involved a female leader. Regarding missing data, one male leader’s behaviors were not included because of audiovisual difficulties with a particular videotape. One male leader’s LERS information was not included because he did not fill out these forms.

A significant relationship, $r (20) = .49, p < .05$, was found for self perceived effectiveness scores (LERS) and social desirability for male leaders. Therefore, social desirability was utilized as a covariate when investigating self perceived effectiveness for males.

Primary Hypotheses

Hypothesis 1 results. Hypothesis 1a stated both feminine and androgynous leaders would display more feminine behaviors than masculine leaders. Hypothesis 1b predicted that both masculine and androgynous leaders would display more masculine behaviors than feminine leaders. Hypotheses 1a and 1b were analyzed with a MANOVA with leader gender role (feminine, androgynous, and masculine gender roles) as the independent variables and feminine (sum of all feminine behaviors) and masculine behaviors (sum of all masculine behaviors) as the dependent variables. The results indicated that neither feminine nor androgynous leaders displayed more feminine behaviors than did masculine leaders. Further, results indicated that neither masculine or androgynous leaders displayed more masculine behaviors than did feminine leaders, $F's (2, 29) < 1$. Therefore, these results did not support hypotheses 1a or 1b.

Hypothesis 2 results. Hypothesis 2a stated that having a higher degree of masculinity would positively predict masculine leader behaviors for male leaders. A bivariate correlation was
conducted with degree of masculinity and masculine behaviors for all male leaders (sum of all masculine leader behaviors). A significant inverse relationship was found to exist between degree of masculinity and masculine behaviors for male leaders, $r (20) = -.44, p < .05$. Therefore, hypothesis 2a was not supported.

Hypothesis 2b stated that a positive relationship would exist between degree of femininity and feminine leader behaviors for female leaders (sum of all feminine leader behaviors). A bivariate correlation was conducted with degree of femininity and feminine leader behaviors and a significant relationship was not found to exist between the two variables. Therefore, hypothesis 2b was not supported.

Hypothesis 3 results. Hypothesis 3 stated there would be an effect of leader sex on third party raters’ effectiveness ratings. Hypothesis 3 was analyzed with an independent samples t-test with gender of the leader as the independent variable and third party leadership effectiveness ratings as the dependent variable. This analysis revealed that the raters did not significantly differ in their effectiveness ratings for female ($M = 46.60, SD = 9.22$) or male ($M = 44.95, SD = 11.92$) leaders. Thus, results did not support hypothesis 3.

Exploratory analyses were conducted for hypothesis 3 to determine if differences existed between male and female raters when rating the effectiveness of male and female leaders. Since leader sex was not counterbalanced when considering rater sex, a subset of the data was used for the analysis. This analysis was conducted with a 2 (female and male leader effectiveness ratings) x 2 (female, male rater) mixed design MANOVA. The between-subject variable was sex of the rater while the within-subjects variable was effectiveness ratings of the male and female leaders. No differences were found between male and female raters when rating male and female leaders. No differences were found between male raters effectiveness ratings of female leaders ($M =$
50.63, SD = 9.53) and male leaders (M = 47.33, SD = 4.27). No differences were found between female raters effectiveness ratings of female leaders (M = 45.59, SD = 11.97) and male leaders (M = 41.22, SD = 5.35). Neither the female (M = 43.41, SD = 9.27) or male (M = 48.98, SD = 7.36) raters from the subset of all raters differed in their effectiveness ratings of the leaders.

Hypothesis 4 results. Hypothesis 4 stated that degree of femininity and masculinity of female leaders would be related to subjective effectiveness ratings made by raters. It was analyzed by computing bivariate correlations for degree of masculinity, degree of femininity, and raters’ effectiveness ratings of female leaders. Results indicated that a significant relationship did not exist between degree of masculinity of female leaders and effectiveness ratings made by raters. Furthermore, results indicated that a significant relationship did not exist between degree of femininity of female leaders and effectiveness ratings made by raters. Therefore, hypothesis 4 was not supported.

Exploratory analyses were also conducted for Hypothesis 4 to explore if a relationship existed between actual female as well as male leader behaviors and effectiveness ratings made by all raters. In the current study, differences were not found between ratings of male and female raters and their ratings of leaders, therefore all raters’ ratings were used in this analysis. To offset the likelihood of family-wise error, a Bonferroni correction was used so that the p value interpreted as significant was adjusted by the number of analyses (i.e., .05/10 = .005). A significant high positive relationship was found to exist between female leader’s total time speaking, r (21) = .75, p < .005, and raters’ effectiveness ratings. Therefore, as total time speaking increased for female leaders, raters’ effectiveness ratings made for female leaders increased. Also, for female leaders, a significant moderate negative relationship was found between speech initiations and raters’ effectiveness ratings, r (21) = -.54, p < .005. That is, as
female leaders increasingly initiated discussion in the groups, effectiveness ratings made by raters decreased.

With regard to male leaders, no significant relationships were found to exist between the leader behaviors they exhibited and effectiveness ratings made by the raters.

*Hypothesis 5 results.* Hypothesis 5a stated that degree of self reported masculinity would positively predict self perceived effectiveness ratings for females while hypothesis 5b stated that level of femininity would not predict self perceived effectiveness ratings for males. A bivariate correlation was computed using the following variables: level of masculinity and self perceived effectiveness of female leaders. Results showed that degree of masculinity for female leaders positively predicted self perceived effectiveness $r (22) = .46, p < .05$. Results supported hypothesis 5a.

Hypothesis 5b stated femininity would be inversely related to self perceived effectiveness for male leaders. Since social desirability was significantly related to self perceived effectiveness for male leaders, partial correlations were computed, controlling for social desirability. Results showed that degree of femininity for male leaders negatively predicted self perceived effectiveness, when controlling for social desirability $r (19) = -.42, p < .05$. The results of this analysis supported hypothesis 5b.

Exploratory analyses were conducted to examine the relationship between self perceived effectiveness and self reported femininity for female leaders as well as the relationship between self perceived effectiveness and self reported masculinity for male leaders. Results showed that degree of femininity for female leaders was not significantly related to self perceived effectiveness. Further, when controlling for social desirability for male leaders, there was not a significant relationship between degree of masculinity and self perceived effectiveness.
CHAPTER 4
DISCUSSION

The purpose of the current study was to explore the influence of sex and gender on leader behaviors as well as perceptions of leadership effectiveness in group task with an appointed leader. Social role theory (Eagly, 1987) as well as role congruity theory (Eagly & Karau, 2002) provide a theoretical framework to aid in the exploration as well as explanation of various differences in evaluations of male and female leaders as well as expectations about their behavioral displays as leaders. Social role theory suggests that people are expected to act in ways consistent with their socially defined gender roles. According to this view, women are expected to act in interpersonal and expressive ways; these descriptions of behaviors are often considered to be in contrast with the stereotypical masculine leadership (Aries, 1996).

Role congruity theory posits that women are likely to face two forms of prejudice due to their gender roles and the dissimilarities between expectations regarding these gender roles and those about typical leaders (Eagly & Karau, 2002). As a result, research has found differences to exist in perceptions of male and female leaders. However, this research has been equivocal with regards to perceptions of leadership effectiveness as well as how to investigate the role and impact of sex, gender, and behaviors on such ratings (Cooper, 1997; Korabik, Baril, & Watson, 1993; Pratch & Jacobowitz, 1996; Rice, Bender, & Vitters, 1980). Further, leader behaviors have been found to influence perceptions of leaders, though these studies have often used dyads with no appointed leaders (Carli, 1991; Dindia, 1987).

Summary of Findings

Hypothesis 1. Hypothesis 1a stated both feminine and androgynous leaders would display more feminine behaviors than masculine leaders. Hypothesis 1b predicted that both masculine
and androgynous leaders would display more masculine behaviors than feminine leaders. Neither of the hypotheses were supported. The results indicate that both feminine and androgynous leaders did not display more feminine behaviors than masculine leaders. Further, masculine and androgynous leaders did not display more masculine behaviors than feminine leaders. These results suggest the leaders did not display behaviors considered consistent with their self identified gender roles (e.g., masculine leaders displaying masculine behaviors). Thus, the influence of gender roles did not seem to direct the behaviors of the leaders. The leaders may have been more influenced by other variables, such as the task (e.g., quickly completing the task to obtain credit) or even the group members (e.g., acting in a manner that was perceived as acceptable by the group members).

Eagly (1987) emphasizes that leader behaviors may be more stereotypical when leaders are placed in situations in which gender roles are made salient. She suggests that the context is an important factor to consider when investigating differences in behaviors related to gender roles. In the current study, gender role expectations were not emphasized nor were they discussed to the participants. The leader was told that she was the leader and was not given further information about her role. The group, as a whole, was told to work on the same task they had completed as individuals and were not given further instruction about how to proceed. Though the task is considered to be masculine, the ambiguity of how to complete the task may have deemphasized its “masculinity.” Therefore, the leaders may have been more focused on the role of the group to complete the task than the social conditions that might highlight gender role expectations regarding gender role “appropriate” leader behaviors. Perhaps if the leader were given more explicit instructions about what his role was and were given a very distinct masculine or feminine task, he may have reacted in more manners more consistent with their self perceived
gender roles, which may have led to differences in behaviors exhibited by leaders in the various BSRI categories.

Powell and Graves (2003) suggest that even when differences are found in leader behaviors based on sex or gender role of leaders, it is likely that other factors are influencing such differences. They discuss that the environment and socialization impact how women and men may react or perceive themselves and others. Therefore, differences between the sexes are likely to reflect one’s culture, background, genetic history, personality characteristics, as well as many other factors; these variables were not considered in the current study.

