

**THE EMERGENCE OF FEMALE LEADERS:
THE EFFECTS OF SELF-MONITORING, PRIMING,
AND TASK CHARACTERISTICS**

by

Laurie Birch Buchanan

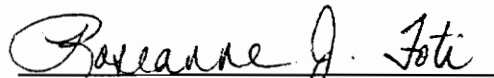
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(ABSTRACT)

Despite the growing number of women in the workforce, women still emerge as leaders in organizations less often than men. In order to understand this phenomenon, the current study explores the effects of self-monitoring, task characteristics, and priming on emergent male and female leaders. 160 high and low self-monitors performed one of two tasks (production or interpersonal task) in mixed-sex groups of four, with a priming manipulation given to half of the groups. It was hypothesized and found that high self-monitors emerged more often as leaders than low self-monitors. The second hypothesis received partial support, as males emerged as leaders more often in a production task, but females did not emerge more often in an interpersonal task. Other hypotheses also received partial support, showing that high self-monitoring males emerged more often as leaders than females even during interpersonal tasks. Females did not emerge more often as leaders even if they were high self-monitors or if they were given a priming manipulation before completing a specified task. The implications of these findings and directions for future research are discussed.

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INTRODUCTION

The workforce today is continually changing as more women enter the job market and begin careers. It is estimated that this influx of women in the workplace will account for 60% of new workers by the year 2000, dramatically altering the traditional face of organizations in the United States (Johnston & Packer, 1987). Nonetheless, it is still the case that performance by women in these organizations is viewed less favorably than equivalent performance by men. Perhaps the most fundamental and undeniable research finding thus far is that women emerge as leaders less often than men. Despite their high numbers in the working world, women only account for three to seven percent of workers in top management positions (Burke & McKeen, 1992). Moreover, the relative failure of women to enter high-ranking leadership positions has been documented in all other developed countries as well (Adler & Israeli, 1988; Davidson & Cooper, 1987).

The pervasiveness of this finding raises the question of why such a discrepancy in the emergence of male and female leaders exists. The evidence suggests that leader emergence may have more to do with an individual's sex than his or her performance. In essence, an individual's perceptions of leadership depend not only on behavioral observations, but also on the salience of the actor's gender. While in an objective sense, men and women may demonstrate similar behaviors in the workplace, women are consistently being evaluated less favorably, thereby hindering their emergence as leaders (Baumgardner, Lord, & Maher, 1991; Dobbins, Long,

Dedrick, & Clemons, 1990). Understanding this phenomenon would be of value to both men and women along with organizations, as utilizing the best individuals for leadership positions makes logical business sense. Thus, as the trend towards a more diverse workforce continues, the recognition and respect of women as leaders would be beneficial since they may become a powerful resource to an organization.

LEADER EMERGENCE: AN INFORMATION-PROCESSING APPROACH

A social information-processing approach to leader emergence provides a framework for addressing this issue. To account for the inconsistencies in leader emergence, such an approach emphasizes leader-nonleader distinctions by focusing on the underlying social-cognitive processes involved in perceptions of leadership. Further, information-processing can help to explain different perceptions of male and female leaders. Therefore, based on the logic of this approach, the current study proposes to assess leader emergence as a function of gender.

Utilizing the framework of information-processing, researchers searched for characteristics that universally distinguished leaders from nonleaders. Studies indicated that leadership may be a "fuzzy" category, such that some attributes are more commonly associated with leaders than nonleaders (Lord, Foti, & Phillips, 1982). For example, the most frequently mentioned leader qualities in this research included intelligent, aggressive, dominant, and outgoing (Cantor & Mischel, 1979; Rosch & Mervis, 1975; Zaccaro, Foti, and Kenny, 1991), supporting the idea that some traits are significantly associated with leadership perceptions.

Phillips and Lord (1981) asserted that leadership only exists as an unobservable personal quality, a perception inferred from "observed and assumed behavior as well as the consequences associated with that behavior" (p.144). The distinction between perceived and objective leadership is important. Michel (1973) argued that the actual traits of individuals are not good predictors of their behavior

across situations; however, traits are valuable constructions of perceivers, as they help perceivers make sense of social situations. "While traits may not be potent *causes* of a leader's behavior, they are important summary labels that help perceivers understand and predict a leader's behavior" (p.31). Recognizing that individual perceptions are unique, there is considerable room for variable interpretations of the same leadership behavior. While these perceptions may or may not coincide with actual behavior, they nevertheless are used by individuals to evaluate leaders and nonleaders.

In information-processing, perceptions have been equated with cognitive categorization, a process whereby nonidentical stimuli are separated into categories, such as leaders and nonleaders, so that the stimuli can be treated equivalently. Such categories are useful because they reduce the complexities of the external environment, allowing individuals to use category labels to represent the world symbolically (Lord & Maher, 1991). Importantly, categories do not possess necessary and sufficient attributes, and therefore, instances that fall into a category are not always clear. Any category members will share some attributes but not others. "The more features an instance shares with other category members, the more consistently, consensually, and quickly it is identified as a category member" (Fiske & Taylor, 1992, p.106).

Applying this process specifically to the domain of leadership, categorization first involves recognition-based processes through which a comparison is made

between characteristics distinctive of the category of leaders and an individual's characteristics. Second, inferential processes are used to make causal ascriptions, such that leadership perceptions and outcomes of organizational events are linked (Baumgardner et al., 1991). Based on this model, observers categorize others by comparing the similarity of their salient traits or behaviors to a leadership *prototype* (Lord, Foti, & DeVader, 1984). This prototype identifies an abstract composite of the most representative features of category members (Lord et al., 1984). The closer an individual matches a perceiver's leader prototype, the more likely the perceiver will categorize that individual as a leader. The studies described above, for example, identified some of the common attributes stored in a leader prototype (e.g., intelligent, dominant). This core set of characteristics associated with leadership provides a standard for assessing appropriate leader behavior. Therefore, the prototype provides a parsimonious and cognitively economical means for categorizing and recalling information concerning leaders (Phillips and Lord, 1981).

Since information-processing implies that leadership category membership is not mutually exclusive, categorization of individuals may vary depending on the context or specific characteristics of the individual. A person's gender may provide more salient information to the perceiver than other more subtle leader attributes. Therefore, categorization will be based on gender information rather than leader traits. Studies have shown that while the results of this categorization are inconsequential for males, it can be detrimental for women. These studies support the

claim that "successful leader" prototypes equate with characteristic male attributes (Powell & Butterfield, 1979; Schein, 1973), but differ significantly from typical female attributes. In particular, men are thought to be strong, independent, and aggressive, whereas women are characterized as weak, dependent, and uncompetitive (Dubno, 1985; Heilman, 1983). Because the male prototype is similar to the leader prototype, men can be placed in either category consistently. However, since the female prototype differs from the leader prototype, the saliency of gender may interfere with potential categorization of females as leaders.

Gender Role Schemas

As the information-processing approach indicates, once an individual has been identified as a category member, further processing occurs with the guide of information in that particular category. Such processing may be based on category schemas, or cognitive structures representing knowledge of an individual, including attributes and relations among those attributes (Fiske & Taylor, 1984). Because a schema pulls together characteristics into a single unifying theme, perceivers experiences others as a psychological unit, such that the various qualities of others fit this theme (Asch, 1946). Categories contain both schemas and prototypes, and while schemas are similar to prototypes, they are distinguishable also. Schemas are less specified, allowing for the possibility that features not meaningfully associated with the schema to be ignored. This gives schemas greater flexibility, as they influence encoding of new information along with inferences of missing information (Fiske &

Taylor, 1984).

Although several types of social schemas exist, role schemas are of central importance to processing information about other people. A social role specifies the particular behaviors expected of individuals in a particular social position. Thus, a role schema cognitively structures a perceiver's knowledge about these appropriate behaviors (Fiske & Taylor, 1994). Several researchers have proposed that the perceived differences between men and women can be attributed to distinctive sex roles (Cann & Siegfried, 1990; Eagly, Karau, & Makhijani, 1995; Heilman, 1983). Based upon traditional cultural norms and socialization processes, individuals develop expectations for behaviors they perceive to be appropriate for males and females. These acquired expectations are organized into role schemas which then influence one's understanding of schema-relevant information. Further, such schemas have been proposed as a way of accounting for stereotyping since stereotypes organize expectancies about other individuals who fall into particular social categories (Fiske & Taylor, 1984).