*Hypothesis 2.* Hypothesis 2a stated that being having higher degree of masculinity would positively predict masculine leader behaviors. A bivariate correlation revealed that a significant negative correlation existed between degree of masculinity and masculine leader behaviors, which was contrary to what was expected. Therefore, as degree of masculinity increased, displays of masculine leader behaviors decreased for male leaders. A possible explanation may be related to the coding form developed for the current study. It may be that the male leaders displayed behaviors that were not coded. Powell and Graves (2003) suggest that transactional leadership, which is associated with masculine and male leadership, emphasizes goal setting, initiating and organizing work activities, and defining how work should be done. Burns (1978) also described transactional leadership as being active or passive. Active transactional leaders monitor subordinates for mistakes while those who are passive wait for the mistakes to be made before they intervene. The male leaders in the current sample may have been passive in their leadership styles, therefore they may have not interacted with the group as much as the feminine leaders. If the male leaders were active, they may have been exhibiting more goal setting as well as organizational behaviors to lead the groups in the Moon Task. Further, male leaders may have
been pointing out more mistakes in the group responses during the task. Codes for leader behaviors in the current study did not include behaviors such as goal setting and pointing out mistakes in thinking; therefore, the male leaders may have been acting in a gender congruent manner which was not analyzed by the study.

Alternatively, the masculine items on the BSRI may not be related to the leader behaviors that were examined. The BSRI masculine items include descriptors such as “independent”, “assertive”, and “dominant.” In the current study the masculine leader behaviors coded were frequency of speech initiations, gestures, successful interruptions, as well as total speaking time. Though these behaviors appear to reflect assertiveness and dominance, the male leaders may have engaged in other behaviors that may be related to the ideas of masculinity and leadership such as organizing the task and identifying who and how the task would be accomplished and specifying how the task would be accomplished. These are characteristics associated with agentic styles of leadership (Bass, 1990).

Hypothesis 2b stated that a positive relationship would exist between degree of femininity and feminine leader behaviors for female leaders. Results revealed that a significant relationship did not exist between the feminine leader behaviors and degree of femininity for female leaders. Femininity was not related to the display of feminine leader behaviors for female leaders. Therefore, the hypothesis was not supported. Perhaps the female leaders in the current study were not influenced by their perceived level of femininity as measured by the BSRI. The BSRI feminine items have been found to be considered less acceptable among men and women (Pedhazur and Tetenbaum, 1979). Therefore, the women in the study may have been less likely to endorse such items. It may be that the degree of femininity influenced female leader’s
behaviors; however femininity may be considered to have different characteristics than those identified on the BSRI (e.g., loves children, gullible, does not use harsh language).

Another possibility for the lack of findings supporting hypothesis 2b may be that the female leaders engaged in feminine type behaviors that were not investigated in the current study. Communal styles of leadership, that are considered acceptable among female leaders, are considered to be interpersonally orienting and involve the active encouragement of morale and welfare of those involved in a task by the leader (Bass, 1990). The feminine leader behaviors included in the study involved specific verbal behaviors, such as tag questions and hedges, that may not be related to such a style of leading.

Another explanation related to the lack of support for hypotheses 2a and 2b may be related to the current sample. Since college students were involved in the current study, the participants may have more flexible gender roles than those persons who are older or working full time. The college atmosphere may allow for more acceptance and exploration of varying degrees of masculinity and femininity as well as how these ideas are expressed. In fact a large number of the leaders were in the androgynous and undifferentiated BSRI groups. Androgynous people may rely on both feminine and masculine behaviors since they view themselves as having both masculine and feminine qualities. Undifferentiated persons are considered low in masculinity and femininity; therefore, they appear to be more unpredictable in the behaviors they will exhibit. Since these two groups composed the majority of the male leaders, they could have relied on a number of behaviors that could not be predicted since they could utilize a high or very low number of masculine as well as feminine leader behaviors.

The lack of support for hypotheses 2a and 2b may be related to the influence of group members on the leaders. The group members may have influenced leader behaviors in how they
responded toward the leaders. Therefore, those leaders, who may have been more likely to react in a manner consistent with their identified gender role, changed their behaviors in response to positive and negative responses made by the group members. Their responses may have served as a means of reinforcement that guided the leaders in how they responded towards the task as well as the group members.

Hypothesis 3. Hypothesis 3 stated that there would be a difference between raters’ effectiveness ratings of male and female leaders. Results of an independent samples t-test indicated that there was not a difference in raters’ effectiveness ratings of male and female leaders, which did not support the hypothesis. With regard to raters’ perceptions of leaders, no differences in effectiveness ratings were found for male versus female leaders. Further, an exploratory analysis revealed that male and female raters did not differ in their evaluations of male and female leaders, which is contrary to what would be expected based on social role theory. These results suggest that the raters were not being sexist or biased in their evaluations of the leaders. The leaders did not differ in terms variables such as previous and current leadership experiences, grade point averages, religious or political affiliations, or birth order. Since the leaders were similar in regards to their demographic information, they could have been equally effective. Therefore, raters may have rated the male and female leaders as equally effective because the leaders were similar in their leadership abilities.

Aguinis and Adams (1998) suggest that absence of sex differences in the ways male and female leaders are perceived may be mediated by their position in a hierarchy of an organization. In accordance with this structural model of leadership, the leaders may have been rated similarly because they were appointed to their position. Though the raters were not told why the leaders were appointed to lead the groups, the raters were told that a specific person was appointed as a
leader and this person was identified. The raters may have assumed that the leaders’ appointment was based on some trait or characteristic that the leader possessed that the group members did not possess.

Another explanation for the lack of findings may be related to social role theory and role congruity theory. In order for the theories to be valid, gender roles have to be clearly defined and distinct. Levinson and Levinson (1996) note that since the industrial revolution gender roles have not been clearly defined for women and men. They indicate a “gender revolution” also occurred as women moved into the work world, which decreased the identification of women’s roles and men’s roles in the household and in the public domain. Therefore, due to unclear gender roles, the raters may have not rated the female leaders as less effective than the male leaders because females are no longer considered to act in a certain manner or not be in a leadership position.

Rosow (1965) also suggests, during adult socialization, roles are often not clearly defined and may not be related to peoples’ behaviors. Further, Rosow indicates that people behave inconsistently with their ideals and values, so “conformity on values and behavior may vary quite independently” (p. 36). In the current study, the leaders as well as the raters may have identified with particular ideas about gender roles, however may have not relied on them to influence their ratings of male and female leaders. If people act in a manner inconsistent with their values, then social role theory as well as role congruity theory are less valid as they expect people will act in manner consistent with social expectations regarding their gender roles.

**Hypothesis 4.** Hypothesis 4 stated that degree of femininity and masculinity of female leaders would be related to subjective effectiveness ratings made by raters. An analysis conducted with bivariate correlations indicated that there was not a significant relationship between degree of masculinity or femininity and effectiveness ratings of female leaders.
Therefore, hypothesis 4 was not supported. Carli (1990) found that women were more influenced by an audiotaped message presented by women, who displayed masculine verbal traits, such as assertiveness. However, these women did not differ in how much they were influenced by assertive or tentative women when they interacted with other women while discussing a topic on which they disagreed. In the current study, the participants watched videotapes of the leaders, therefore they had more information than those in Carli’s study, who were in the audiotaped condition. The raters in the current study were able to see and hear the interactions of the leaders with group; therefore, they may have relied on more information than just the verbal information and behaviors exhibited by the female leaders. They may have based their decisions of effectiveness on how the group members responded to the leader and less on how much the leader deviated from her gender role.

The raters, in the current study, may have relied more upon objective standards when rating the female leaders. Rivero (2003), who used information gleaned from many of the same participants in the current study, found that the female leaders were just as effective as male leaders based upon “improvement scores.” The improvement scores were calculated by subtracting the mean of the individual group members’ task scores from the group task score. The raters’ may have been more influenced by the actual objective performance of the female raters than the leaders’ perceived level of masculinity or femininity.

Leaders’ self identified gender roles may have been too vague to identify by the raters, therefore, they may have relied on other information to make their ratings of the leaders. Therefore, exploratory analyses were conducted to examine the relationship between female leader behaviors and effectiveness ratings. Significant correlations were found between raters’ effectiveness ratings and female leaders’ use of speech initiations and total time they spent
speaking. Raters effectiveness ratings decreased as female leaders use of speech initiations increased. However, both female and male raters’ effectiveness ratings increased as the female leaders speaking time increased. Therefore, ratings of female leaders increased as they spoke more, but initiated discussions less in the group. The raters may have viewed the total speaking time of the female leaders as positive as long as they did not initiate discussions. The female leaders speaking time may have involved more spoken responses to group members and reflections of what they said, which have been viewed as acceptable behaviors for female leaders. By reflecting and letting group members know that they were heard, the female leaders were acting in a manner congruent with their gender role. According to Eagly (1987), women are typically expected to be expressive and concerned, which might involve them talking more in a manner that involved a more interpersonal tone. Thus, the female leaders in the current study were viewed as effective because they were maintaining some gender congruity in a leadership position.

In contrast to female leaders who had high amounts of speaking time, effectiveness ratings decreased as female leaders spoke less. These women may have been more direct and less concerned about each member; therefore, they may have spoken less. The group members may have perceived these members as less interpersonally related and acting in a manner incongruent with their gender role. Another explanation may include those female leaders, who spoke very little. Among a few female led groups, male group members took over the leadership position by taking away the clipboard that the leader was given to use to record the group’s responses. The male members did not ask the female leader if they could have the clipboard and then they quickly began leading the group. The raters may have found that female leaders, who spoke less, were not effective because their leader role was taken away from them, either in an extreme
manner or less extreme manner (i.e., group members took over and did not allow the leader to speak much without taking away a physical object related to being the leader). Further, some female leaders may have chosen to talk less, therefore, the raters perceived them as less effective.