Heilman, Martell, and Simon (1988) suggest that "based upon assumptions about women as a group, inferences are made about an individual's attributes" (p.99). These inferences can be detrimental because in many cases, the ascribed attributes of a female gender schema are antithetical to the attributes believed necessary for success as leaders. This "lack of fit" between perceptions of job requirements and group-based perceptions of female attributes creates expectations that women are incapable

of handling such jobs (Heilman, 1984). Therefore, "reactions to leader behavior may depend on the perceived congruence between sex role norms and the leader style exhibited" (Russell, Rush, & Herd, 1988).

Heilman's explanation is consistent with the research findings that managers are perceived to possess characteristics ascribed more often to men than to women (Schein, 1973), and that women are at a disadvantage to men when selection decisions in organizations are made (Dipboye, Fromkin, & Wiback, 1975). Thus, there is a greater chance for males to be promoted to leadership positions than females. Even with the same qualifications, women are at a disadvantage to men in obtaining leadership positions in businesses and organizations (Eagly, Makhijani, & Klonsky, 1992; Heilman, 1980). The elicitation of gender schema may result in the reluctance of individuals to accept leadership behavior initiated by a woman because such leader behavior is not consistent with their image of women (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972; Wentworth & Anderson, 1984). Differences in sex roles, brought about by socialization, create distinctive male and female categories that affect the way in which individuals process information in the environment.

In summary, the information-processing model explains perception by postulating that noticed behaviors or attributes create a search for an appropriate category by matching an individual with schemas or prototypes within that category. An observer's perceptions in terms of leadership, therefore, depends on whether the leadership prototype is accessed before other possibly congruent social role schemas

(Lord et al., 1984). Since a gender schema operates by maximizing consistency between sex role expectancies and actual behaviors, an individual's behavior may be distorted to fit that schema (Schein, 1973). Gender is highly salient, perhaps the most salient aspect of any individual, and the operation of a sex-related stereotype essentially may be an automatic process (Baumgardner et al., 1991). The robust tendency "to appraise women's and men's behavior in the context of sex role stereotypes...can be described in terms of the high accessibility of sex role stereotypic schemas" (Hansen & Hansen, 1988, p.289). Deaux and Major (1987) also suggest that gender stereotypes may be activated very quickly, particularly in the beginning stages of social interaction. Therefore, when the categorization process elicits a gender schema instead of a leadership prototype, perceptions of an individual will be based on gender attributes rather than leadership attributes.

Schema Accessibility

Although the availability of gender schemas is widespread, this does not guarantee that they always will be used to encode behavior. There are multiple schemas available in a perceiver's cognitive repertoire, and the behaviors at hand will be "captured" by the most accessible schema. Accessibility of schemas is influenced by priming, referring to the effect of recent activation of a schema on the encoding of current information (Fiske & Taylor, 1984). Priming increases the likelihood that subsequently encountered individuals will be evaluated in the context of the primed schema. Such priming effects are largely automatic, such that the perceiver is not

aware of the primed construct (Hansen & Hansen, 1988). Thus, the individual determines that their perception is due to the stimulus itself, rather than due to previously provided information.

In past research, priming has been shown to have strong effects on a perceiver's subsequent stimulus interpretation. Gender schemas in particular have been used to demonstrate the consequences of priming. For example, subjects who observed gender-stereotypic rock videos later gave more exaggerated stereotypic interpretations of women's and men's interactions (Hansen & Hansen, 1988). Further, women primed with family terms recalled more accurately the goals of a wife/mother target, compared to a career woman target (Trzebinski & Richards, 1986). Given these effects, it is evident that individuals' perceptions are organized around the themes of the primed schema. However, when a particular schema has not been primed, perceptions are organized around the individual's own accessible schemas (Hansen & Hansen, 1988).

Given the evidence of the effectiveness of gender schema priming on the interpretation of stimuli in the environment, it is likely that the priming of particular leader schemas will also influence subsequent behavior interpretations. As the discussion above suggests, the elicitation (priming) of a leader category will serve to guide current perceptions differently than would the elicitation of a gender schema. Accordingly, the same behaviors exhibited by an individual will be interpreted differently if a leader schema is primed instead of another relevant schema (Herr,

Sherman, & Fazio, 1983). An individual's perceptions of potentially emergent leaders in a group will vary, depending on the content of the primed schema. As of yet, the leadership literature has not explored the effects of priming of female leader schemas on leader emergence, and therefore, the current study will address this issue.

Self-Monitoring

While the discussion of information-processing thus far has focused on leader emergence outcomes resulting from perceptions of an observer, these same processes occurring in the potential emergent leader cannot be overlooked. Just as schemas affect the interpretation of an other's behavior, so too, schemas affect the actor's actual behavior. The way in which an actor perceives his or her environment will subsequently determine how he or she will act upon the environment. Clearly, individuals vary in their ability to perceive differences in the variety of situations encountered in everyday life, and thus, they differ in their ability to behave appropriately across situations (Snyder, 1974). The information-processing approach suggests that an actor is capable of changing behavior to match the requirements of a given situation when that actor has many highly differentiated schemas available. Individual variations in the number and complexity of cognitive schemas affect the extent to which people organize their world (Fiske & Taylor, 1984). Therefore, the perceptions of both actors and observers will affect the emergence of leaders in group situations.

In particular, it has been documented that people cast in leadership positions

have the ability to perceive variations in group situations and pattern their behavior accordingly (Kenny & Zaccaro, 1983). Such an ability is reflective of the trait of self-monitoring. This trait has been applied across numerous behavioral domains, as it is proposed that the control and management of one's expressive behaviors is an inherent prerequisite for effective interpersonal and social functioning (Snyder, 1974).

As a psychological construct, self-monitoring is defined as the extent to which individuals observe, regulate, and control the public appearances of self in both social and interpersonal situations (Snyder, 1987). Lennox and Wolfe (1984) further added that self-monitoring describes the degree to which individuals are sensitive to the expressive behaviors of others and are capable of modifying the manner by which they exhibit their own expressive behaviors. For the sake of public appearances, expressive self-presentation is regulated, emphasizing "the adaptability of the presented self" (Briggs & Cheek, 1988, p.674).

Rather than appearing as a universal human characteristic, striking individual differences exist in self-monitoring behavior. People defined as high self-monitors attend closely to cues from others concerning situationally appropriate behavior and use such cues to guide their actions. These "social chameleons" have acute sensitivity to specific situations and highly developed repertoires of self-presentation skills (Ahmed, Garg, & Braimoh, 1986). As information-processing would suggest, individuals with this ability have more differentiated schemas with which their behavior in a variety of situations is guided. At the opposite end of the continuum,

low self-monitors rely on their own inner dispositions, values, and attitudes to determine what social behaviors to exhibit. Whether this behavior is due to lack of ability or lack of motivation to detect intricacies of situations, low self-monitors seem to be controlled by their internal affective states (Ellis & Cronshaw, 1992; Snyder, 1974). These individuals typically do not modify their behavior to match the requirements of a particular situation.

According to numerous studies, self-monitoring propensities are highly indicative of leader emergence. It has been shown experimentally that high self-monitors will emerge as leaders more often than low self-monitors (Dobbins et al., 1990; Ellis & Cronshaw, 1992; Snyder, 1979). However, when the gender of subjects was also manipulated, the expectation that high self-monitoring was associated with leader emergence was supported for male subjects but not for female subjects (Dobbins et al., 1990; Ellis & Cronshaw, 1992). This may indicate that perceptions of high self-monitoring females are still based on preexisting gender schema, biasing the observer's ratings. Raters tend to consider predominantly feminine attributes, instead of focusing on any observable leader behaviors. Behavior of high self-monitoring males, on the other hand, is likely to be congruent with the prototypical male characteristic of being "leader-like", thereby contributing to their overwhelming leader emergence (Dobbins et al., 1990).