However, female leaders were rated as less effective when the initiated discussions in the group. They may have been viewed as being overly assertive by directing the group. These behaviors may have been viewed as incongruent with the female gender role. Furthermore, use of speech initiations may have been seen as a forceful type of interruption for women leaders, especially if they were used to redirect the group or keep the group on topic. Rudman and Glick (2001) found undergraduate students, who were shown videotapes of applicants for a computer job, to perceive an agentic female applicant as less hireable than an agentic male for a job. Furthermore, they found that the agentic female applicant was rated as less socially skilled than the agentic male. Agency in Rudman and Glick’s study involved the demonstration of self-promoting behaviors and competency, which may be viewed as incongruent for females. Tata (1998) also found that among actual employees rated assertive female managers as leaders as less effective than assertive male leaders. The employees also viewed these female managers as being impolite. In the current study, the raters may have perceived the female leaders’ use of speech initiations as being rude and less socially acceptable. Perhaps these leaders were viewed as threatening since they may have been perceived as less concerned about interpersonal relations among the group members.

In contrast to female leaders who had used increasingly more speech initiations, raters’ ratings increased for female leaders as their speech initiations decreased. Eagly, Makijani, and Klonsky (1992) found that female leaders were rated favorably when they displayed leadership styles that were considered to be stereotypically feminine. In the current study, the female
leaders may have allowed other group members to initiate discussions and keep the group on
task. Their actions were, therefore, congruent with their gender roles. These female leaders may
have been perceived as less threatening than those who were more direct in their actions as
leaders and thus more acceptable.

Interestingly, no significant relationships were found to exist between male leader
behaviors and effectiveness ratings made by the raters. Since men are considered to be congruent
with the leadership role, effectiveness ratings may not be based on any particular behaviors they
exhibited. However, the raters may have relied on other criterion and possibly other behaviors
not coded to rate the effectiveness of the male leaders. Since effectiveness ratings for women
were related to a few of the behaviors coded and were not related to any of the behaviors coded
for men, perhaps some kind of gender bias influenced the ratings of the raters. They may have
attended more to the behaviors of the women in the leadership position because they were
considered incongruent with the leader role.

*Hypothesis 5.* Hypothesis 5a stated that degree of self reported masculinity would
positively predict self perceived effectiveness ratings for females. Results of a bivariate
correlation analysis revealed that a significant positive correlation existed between female
leaders self perceived masculinity and self perceived effectiveness. Hypothesis 5b stated
femininity would negatively predict self perceived effectiveness for male leaders. Since social
desirability was significantly related to self perceived effectiveness for male leaders, partial
correlations were computed, controlling for social desirability. Results indicated that degree of
femininity for male leaders was significantly and inversely related to self perceived
effectiveness, when controlling for social desirability. The results of this analysis support
hypothesis 5b.
For female leaders, the more masculine they were, the more effective their ratings became. This relationship was significant for male leaders, when partialing out the impact of social desirability on the correlation between masculinity and self perceived effectiveness. Masculinity is often considered a trait associated with good leadership (Cejka & Eagly, 1999; Collins, 2000; Eagly, Makhijani & Klonsky, 1992). Also, masculine items on the BSRI, which include “acts as a leader” and “makes decisions easily” seem to reflect self perceived leadership abilities. The items that make up the masculine scale may then also involve the self perceived ability to take on a leadership role.

Since self perceived effectiveness increased for female leaders as degree of masculinity increased, masculinity may aid women in feeling more compatible with the leadership role. Masculinity may be related to feelings of competence and esteem, which then contribute to feeling “better” about one’s self. Therefore, masculinity may be tapping into other characteristics that are associated with perceiving one’s self as effective.

However, Festinger’s (1957) theory of cognitive dissonance may aid in understanding the relationship between masculinity and higher self effectiveness ratings for female leaders. As masculinity increased for these women, they may have felt increasingly uncomfortable because they perceived themselves to be incongruent with their gender role. Therefore, they may have rated themselves higher to decrease these feelings of incongruity.

For male leaders, the significant negative correlation between femininity and self perceived effectiveness also suggests that femininity for males is likely to be seen as a characteristic that is related to lower effectiveness ratings. As degree of femininity increases for men, they may identify less with being a leader. Further, they may feel “out of place” as they face stereotypical expectations that they are leaders based on their sex. As this incongruence
increases and they become more aware of the discrepancy between their self-perceived degree of masculinity and what they “should be”, they may be more critical of themselves because they do not fit the stereotype.

Also, items on the BSRI that contribute to femininity include “yielding”, “shy”, and “gullible”, which may be thought of as traits that might make a person less effective as a leader. Further, Pedhazur and Tetenbaum (1979) found that a large sample of graduate students from three universities rated the feminine items on the BSRI as negative and “relatively undesirable” (p. 999). Therefore, the men in current study may have found the feminine items to be undesirable and negative.

Implications of findings

Theoretical Implications. Overall, the results of the current study do not appear to support expectations that leader gender roles impact their leader behaviors as well as effectiveness ratings. Social role theory suggests that there is a tendency for people to participate in activities that are consistent with their gender roles, which are defined by their own culture (Eagly, 1987; Eagly, Karau, & Makhijani, 1995). When people violate these assumptions and engage in behaviors that are inconsistent or incongruent with their gender roles, they are expected to endure some kind of prejudicial reactions (Eagly & Karau, 2002). The focus of the current study was based on ideas and assumptions made from social role theory as well as role congruity theory.

In the current study, there were few significant findings regarding leader behaviors and self-identified gender roles for leaders. These findings may suggest that distinctions between feminine and masculine behaviors are not as clear as what they used to be or were thought to be. As time has changed and women have been incorporated into many more managerial roles, they
may engage in less gender stereotypical behaviors. Further, both males and females may have been exposed to more females in supervisory roles. Therefore, they may use these supervisory experiences as models for how they should act in leadership positions. The behavior of their supervisors may not be as gender linked or stereotypical. Since these undergraduate students will make up the new upcoming new workforce, their ideas about stereotypical gender roles will influence future ideas about characteristics and traits deemed appropriate and acceptable for femininity and masculinity. These findings suggest that views about stereotypical gender roles and their associated characteristics have changed and may need to be redefined.

Both social role theory and gender congruity theory do not make assumptions about specific behaviors, like those investigated in the current study. The theories do suggest that evaluations of men and women can differ depending on how agentic or communal the leader acts, especially if the leader is a woman. If ideas about agency and communality are changing among those people in the current culture, perhaps the behaviors they exhibit that express these feminine and masculine traits may not fit the behaviors coded in the current study. The theories may be expanded by discussing specific behaviors that are associated with femininity and masculinity and how these impact leader behaviors as well as their performance as leaders.

Eagly and Karau (2002) suggest that women, in general, are more likely to be evaluated more poorly than men in leadership positions because women are not expected to be in leadership positions, according to stereotypical descriptive norms. In the current study, leader sex was not found to influence effectiveness ratings made by male and female raters. Further, no significant correlations were found between level of femininity of female leaders and effectiveness ratings made by raters. These finding do not support social role theory as well as role congruity theory. Perhaps these theories need to account for positive and negative feminine
and masculine traits associated with effective leadership. Further, other attributes including attractiveness and likeability are not addressed by these theories and may influence and mediate perceptions of women and men in leadership roles, who display gender incongruent behaviors.

However, interestingly, for female leaders, effectiveness ratings made by raters were influenced by a few of the behaviors they exhibited. Significant correlations were found between female leaders’ speaking time and use of speech initiations and effectiveness ratings made by the raters. Female leaders who spoke more, but initiated discussions less were found to be more effective. These findings suggest that certain behaviors may be important to consider when applying social role theory or role congruity theory to investigations of leadership, especially for female leaders.

The current results indicated a significant positive correlation to exist between female self perceived degree of masculinity and self perceived effectiveness. A number of studies have found that perceptions of being a good leader are associated with male characteristics (Cejka & Eagly, 1999; Collins, 2000). Eagly (1987) suggests that women, who violate gender expectancies, may experience decreased self confidence because they may be exposed to increased negative bias in performance evaluations. Perhaps masculine women have been exposed to negative evaluations in the past and have been able to work through these experiences to develop more positive confidence in their abilities. Therefore, their experience has led to increased confidence over time. In contrast, masculinity may serve as a buffer for self confidence and lead to improved self ratings. For male leaders, a significant negative relationship existed between their effectiveness ratings and level of femininity. For males in the current study, feminine traits, especially as measured by the BSRI, may be perceived as a negative and lead to decreased self perceived effectiveness ratings. Though not directly addressed by gender
congruity theory, perhaps gender incongruent traits negatively impact perceptions of
effectiveness for men. Therefore, gender congruity theory might be extended by investigating the
impact of masculinity, femininity, and moderating variables such as confidence and esteem on
self perceived effectiveness.

Vecchio (2002) suggests that social role theory overstates the impact of sex and gender
roles on perceptions of effectiveness. He mentions that labeling behaviors as masculine and
feminine may not reflect the actual behaviors that are of actual concern. Vecchio indicates
grouping behaviors as masculine and feminine may lead to less understanding of these behaviors
as well as effectiveness of these behaviors. Further, he suggests situational factors highly
influence what optimal behaviors should be used, which decreases the likelihood that only
masculine behaviors would be considered most effective in any situation. Vecchio also states that
Eagly and Johnson’s (1990) idea about men and women differing in terms of their tendency to
display different leadership styles is overstated. He suggests that people are prone to be “work-
focused”, which may lead them to take act and communicate in styles that are less gendered and
more geared towards the job at hand. Overall, Vecchio suggests social role theory is limited in
it’s usefulness as differences in perceptions of men and women’s leadership abilities appear to
have become more similar than different. Further, he believes that women may be better leaders
because they tend to be more skilled at interpersonal relations, sharing power, and nurturing their
subordinates.