Situational Characteristics

Not only are traits such as self-monitoring important determinants of leader

emergence, but so too are situational characteristics that may impact both our perceptions and the relevance of particular behaviors. In many organizational settings, group activities afford a task orientation at some times, but require a social, interactive orientation at other times. Therefore, behavioral requirements will vary depending on the particular situation at hand. More importantly, consistent gender differences in various situations has been well documented (Eagly & Karau, 1991; Eagly et al., 1995; Wentworth & Anderson, 1984). Given these differences, women are more effective in some situations while men are more effective in others (Powell, 1993).

The societal tendency for men to emerge in leadership roles has been linked to their task orientation in group situations. In fact, this tendency is congruent with the common perception that women do not have the necessary characteristics for success in leadership positions (Eagly et al., 1995; Eagly & Johnson, 1990). Eagly and Karau (1991) suggested that "men's specialization relative to women in strictly task-oriented behaviors is one key to their emergence as group leaders" (p.705). During group interactions, for example, men have been found to engage in more production-oriented behavior than women, and women have been found to engage in more positive social activity than men (Carli, 1989). Men were more oriented towards group productivity, exhibiting an autocratic, directive style. In contrast, women were shown to engage in more intuitive, empathetic, and helpful behaviors in occupational settings, and were also shown typically to have a democratic, participative style

(Eagly & Johnson, 1990; Schein, 1973). Women in managerial positions often adopt a participative style that is consistent with the female gender role (Eagly et al., 1995). This style of behavior may give women some recognition as social facilitators but not as overall leaders.

While female prototypic forms of leadership resemble an interpersonal, collaborative orientation, male prototypic forms of leadership have a dominating, production orientation (Eagly et al., 1992; Cann & Siegfried, 1990). Such learned behaviors underlie sex differences in interactions, guide action in group settings, and further support the existence of distinctive male and female categories. By adopting relatively feminine leadership styles, women may minimize role conflicts because people's expectations concerning female behavior are met. As male gender roles are aligned with leadership roles, no conflict exists (Eagly et al., 1995).

Despite the evident disadvantage for women in most situations, there may be certain circumstances under which women's orientation may have greater utility for leadership. Group tasks that require more of the skills prototypical of women, such as socioemotional, empathetic, and interactive skills demanded in socially complex tasks, create more probable circumstances for female leader emergence. Historically, since organizations have been dominated by men, a task-orientation may have been more highly valued. The overall tendency for males to emerge as leaders may therefore reflect the socially-constructed value placed on task performance rather than interpersonal behavior, and further, promote the traditional prototype of a leader.

By considering only the production-oriented aspects of tasks, other valuable task behaviors are overlooked. Cann and Siegfried (1990) suggest that the prototype of a masculine leader represents "a very narrow view that ignores an important dimension of effective leadership" (p.418). Rather than focusing on a limited range of behaviors, dimensions of effective leader behavior that correspond with behavioral styles associated with both feminine and masculine gender roles needs to be acknowledged (Cann and Siegfried, 1990). Due to the variety of situations that are faced by organizations, either a production orientation or an interpersonal orientation may be required for successful outcomes. By investigating different task conditions, specific circumstances under which women are more likely to emerge as leaders may be established. Further, as many organizations today are changing to favor a team-oriented approach and management styles that are more participative and less autocratic, leadership roles may become more congenial to women (Eagly et al., 1995).

Hypotheses

Based on the social information-processing approach and the findings of previous literature, it is hypothesized that leader emergence will vary as a function of gender, self-monitoring propensities, and task (situational) characteristics. The specific hypotheses are as follows.

Hypothesis 1: In both a production-oriented task and an interpersonally-oriented task, high self-monitors will emerge as leaders more frequently than low self-monitors.

Hypothesis 2: In a production-oriented task, males will emerge as leaders more often than females, and in an interpersonally-oriented task, females will emerge more often than males.