Implications for the Career Development of Women. Though significant differences were
not found between effectiveness ratings of men and women in the current study, differences
appear to exist in perceptions of male and female leaders in “real world” work settings
(Hutchinson et al., 1998; Lewis, 2000; Tata, 1998). The top echelons of leadership (e.g. CEO)
often reflect a majority of males and a limited number of females. The disproportionate number of men in these positions may reflect the “glass ceiling.” According to Graves and Powell (2003), the “glass ceiling” restricts women’s access to top leadership positions because of their sex; even when they possess the same credentials for a job they are not equally considered for such positions. Since women are breaking through to these top positions they may be in more of a position to aid other women to also enter other positions at the top of organizations. In the current study, self perceived masculinity was found to be significantly related to increased positive self perceived effectiveness. Perhaps women in top organizations have learned or adapted to the “masculine” climate as they have climbed the corporate ladder. They may have experienced difficulty and prejudices while moving up, however have been able to conquer prejudicial views because of they view themselves as effective. These women could possibly provide a mentor role to women who are in the process of climbing the organization ladder by sharing their stories as well as providing advice about what worked for them. Further, having women in top positions may decrease biases favoring men because they may be provide positive models for how effective how women can be in such positions.

Another possibility for encouraging more women to consider such positions is to influence occupational preferences of younger women. Interestingly, a few women in the current study stated they did not believe themselves to be good leaders and did not like being in such a position. Though a variety of explanations may provide answers as to why these women made these statements, Powell and Graves (2003) suggest that social influences from a variety of sources may impact occupational preferences for women. They suggest that occupational preference of young people may be influenced by organizations. They indicate that organizations may send mixed sex teams to demonstrate how women and men can be successful in jobs usually
thought to be identified primarily with being male and/or masculine. Also, Powell and Graves suggest that members of the sex that least represent particular occupations may be used in presentations to serve as role models.

*Organizational Development and Creating Fair Evaluations.* Though women and men were not found to be evaluated differently in the current study, the evaluation process may tend to favor men in real world settings. The way women are evaluated in organizations may be lead to lower effectiveness ratings by their subordinates as well as supervisors. Powell and Graves (2003) suggest that leaders, especially those in male dominated organizations, may be evaluated on certain specific ideas including reaching a particular goal, such as quickly making decisions and increased production. Though these are important aspects to consider when evaluating leaders, there may be other factors that are not addressed that may be linked with effective female leadership. Evaluations may inquire about the ability of leaders to promote cohesiveness among employees or their ability to consider individual ideas and concerns, which may be more linked to increased effectiveness of female leaders.

Falkenberg (1990) suggests organizations need to increase the legitimacy of female leaders. While not investigated in the current study, legitimizing the leadership position may lead to evaluations based more on a person’s skill level and less on sex and gender role stereotypes. Yoder, Schleicher, and McDonald (1998) found that female college students were rated as more effective when their role was legitimized to a group of men they were working with on a task compared to those women whose role was not legitimized. Organizations may legitimize the leadership role for all members that hold leadership positions, and not just for female leaders so as not to highlight how they might be different. Legitimization may be done by organizations
announcing in some manner what the leader’s expertise, skills, and talents are to those they will be supervising as well as those who will be supervising them.

Another way to promote fair evaluations of women in the workplace is for organizations to quickly react to any prejudicial and discriminatory acts (Zeitz & Dusky, 1988). Companies may send employees to training programs to make them more aware of their biases as well as teach them how to overcome such biases. All employees, including executives and presidents, of organizations would benefit from learning about their biases regarding sex, gender roles, as well as other factors including race and religion and how these biases influence their decision making processes. By making people aware of their biases as well as teaching them how to overcome them, may be beneficial to having the best people in supervisory positions, regardless of their sex.

**Methodological Limitations**

*External Validity and Generalizability.* Some limitations in the current study can be related to problems with external validity and generalizability. Since the leaders were videotaped and knew they were videotaped, they may have acted in a manner that was socially desirable. Though social desirability was considered in the current study, it was investigated with a measure that was considered to be unreliable. The leaders may have acted in manner different than they would have if they were not videotaped. Furthermore, the group members may have acted in a manner that was socially desirable since they also knew they were being videotaped, which made the group members appear more effective than he actually was. The group members might have attempted to be polite and less reactive to leaders they found to be less effective, thus the raters may have found all leaders to be equally effective, though they were not. Furthermore, raters may have been influenced by social desirability, though they were not videotaped and
asked to make evaluations individually. Thus, social desirability may have impacted leaders and group members such that their behaviors were not true reflections of interactions that occur. Social desirability may have impacted raters such that they were polite and “forgiving” in their ratings of leaders.

Another limitation related to generalizability and external validity concerns characteristics of the sample. The sample consisted of primarily Caucasian undergraduate students. Therefore, the study can only be generalized to Caucasian men and women. The leaders were told they were leaders; however, they were not instructed to carry out the task in any particular manner. They may have not taken on the role or acted as a leader because there was no incentive to act like a leader. In the work world, leadership is likely to be more clearly defined and expectations are linked to how people behave.

Since diversity can lead to different perceptions about gender roles as well as traits that are considered congruent and incongruent for one’s gender, the findings are limited. Utilizing people from various cultures with more restricted views about gender roles may have produced greater gender differences than were found in the current study. Also, using people from the working population, who have graduated from college or have not attended college, may have led to different results. Also, socioeconomic status was not considered, which may influence perceptions of gender roles. People in lower socioeconomic areas may be more likely than more educated groups to rely on more clearly defined gender roles possibly because of less education as well as experience. Future research would benefit from obtaining this information to understand the influence of socioeconomic status on perceptions of men and women’s effectiveness as well as the behaviors they exhibit as leaders.
Another limitation related to the sample may be linked to a selection bias for male and female participants. It is possible that the male and female participants, who chose to participate, were more likely to have more flexible views of leadership. Therefore, the leaders may have been less likely to act in a particular manner based on their gender roles and the raters may have been more accepting of women in leadership positions. Perhaps those students, who did not participate, may have been less flexible in their ideas about leadership as well as women in leadership positions.

The use of the Moon Task may be another limiting factor in the current study. This task is often used in investigation of group work and is considered to be masculine in nature. The task asks group members to rank 15 items based on importance given a scenario in which they were stranded on the moon. The nature of the task may be limited with regard to real world applicability and may have influenced people’s behaviors and actions in the group. The leaders and group members may have reacted differently if they were given a task that included an activity that focused more on something that they have done before, such as completing a puzzle or making a decision about policies impacting undergraduate students.

The analogue method designed to create a leadership scenario is another limitation of the study. The current task involved groups, who were assembled just for the experiment. Leaders, who have worked with particular teams of people for longer periods of time, may rely on different behaviors to lead their groups. They may rely more or less on masculine and feminine traits to motivate their groups or lead them. In regards to the evaluative piece of the study, the leaders were not motivated in anyway to perform well. In “real” work situations, evaluations can have a significant impact on one’s position in an organization and lead to demotion or even loss of their job. The leaders may have not engaged in behaviors that they would have otherwise
engaged in to allow for the best outcome because there were no negative consequences to face for poor performance.

Furthermore, people in evaluative positions may use different criteria to evaluate leaders with whom they have had more experience. The raters were not motivated to give their most honest opinion of the effectiveness of leaders they were shown. In a real world context, evaluations of leaders (e.g., managers, supervisors) may lead to the evaluator continuing to work or not work with his particular leader. The evaluator may not want to work with his particular supervisor because he may dislike the leader’s style, therefore he is motivated in some way to give his supervisor a low rating.

With regard to the second phase of the study that involved the raters, a flaw in the design likely impacted that lack of significant findings. The raters were shown three leaders and their groups engaged in the moon task. The groups were randomly chosen as to which ones were dubbed onto a tape, however they were not counterbalanced to account for the sex of the rater. Therefore, each rater did not have an equal chance of seeing a male or female rater because some tapes included all male leaders or all female leaders while others included a combination of male and female leaders. The raters could have been influenced by the presentation of leaders they were shown, which may have impacted how they rated the leaders.

Researchers have found that traditional and nontraditional views about women can lead to differences in perceptions about their effectiveness (Cooper, 1997; Rice, Bender, & Vitters, 1980). Gender roles of the raters were not investigated in the current analyses and may have lead to differences in perceptions of male and female raters. Further, the gender roles of the leaders were not counterbalanced across the gender roles of the raters. The ratings made by the raters may have been influenced by their own gender roles as well as the leader’s gender role.
Variables including attractiveness and likeability of the leader may have impacted ratings made by the raters. Also, personality characteristics were not assessed, which may be related to leader behaviors and perceptions of masculinity and femininity. Future research would benefit from investigation of such variables when attempting to address perceptions of male and female leaders.

Another clear limitation in the present study is the lack of power that decreased the chances of finding significant results when true effects exist. The sample sizes were small in some of the analyses, which likely contributed to the lack of power. Further, the analogue nature of the study likely decreased statistical power.

**Measurement Limitations.** The BSRI was used in the current study to obtain information about gender roles and social desirability. The LERS and LERS-CF forms, respectively, were used to aid in obtaining effectiveness ratings of leaders as well as frequencies of leader behaviors. The BSRI has been criticized among various researchers (Hoffman & Borders, 2001; Pedhazur & Tetenbaum, 1979), especially with regards to its social desirability scale, which Bem (1981) recognized and decided to later abandon. Though the internal consistency coefficient was found to be acceptable for the current sample, once one item was dropped, the items may have not been sufficient to detect socially desirable responding among the leaders in the current study.

Hoffman and Borders (2001) argue that the constructs used to develop the items of the BSRI are outdated and are sensitive to changes in the culture and time. They suggest that instead of measuring masculinity and femininity, the BSRI seems to more accurately reflect expressivity and instrumentality. Though the internal consistency coefficient for the BSRI masculine and feminine items were calculated for the current sample, the ideas originally set forth by Bem (1974) about the constructs of masculine and feminine traits may no longer hold true for the
cohort of students in the current study. The feminine items may be more outdated than the masculine, especially as two of the feminine items from the BSRI had to be eliminated to obtain an adequate internal consistency coefficient for the current sample. Pedhazur and Tetenbaum (1979) also found that the feminine items of the BSRI were not socially desirable or considered positive among male and female graduate students. Bem (1974) indicated that the items used for both the masculine and feminine categories reflected positive characteristics. However, the feminine items, especially, appear to no longer be considered positive. Thus, the BSRI may need to be updated to reflect current ideas about what traits are associated with masculinity, femininity, as well as the other categories of androgyny and undifferentiated.

The LERS was created by Kaminski et al. (2002) as measure of leadership effectiveness based on leadership literature as well as Hall’s (1971) criteria for leadership for successful completion of the “Lost on the Moon” task. The LERS is limited in that it can only be considered an effective measure of leadership effectiveness as long as it is used with the moon task. The internal consistency coefficient may become inadequate if it is used with other populations who are given a task that is not the moon task. Further, Hall’s criteria of leadership may not reflect characteristics needed for leadership in other tasks or may be related to the criteria the raters might usually use in an evaluative setting, such as evaluating their supervisors or managers at work.

The LERS-CF was created to measure the frequency of specific leader behaviors and was based on investigations of behaviors demonstrated by men and women in the literature (Carli, 1990; Hewitt & Stokes, 1975; Lakoff, 1975). While interesting correlations were found between the behaviors, themselves, as well as with raters’ effectiveness ratings, other behaviors may have been more important to investigate. The majority of the behaviors were verbal behaviors, except
for number of gestures. Subtleties in nonverbalized behaviors (e.g., eye contact, eye rolling, laughing, as well as various facial expressions) may be important to investigate when considering leader behaviors as well as traits associated with gender roles. However, these behaviors would be difficult to code and obtain due to technical as well as methodological restraints.

Future Directions

The results of the current study indicate a further need to investigate the impact of gender roles and sex on perceptions of leadership effectiveness. With regard to the methodological limitations discussed above, future research may benefit from a more qualitative focus. If each of the videotaped groups were transcribed and subjected to investigation for commonalities and dissimilarities, a number of leader behaviors might be found that reflect important characteristics related to effective male and female as well as masculine and feminine leaders. Another important aspect leadership effectiveness that was not investigated in the current study was the group leaders’ responses to their leaders. Group members’ responses may have influenced the behaviors of the leaders and, in turn, the leaders’ behaviors may have influenced the group members. These interactions may be important to consider when a third party is used to make ratings of the leader since they are exposed to the group members as well.

The context of the group task may have influenced the current results. It would be important to investigate perceptions of leadership using tasks that were considered distinctly feminine and masculine based upon current ideas about what tasks/jobs are thought of as typically masculine or feminine. Instead of using undergraduates, it may be helpful to investigate actual work teams in the business world. Differences may exist between groups have worked together for some time under male and/or female supervision. Investigating and transcribing
behaviors of leaders, who have been involved in leadership positions in a professional manner, may result in behaviors similar and dissimilar to those investigated in the current study.

Additionally, utilizing a sample with greater diversity with regard to ethnicity, culture, and socioeconomic status would allow for greater generalizability. As men and women may experience social development differently depending on the diversity of their backgrounds, they may view gender roles differently than a Caucasian sample. Some groups may have more flexible views of gender role while others may be less flexible. These differences in cultures are important to consider as men and women in organizations within and outside the United States become part of the “global market.”

Since the BSRI has not been changed since Bem (1981) introduced its short form, it may be that the BSRI needs to be updated. Though it is often used in research when gender roles are investigated, it appears to have items that are outdated as gender roles have likely changed since its conception. Ideas about masculinity and femininity are likely to have changed and will continue to change as women and men engage in behaviors that are not stereotypically related to their sex or gender roles. Further, social development of male and females is likely to change as the lines between what characteristics are considered male and/or female become more unclear. It would be important to re-standardize the BSRI with cohorts from current generations. Items are likely going to need to be added and eliminated to reflect changes in ideas about what masculine and feminine traits are desirable as well as positively accepted by current cohorts.

Also, variables that might mediate effectiveness ratings of female and male leaders should be considered in future research. Attractiveness of the leaders as well as how much others find the leader likeable may impact effectiveness ratings. As discussed earlier, social desirability, as measured with a reliable instrument, should also be taken into consideration. These factors, as
well as other, may interact with behaviors displayed by traditional and nontraditional leaders and impact how others perceive them.

Characteristics of those who rate leaders are also important to consider. In the current study, gender roles of the raters were not investigated, which may have impacted their ratings of female and male leaders. Perhaps the raters in the study had distinct ideas about gender roles and characteristics associated with being a man or being a woman in a leadership position. Alternatively, the raters may have had more flexible views about gender roles and “acceptable” behaviors of male and female leaders.

An alternative design to consider when investigating a third party’s rating of the effectiveness of leaders as conducted in the current study may aid in clarifying the effects of sex and gender roles on such ratings. Researchers may consider obtaining self perceived gender role ratings of the raters before showing them videotapes of the leaders. Each leaders’ gender and self perceived gender role could be used along with each raters’ gender and self perceived gender role to determine which leaders the raters would be shown. Analyses could be conducted to clearly identify the interaction of rater sex and gender role as well as leader sex and gender role on perceptions of effectiveness of leaders.

Further, future research could focus on women and men in the work world. Researchers may focus on those women in upper management positions and address how their self perceived femininity and masculinity have influenced them. Perhaps a felt sense of masculinity has aided these women in breaking through the “glass ceiling.” There may also be differences between women at various levels of management with regard to self perceived effectiveness as well as self perceived masculinity and femininity, which may aid in identifying how gender roles
influence a woman’s identity as a manager and whether or not she decides to continue to further her career or remain in the position she holds.

Researchers could also focus on how women and men are evaluated in various companies and how these evaluations can be improved to reflect effective leader behaviors. Further, researchers may focus on the impact of legitimizing a leader’s position for male and female leaders to identify what is the most effective way to disseminate this information as well as how this impacts evaluations of male and female leaders. Due to discriminatory practices that take place in organizations, future research may evaluate the impact of training programs that elucidate people’s biases as well as aid them in overcoming such biases in the workplace. Researchers could possibly investigate how evaluations of men and women differ before and after such training programs. Further, the training programs could be investigated to understand what specific aspects of the training have the greatest influence on changes in biases.

It is evident from the current study that examination of gender roles, sex, and leader effectiveness need to be studied. Though overt sexism may no longer be evidenced in ratings of women in leadership positions, covert sexism is likely to continue to impact these women. In the current study, certain behaviors exhibited by female leaders impacted effectiveness ratings by male and female raters. However, behaviors exhibited by male leaders did not appear to impact effectiveness ratings. These very subtle perceptions about acceptable behaviors among women leaders are likely to negatively impact them as can be seen in the lower wages women are paid than men in similar positions. Investigations of leader behaviors as well as ideas about gender roles may be useful in educating and teaching strategies that could be disseminated to not only men and women in leadership positions, but those who are supervised by them. By continuing to
make people aware of their own prejudicial views, which they may not even realize they possess, further strides can be made in creating more acceptance of women in leadership positions.
Table 1

*Descriptive Statistics on Age, GPA, ACT, and SAT Math and Verbal Scores of the Leaders*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females $(n = 24)$</th>
<th>Males $(n = 23)$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Leader’s Age</td>
<td>20.29</td>
<td>3.24</td>
<td>21.30</td>
<td>4.25</td>
</tr>
<tr>
<td>Leader’s GPA</td>
<td>3.19</td>
<td>.50</td>
<td>3.13</td>
<td>.29</td>
</tr>
<tr>
<td>Leader’s ACT score</td>
<td>22.43</td>
<td>3.78</td>
<td>22.17</td>
<td>2.99</td>
</tr>
<tr>
<td>Leader’s SAT Math Score</td>
<td>594.00</td>
<td>152.55</td>
<td>667.14</td>
<td>205.73</td>
</tr>
<tr>
<td>Leader’s SAT Verbal Score</td>
<td>832.71</td>
<td>227.91</td>
<td>884.91</td>
<td>202.94</td>
</tr>
</tbody>
</table>

$^a$Equal Variances not assumed.

$^b$Based on 16 females and 14 males.

$^c$Based on 7 females and 6 males.

$^d$Based on 10 females and 7 males.
Table 2

Descriptive Statistics on Previous Leader Positions for Female and Male Leaders

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females (n = 24)</th>
<th>Males (n = 23)</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Class Officer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>21.3</td>
<td>7</td>
<td>29.8</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>29.8</td>
<td>16</td>
<td>34</td>
</tr>
<tr>
<td>Club Officer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td>31.9</td>
<td>12</td>
<td>25.5</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>19.1</td>
<td>11</td>
<td>23.4</td>
</tr>
<tr>
<td>Greek Officer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>6.4</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>44.7</td>
<td>22</td>
<td>46.8</td>
</tr>
<tr>
<td>Supervisor/Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>14.9</td>
<td>10</td>
<td>21.3</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>36.2</td>
<td>13</td>
<td>27.7</td>
</tr>
<tr>
<td>Team Captain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13</td>
<td>27.7</td>
<td>11</td>
<td>23.4</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>23.4</td>
<td>12</td>
<td>25.5</td>
</tr>
</tbody>
</table>

Note. $\chi^2$ = Pearson Chi Square.
Table 3

*Descriptive Statistics for Female and Male Leaders*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females $(n = 24)$</th>
<th>Males $(n = 23)$</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>%</td>
<td>$n$</td>
<td>%</td>
</tr>
<tr>
<td>Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>11</td>
<td>23.9</td>
<td>9</td>
<td>19.6</td>
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<td>Sophomore</td>
<td>2</td>
<td>4.3</td>
<td>3</td>
<td>6.5</td>
</tr>
<tr>
<td>Junior</td>
<td>8</td>
<td>17.4</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Senior</td>
<td>3</td>
<td>6.5</td>
<td>4</td>
<td>8.7</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>psychology</td>
<td>7</td>
<td>15.6</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td>non-psychology</td>
<td>17</td>
<td>37.8</td>
<td>15</td>
<td>33.3</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>2</td>
<td>4.3</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>Caucasian</td>
<td>16</td>
<td>34</td>
<td>16</td>
<td>34</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
<td>6.4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>6.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Political Affiliation</td>
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<td></td>
</tr>
<tr>
<td>Democrat</td>
<td>6</td>
<td>12.8</td>
<td>5</td>
<td>10.6</td>
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<tr>
<td>Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Independent</td>
<td>3</td>
<td>6.4</td>
<td>5</td>
<td>10.6</td>
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<tr>
<td>None</td>
<td>9</td>
<td>19.1</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>12.8</td>
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<td>10.6</td>
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<tr>
<td>Birth Order</td>
<td></td>
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<tr>
<td>First Born</td>
<td>11</td>
<td>25</td>
<td>13</td>
<td>29.5</td>
</tr>
<tr>
<td>Middle child</td>
<td>5</td>
<td>11.4</td>
<td>1</td>
<td>2.3</td>
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<tr>
<td>Youngest Child</td>
<td>6</td>
<td>13.6</td>
<td>8</td>
<td>18.2</td>
</tr>
</tbody>
</table>

*Note.* $\chi^2 =$ Pearson Chi Square.

*Chi Square run with two groups, Freshmen vs. Upperclassmen, due to low $n$.  
Based on 24 females and 22 males.  
Chi Square run with two groups, Caucasian vs. Minority, due to low $n$.  
Chi Square run with two groups, First Born vs. Younger sibling, due to low $n$.  

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females $(n = 48)$</th>
<th>Males $(n = 48)$</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Rater’s Age</td>
<td>22.00</td>
<td>3.57</td>
<td>21.79</td>
<td>4.03</td>
</tr>
<tr>
<td>Rater’s GPA</td>
<td>3.10</td>
<td>.45</td>
<td>3.03</td>
<td>.49</td>
</tr>
<tr>
<td>Rater’s ACT score</td>
<td>22.25</td>
<td>2.74</td>
<td>23.42</td>
<td>3.03</td>
</tr>
<tr>
<td>Rater’s SAT Math Score</td>
<td>531.11</td>
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<td>554.21</td>
<td>101.00</td>
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<td>110.73</td>
<td>587.89</td>
<td>107.68</td>
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</table>

\(^a\)Based on 45 females and 45 males.

\(^b\)Based on 16 females and 12 males.

\(^c\)Based on 9 females and 19 males.
Table 5

Descriptive Statistics on Previous Leader Positions for Female and Male Raters

<table>
<thead>
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<th>Males (n = 23)</th>
<th>χ²</th>
<th>p</th>
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<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Class Officer</td>
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<td>11.5</td>
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<td>Club Officer</td>
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<td>28.1</td>
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<td>16.7</td>
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<td>1</td>
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<td>42.7</td>
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<td>47.9</td>
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<td>Supervisor/Manager</td>
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</table>

Note. χ² = Pearson Chi Square.

*Significant at the .05 level.
Table 6

Descriptive Statistics for Female and Male Raters

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<td>%</td>
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<td>psychology</td>
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<td>2.6</td>
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<td>Youngest Child</td>
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<td>13.0</td>
<td>10</td>
<td>13</td>
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</table>

Note. $\chi^2 = $ Pearson Chi Square.

$^a$Significant at $p < .05$.

$^b$Chi Square run with two groups, Caucasian vs. Minority, due to low $n$.

$^c$Chi Square run with two groups, First Born vs. Younger Child, due to low $n$.

$^d$Based on 39 Females and 38 Males.
Table 7

*Descriptive Statistics on BSRI categories for Female and Male Leaders*

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<thead>
<tr>
<th>Variable</th>
<th>Females $(n = 24)$</th>
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<th>$p$</th>
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<td></td>
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<td>$n$</td>
<td>%</td>
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<td>13.0</td>
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<td>9</td>
<td>39.1</td>
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<td>Androgynous</td>
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</table>

*Note.* $\chi^2 =$ Pearson Chi Square.
Table 8

Means and Standard Deviations based on Masculinity and Femininity Scale Raw Scores for Female Leaders by Undifferentiated, Feminine, Masculine, and Androgynous Categories

<table>
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<tr>
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<th>Femininity Scale</th>
<th>Masculinity Scale</th>
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<td>$SD$</td>
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<td>Feminine</td>
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<td>.42</td>
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<td>(n = 9)</td>
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<td>Masculine</td>
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<td>.32</td>
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<td>(n = 8)</td>
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</table>
Table 9

*Means and Standard Deviations based on Masculinity and Femininity Scale Raw Scores for Male Leaders by Undifferentiated, Feminine, Masculine, and Androgynous Categories*

<table>
<thead>
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<th>Category</th>
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<td>SD</td>
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<td>4.34</td>
<td>.32</td>
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<td>(n = 6)</td>
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<td>Feminine</td>
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<td>(n = 3)</td>
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<td>Androgynous</td>
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<td>.14</td>
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<tr>
<td>(n = 5)</td>
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Table 10

*Intercorrelations for Masculine and Feminine Items of the BSRI for Female Leaders*

<table>
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<td>.49*</td>
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<tr>
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<td>.53**</td>
<td>-.64**</td>
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*Note. M = Masculine Items. F = Feminine Items. Only significant correlations reported.*

Refer to Bem (1981) for specific item descriptors.

*p < .05.  **p < .01.*
Table 10 Continued

*Intercorrelations for Masculine and Feminine Items of the BSRI for Female Leaders Continued*

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*Note.* M = Masculine Items. F = Feminine Items. Only significant correlations reported.

Refer to Bem (1981) for specific item descriptors.

*p < .05. **p < .01.*
### Table 11

**Intercorrelations for Masculine and Feminine Items of the BSRI for Male Leaders**

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Refer to Bem (1981) for specific item descriptors.

*p < .05. **p < .01.*
Table 11 Continued

*Intercorrelations for Masculine and Feminine Items of the BSRI for Male Leaders Continued*

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Refer to Bem (1981) for specific item descriptors.

*p < .05. **p < .01.*
Appendix a

Moon Task
A Test

Your spaceship has just crash-landed on the moon. You were scheduled to rendezvous with a mother ship 200 miles away on the lighted surface of the moon, but the landing has ruined your ship and destroyed all the equipment on board, except for the 15 items listed below. Your crew’s survival depends on reaching the mother ship, so you must choose the most critical items available for the 200-mile trip. Your task is to rank the 15 items in terms of their importance for survival. Place number one by the most important item, number two by the second most important, and so on through number 15, the least important.

- Box of matches
- Food Concentrate
- Fifty feet of nylon rope
- Parachute Silk
- Solar-powered portable heating unit
- Two .45-caliber pistol
- One case of dehydrated milk
- Two 100-pound tanks of oxygen
- Stellar Map (of moon’s rough constellation)
- Self-inflating life raft
- Magnetic Compass
- Five gallons of water
- Signal Flares
- First-aid kit containing injection needles
- Solar-powered FM receiver-transmitter
Appendix B

Leader Effectiveness Rating Scale (Leader Version)
Based on your experience in this Working in Groups exercise, rate yourself on each of the questions below. Circle the number that corresponds with the best answer.

1. How effective were you as a leader?
   
   1  2  3  4  5
   very ineffective ineffective average effective very effective

2. Did you try to involve everyone in the decision process?
   
   1  2  3  4  5
   not at all not usually sometimes often most of the time

3. How apparent do you think it was that you were in charge of the group?
   
   1  2  3  4  5
   not at all not apparent somewhat apparent apparent very apparent

4. How often did you encourage the group members?
   
   1  2  3  4  5
   not at all not usually sometimes often most of the time

5. How well did you come up with strategies for completing the task?
   
   1  2  3  4  5
   very poorly poorly adequately well very well

6. How well did you seek out participation from all group members?
   
   1  2  3  4  5
   very poorly poorly adequately well very well

7. How well did you listen to the ideas of group members?
   
   1  2  3  4  5
   very poorly poorly adequately well very well
8. How well did the leader keep the group moving through the task?

1 very poorly
2 poorly
3 adequately
4 well
5 very well

9. How strongly would you support someone like yourself as a candidate for leading a group you belonged to?

1 not at all
2 not very strongly
3 somewhat
4 strongly
5 very strongly

10. How well did you respect other members’ opinions?

1 very poorly
2 poorly
3 adequately
4 well
5 very well

11. How well did you persuade members to follow your strategy for solving the task?

1 very poorly
2 poorly
3 adequately
4 well
5 very well

12. How well did you make use of each members’ personal knowledge to solve the task?

1 very poorly
2 poorly
3 adequately
4 well
5 very well

13. How well did you manage to keep the group’s attention on the task at hand?

1 very poorly
2 poorly
3 adequately
4 well
5 very well

14. How well did you appear to be in control of the group?

1 very rarely
2 rarely
3 sometimes
4 often
5 very often

15. Overall, how would you rate the effectiveness of yourself as a leader in this exercise?

1 very poor
2 poor
3 average
4 good
5 very good
From each group of four words, check the box next to the one word or phrase that best describes your impression of yourself as a group leader during the Working in Groups exercise; choose only one on each line. Please read and answer each question individually, without reference to the previous or following questions. Thank you.

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<td>or</td>
<td>considerate</td>
<td>or</td>
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<tr>
<td>2.</td>
<td>giving</td>
<td>or</td>
<td>like me</td>
<td>or</td>
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<td>3.</td>
<td>relaxed</td>
<td>or</td>
<td>competent</td>
<td>or</td>
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<td>4.</td>
<td>intelligent</td>
<td>or</td>
<td>a visionary</td>
<td>or</td>
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<td>5.</td>
<td>easy to look up to</td>
<td>or</td>
<td>popular</td>
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<td>6.</td>
<td>understanding</td>
<td>or</td>
<td>interesting</td>
<td>or</td>
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<td>7.</td>
<td>a nice person</td>
<td>or</td>
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<td>knowledgeable</td>
<td>or</td>
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<td>kind</td>
<td>or</td>
<td>makes others feel special</td>
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Appendix C

Leader Effectiveness Rating Scale (Rater Version)
Leader Effectiveness Rating Sheet
Rater Version

1. How effective was this leader as a leader of the group?

1  2  3  4  5
very ineffective  ineffective  average  effective  very effective

2. Does the leader try to involve everyone in the decision process?

1  2  3  4  5
not at all  not usually  sometimes  often  most of the time

3. How apparent was it that the leader was in charge of the group?

1  2  3  4  5
not at all  not  somewhat  apparent  apparent  very apparent

4. How often does the leader encourage group members?

1  2  3  4  5
not at all  not usually  sometimes  often  most of the time

5. How well did the leader come up with strategies for completing the task?

1  2  3  4  5
very poorly  poorly  adequately  well  very well

6. How well did the leader seek out participation from all group members?

1  2  3  4  5
very poorly  poorly  adequately  well  very well

7. How well did the leader listen to the ideas of the group members?

1  2  3  4  5
very poorly  poorly  adequately  well  very well

8. How well did the leader keep the group moving through the task?

1  2  3  4  5
very poorly  poorly  adequately  well  very well
9. How strongly would you support this leader’s candidacy for leading a group?

1. not at all  
2. not very strongly  
3. somewhat strongly  
4. strongly  
5. very strongly

10. How well does this leader respect other members’ opinions?

1. very poorly  
2. poorly  
3. adequately  
4. well  
5. very well

11. How well did this leader persuade members to follow his or her strategy for solving the task?

1. very poorly  
2. poorly  
3. adequately  
4. well  
5. very well

12. How well did this leader make use of each member’s personal knowledge to solve the task?

1. very poorly  
2. poorly  
3. adequately  
4. well  
5. very well

13. How well did the leader manage to keep the group’s attention on the task at hand?

1. very poorly  
2. poorly  
3. adequately  
4. well  
5. very well

14. How often did the leader appear to be in control of the group?

1. very rarely  
2. rarely  
3. sometimes  
4. often  
5. very often

15. Overall, how would you rate the effectiveness of this leader in this exercise?

1. very poor  
2. Poor  
3. average  
4. good  
5. very good
From each group of four words, check the box next to the one word or phrase that best describes your impression of your group leader during the Working in Groups exercise; choose only one on each line. Please read and answer each question individually, without reference to the previous or following questions. Thank you.

1. □ inspiring or □ considerate or □ friendly or □ capable
2. □ giving or □ like me or □ dependable or □ committed
3. □ relaxed or □ competent or □ imposing or □ caring
4. □ intelligent or □ a visionary or □ warm or □ a peer
5. □ easy to look up to or □ popular or □ easy to get to know or □ convincing
6. □ understanding or □ interesting or □ intelligent or □ easy to follow
7. □ a nice person or □ decisive or □ genuine or □ charismatic
8. □ knowledgeable or □ go-getter or □ sympathetic or □ easy-going
9. □ dramatic or □ open or □ like a friend or □ rarely makes mistakes
10. □ kind or □ makes others feel special or □ democratic or □ achiever
Appendix D

Coding Form
1) RECORD NUMBER OF DISCLAIMERS MADE

They immediately PRECEDE a statement or opinion
Examples: I’m no expert, I may be wrong, I’m not sure, I don’t know, I suppose, I mean, and I guess used at the beginning of a statement

Full Example: “I may be wrong, but water seems to need to come before fire”

2) RECORD NUMBER OF HEDGES MADE

Adverb or adverb phrases used in the middle of a sentence that weaken the strength of a statement.

Hedges are to be recorded when they convey either moderation or no particular meaning at all
Examples: kind of, sort of, you know, maybe, perhaps, or whatever, and like used in the middle of a statement

Full Example: Fire is like a not very needed resource.

3) RECORD NUMBER OF TAG QUESTIONS MADE

Declarative statements that are FOLLOWED by a question concerning the statement

Examples: Questions such as isn’t it?, aren’t they?, don’t you think?, wouldn’t you say?, you know?, and right? are to be coded as tag questions when they are added to the end of statements that were consistent with a subject’s original attitude.

Full Example: Water is important. Water is more important than having rope, right?

4) RECORD NUMBER OF INTENSIFIERS USED

Adverbs that are used to provide emphasis but are considered by some researchers (Key, 1972; Lakoff, 1975) to be less powerful than absolute superlatives.

Adverbs used in the middle of statements are coded as intensifiers when they are used to convey emphasis or intensity.

Example: so, very, really, awfully, and truly
Full Example: Fire is really important to have.
5) RECORD NUMBER OF INTERRUPTIONS

Interruptions are to be coded whenever a subject attempts to make a statement while his/her partner was speaking.

   a) **Successful Interruptions** = coded as such when the person doing the interrupting gained the floor immediately after interrupting.
   b) **Unsuccessful Interruptions** = coded when the person doing the interrupting did not gain the floor immediately after attempting to interrupt.

6) VERBAL REINFORCERS

Adverbs indicating agreement are to be coded as verbal reinforcers when subjects use them while or immediately after their partner spoke.

Examples: Right, yeah, yes, mm-hmmm, sure, and uh-huh

7) TOTAL TIME LEADER SPOKE

Code number of minutes the leader spoke during the task

8) NUMBER OF MINUTES THE GROUP LASTED

Code the number of minutes it took the group to complete the task. Start the stopwatch after the experimenter says the group can begin the task.

9) FREQUENCY OF GESTURING BY THE LEADER

Count the number of expressive hand movements that occurred while the leader was speaking.

10) FREQUENCY OF SPEECH INITIATIONS BY THE LEADER

Code the number of times the leader attempted to initiate discussions in the group.
LERS Coding Form-Frequency Sheet

Group #____

1. Number of disclaimers made by the leader  ________
2. Number of hedges made by the leader  ________
3. Number of tag questions made by the leader  ________
4. Number of intensifiers used by the leader  ________
5. Number of interruptions
   1. LIO Successful
      i. Male interrupting male  ________
      ii. Female interrupting female  ________
      iii. Male interrupting Female  ________
      iv. Female interrupting Male  ________
   2. LIO Unsuccessful
      v. Male interrupting male  ________
      vi. Female interrupting female  ________
      vii. Male interrupting Female  ________
      viii. Female interrupting Male  ________
   3. SIO Successful
      ix. Male interrupting male  ________
      x. Female interrupting female  ________
      xi. Male interrupting Female  ________
      xii. Female interrupting Male  ________
   4. SIO Unsuccessful
      xiii. Male interrupting male  ________
      xiv. Female interrupting female  ________
      xv. Male interrupting Female  ________
      xvi. Female interrupting Male  ________
6. Number of verbal reinforcers made by the leader  ________
7. Total time the leader spoke (in minutes)  ________
8. Number of minutes the group lasted  ________
9. Frequency of gesturing by the leader  ________
10. Frequency of speech initiations by the leader  ________
Appendix E

Demographic Form
Questionnaire

Instructions: Please provide the requested information and check each response that applies to you.

1. Sex: (1) □ Female (2) □ Male

2. Age:_____

3. Class: (1) □ Fr (2) □ So (3) □ Jr (4) □ Sr

4. Major:________________

5. GPA:_____

6. ACT:______ or SAT-Verbal: _______ & SAT-Math: _______

7. Ethnicity:
   (1) □ African American
   (2) □ American Indian
   (3) □ Asian-American
   (4) □ Caucasian
   (5) □ Hispanic
   (6) □ Other

8. Religious Affiliation:
   (1) □ Catholic
   (2) □ Jewish
   (3) □ Muslim
   (4) □ Protestant
   (5) □ Other

9. Family/Birth Order:
   a) How many siblings did you grow up with?__
   b) Of these siblings, where are you in the birth order?
   (1) __1st-born son
   (2) __1st-born daughter
   (3) __Middle son
   (4) __Middle daughter
   (5) __Youngest son
   (6) __Youngest daughter

10. Political Affiliation:
    (1) □ Democrat
    (2) □ Green
    (3) □ Independent
    (4) □ None
    (5) □ Other

11. Leadership Positions: Have you ever been a...
    a) Class officer? (1) __Yes (2) __No
    If yes, when (check all that apply)? (1) __before high school (2) __in high school (3) __ since high school
    b) Club (church, civic, academic) Officer: (1) __Yes (2) __No
    If yes, when (check all that apply)? (1) __before high school (2) __in high school (3) __ since high school
    c) Sorority/Fraternity Officer: (1) __Yes (2) __No
    d) Supervisor/manager at work: (1) __Yes (2) __No
    If yes, when (check all that apply)? (1) __before high school (2) __in high school (3) __ since high school
    e) Team Captain?
    If yes, when (check all that apply)? (1) __before high school (2) __in high school (3) __ since high school

12. Have you ever seen or heard about the Lost on the Moon Task before today? (1) __Yes (2) __No
Appendix F

Informed Consent Forms (Phase 1)
UNIVERSITY OF NORTH TEXAS COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS

RESEARCH CONSENT FORM FOR GROUP MEMBERS

Subject Name:  Date:

Title of Study: Group Problem Solving

Principal Investigator: Dr. Patricia Kaminski, PhD.
Co-investigators: Arlene Rivero and Christina York

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, and discomforts of the study. It also describes the alternative treatments that are available to you and your right to withdraw from the study at any time. It is important for you to understand that no guarantees or assurances can be made as to the results of the study.

Purpose of the study and how long it will last:

The purpose of this study is to measure responses in group problem solving activities. You will be asked to complete a task alone, then with a group and then respond to two brief surveys. The entire process should take you no more than one hour.

Description of the study including the procedures to be used:

After completing a task entitled, “Lost on the Moon”, you will be asked to complete the same task in a group. There are correct and incorrect answers for this task. While working in your group, you will be videotaped until the task is completed. And finally, you will be asked to complete two or three questionnaires that describe aspects of yourself and your experience.

Upon your agreement to participate, you will be given a copy of this consent form and the “Lost on the Moon Task”. After verbal instructions from the experimenter, you will be allotted 10 minutes to complete the task on your own. Afterwards, you will be given 20 minutes to complete the task as a group and complete the questionnaires. Upon completion of the questionnaires, you will be given the opportunity to enter your name for a $25 raffle. Four names will be randomly drawn to win $25 once the study is over later in the semester. Finally, the experimenter will give you more information about the study and answer any questions that you might have.

The second part of the study requires that other participants (independent of your group) watch the videotape of your group and complete a questionnaire.
Description of procedures/elements that may result in discomfort or inconvenience:

There are no foreseeable risks to you associated with your participation today. Should you experience any discomfort or inconvenience, you may withdraw at any time with no consequences. The investigator reserves the right to terminate your participation should the experimenter see it fit.

Benefits to the subjects or others:

This may be an opportunity to learn more about research in psychology, earn extra credit in a psychology course and/or win $25. For attending today, your name will be entered in a drawing to win 1 of 4 $25 prizes. Winners of the raffle will be notified by telephone and/or email upon completion of the data collection or on December 2002 (whichever comes first).

Confidentiality of research records:

Your name will not be associated with you during videotaping or viewing of the videotape and your data will not contain any identifying information such as your full name or school ID number. No identifying information will be placed on your questionnaires. Instead, a random number will be assigned to each participant and that number will be the only identifier. Only the investigators involved with the study will have access to your responses. All records will be kept in a locked file cabinet and in a locked room.
UNIVERSITY OF NORTH TEXAS
RESEARCH CONSENT FORM FOR GROUPS (Continued)

Review for protection of participants:

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940.

RESEARCH SUBJECTS’ RIGHTS: I have read or have had read to me all of the above.

Christina or Arlene or Luis _____ has explained the study to me and answered all of my questions. I have been told the risks or discomforts and possible benefits of the study.

I understand that I do not have to take part in this study, and my refusal to participate or to withdraw will involve no penalty or loss of rights or benefits or legal recourse to which I am entitled. The study personnel may choose to stop my participation at any time.

In case there are problems or questions, I have been told I can call ______Dr. Patricia Kaminski____ at telephone number _____940-565-2650 .

I understand my rights as a research subject, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being done. I have been told I will receive a signed copy of this consent form. I understand that I will be videotaped during my participation in this study and that other students in the study will view the tape. I understand that my full name will not be used on the tape but that other participants may be able to identify me while viewing the tapes. I authorize the experimenter to videotape me during this study and show the tape to other participants in the study.

______________________________  ______________________________
Subject's Signature               Date

______________________________  ______________________________
Witnesses' Signature             Date

For the Investigator or Designee:

I certify that I have reviewed the contents of this form with the person signing above, who, in my opinion, understood the explanation. I have explained the known benefits and risks of the research.

______________________________  ______________________________
Investigator's or Designee’s Signature  Date

Research Consent Form -Page 3 of 3
Appendix G

Debriefing Information Sheet
Debriefing Information
Gender and Leadership

Thank you for participating in this study! This debriefing sheet is for you to keep so that you can understand the details and purpose of the study. You were told that the purpose of this study is to measure responses in group problem solving activities. To be more specific, it examines the relationship between gender and leadership and to determine if gender differences exist between male and female leadership effectiveness when their effectiveness is measured objectively or subjectively. This study was also designed to observe if there is a gender difference in their leadership behaviors.

The objective measures of leadership in this study are the measures of group success from each group on the “Lost on the Moon” survival task. Average improvement scores will be generated for each group to give that group a “success score” which will be used to represent leader effectiveness. Each leader is also evaluated with a rating panel with 2 females and 1 male (female weighted) and by a panel with 2 males and 1 female (male weighted). This will be the subjective measure. The male and female leaders’ behavior is also evaluated to see if there are any significantly different behaviors used to lead the group.

What we expect to find is that no gender differences exist between male and female leaders when leadership effectiveness is assessed using an objective measure. We also expect to find that there is a gender difference when measuring leadership effectiveness (favoring either males or females) using a subjective measure, depending upon the composition of the rating panel. Finally, we have hypothesized that males and females use significantly different behaviors when leading a group.

Keep in mind that the information you have provided will remain entirely confidential and will not be available to anyone outside of this study. **We also want to remind you of the importance of keeping the details of this study confidential until the end of this year. Prior knowledge of the details could affect the way future participants behave and skew the results of the study. Therefore we ask you not discuss this study with others.**

Thank you again for your time and cooperation in this study! If you would like results after it the has been completed, or have any questions, please contact Arlene at ajr0030@unt.edu, Chrissy at christinayork@hotmail.com, or our faculty advisor, Dr. Kaminski in the psychology department.
Appendix H

Informed Consent Form (Phase 2)
University of North Texas
Institutional Review Board
Research Consent Form

Subject Name [ ] [ ]

Title of Study
Group Problem Solving

Principal Investigator Christina York, M.S.
Co-Investigator(s): Patricia Kaminski, Ph.D., Arlene Rivero, M.S.

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, and discomforts of the study.

Start Date of Study
02/01/2005

End Date of Study
02/01/2006

Purpose of the Study
The purpose of the study is to measure responses in group problem solving activities.

Description of the Study
If you are involved in the first phase of the study, you will be asked to complete a task alone, then with a group and then respond to two brief surveys. The entire duration of your participation should take 45 minutes.

If you are in another phase of the study, you will be asked to watch a series of videos and will be asked to rate the leaders of the groups you watch. You will then respond to three brief surveys. The entire duration of your participation should take one hour.

Procedures to be used
If you are involved in the first phase of the study and if you are 18 years of age or older and agree to be in the study, you will be able to participate. You will also get a copy of this form. Then, the experimenter will give you instructions. Next, you will get a “Lost on the Moon Task.” You will have 10 minutes to complete the task on your own. Afterwards, you will be asked to complete the same task in a group. There are correct and incorrect answers for this task. You will be given 20 minutes to complete the task as a group. While working in your group, you will be videotaped. Afterwards, you will be asked to fill out three forms that ask you about yourself and your experience.

The second part of the study involves trained coders who will be coding certain behaviors from the videotape.

If you are involved in the third phase of the study and if you are 18 years of age or older and agree to be in the study, you will be able to participate. You will also get a copy of this form.
Then, the experimenter will give you instructions. Next, you will be asked to watch a series of videos with groups performing a task. After each group, you will be asked to rate the group leader. You will then be asked to fill out three forms that ask you about yourself and your experience.

**Description of the foreseeable risks**
Possible discomfort is a risk. If you feel uncomfortable, you can leave at any time. There will be no negative consequences for leaving. The researcher may remove you from the study at any time if needed.

**Benefits to the subjects or others**
This is a chance for you to learn more about research in psychology. You can possibly earn extra credit in a psychology class for participating and will earn course credit needed by participating in a study. You can also enter a raffle to win $100.

**Procedures for Maintaining Confidentiality of Research Records**
Your name will not be attached to you while recording the group. Your name will not be matched with you while viewing the videotape either. The surveys will not have any identifying information such as your full name or school ID number. Instead, a number will be given to each person. That number will be the only way to identify you. Only researchers involved with the study can view your responses. All records will be kept in a locked file cabinet and in a locked room.

**Review for the Protection of Participants**
This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). If there are any questions regarding your rights as a research subject, contact the UNT IRB at (940) 565-3940.

**Research Subject's Rights**
I have read or have had read to me all of the above.

Christina York or Arlene Rivero have explained the study to me and answered all of my questions. I have been told the risks and/or discomforts as well as the possible benefits of the study.

I understand that I do not have to take part in this study and my refusal to participate or my decision to withdraw will involve no penalty or loss of rights or benefits.

In case problems or questions arise, I have been told I can contact Christina York in the Psychology Department at 214-565-2671 or Dr. Patricia Kaminski in the Psychology Department at telephone number 940-565-2650.

I understand my rights as research subject and I voluntarily consent to participate in this study. I understand what the study is about, how the study is conducted, and why it is being performed. I have been told I will receive a signed copy of this consent form.
For the Investigator or Designee:
I certify that I have reviewed the contents of this form with the subject signing above. I have explained the known benefits and risks of the research. It is my opinion that the subject understood the explanation.

Signature of Principal Investigator

Signature of Subject

Date
REFERENCES


Sell, Y., & Kline, J. Age, cooperative vs. lecture training, and group composition: Some preliminary findings of effects on performance. *Psychological Reports, 77*, 267-274.