Hypothesis 3: When a female leader schema is primed, females will emerge more often than males as leaders than when a female leader schema is not primed.

Hypothesis 4a: In a production-oriented task, high self-monitoring females will emerge as leaders more often than low self-monitoring males.

Hypothesis 4b: In an interpersonally-oriented task, high self-monitoring males will emerge as leaders more often than low self-monitoring females.

Hypothesis 5a: When a female leader schema is primed, high self-monitoring females will emerge as leaders more often than high self-monitoring males, regardless of the task condition.

Hypothesis 5b: When a female leader schema is primed, high self-monitoring females will emerge more frequently as leaders than low self-monitoring males.

METHOD

Subjects

Subjects were recruited from an introductory-level psychology class at Virginia Polytechnic Institute and State University. All subjects received extra credit points for their participation in this study. During Phase I of the study, 311 students completed a selection battery consisting of: Ability to Modify Self-Presentation Scale (Lennox & Wolfe, 1984; Appendix A), Women As Managers Scale (Peters, Terboy, & Taynor, 1974; Appendix B), and Lost On The Moon Ability Test (Polk, 1991; Appendix C).

Based on the subjects' scores on the Lost on the Moon Ability Test and the Ability to Modify Self-Presentation Scale, 160 students were selected for participation in Phase II of the experiment. Subjects participated in groups of four, for a total of 40 groups. To obtain both high and low self-monitors, subjects were selected both above and below the median split ($Mdn = 56$) on the Ability to Modify Self-Presentation Scale, as described below. The groups will be composed of two high self-monitors (male and female) and two low self-monitors (male and female). The self-monitoring scale means and standard deviations for the selected group members are presented in Table 1.

- Insert Table 1 here -

Independent Variables

Tasks

The selection of the tasks for this study was based on a prior meta-analysis conducted by Eagly and Karau (1991). Exploring leader emergence in mixed-sex groups, this meta-analysis measured the gender typing of tasks, assessing sex differences including interest and competence in the task, and likelihood of a man or woman leading the group performing the task.

The production task in this study was Hall's (1973) "Lost on the Moon" problem (see Appendix D). This task requires subjects to determine the relative value of fifteen items remaining intact after their spaceship has crash-landed on the moon. The final ranking must be reached by group consensus (see consensus guidelines, Appendix E). The above meta-analysis demonstrated that this particular task is considered to have an overall masculine orientation; males are perceived to have both higher task interest and competence, as well as a higher likelihood of leading the task than females.

Based on the conclusions in Eagly's and Karau's (1991) meta-analysis, a discussion problem was selected for the interpersonal task. Since discussions require more social interaction than production tasks, "women might emerge as leaders more often because of their greater attention to...interpersonal relations" (Eagly & Karau, 1991, p.687). In this task, "Man Charged in Wife's Mercy Death", subjects are asked to discuss a dilemma concerning whether or not a man was justified in helping

his dying wife commit suicide (Galbraith & Jones, 1976, see Appendix G).

Arguments both for and against his actions are generated by the group.

Self-Monitoring

The 13-item Ability to Modify Self-Presentation Scale by Lennox and Wolfe (1984) taps subjects' self-monitoring propensities. Responses were made on 6-point Likert rating scales ranging from *certainly, always false* to *certainly, always true*. Analysis of the scale scores in the current sample revealed that self-monitoring was uncorrelated with sex ($r = -.03$, ns). Previous research has established that the scale has a coefficient alpha of .86 (Lennox & Wolfe, 1984). The median of 56 in the present sample is consistent with medians reported in past literature (e.g., Dobbins et al., 1990; Lennox & Wolfe, 1984).

Primes

One of two videotapes were used to prime each group, depending on the Prime or No Prime condition. For the Prime condition, the videotape consisted of two movie clips: the first clip is of Diane Keaton in *Baby Boom*, and the second clip is of Melanie Griffith in *Working Girl*. A manipulation check was conducted, demonstrating that subjects focused on desired leadership attributes of the women in the movie clips (see below).

For the No Prime condition, a videotape of equal length was shown to the groups, depicting a nature scene with music playing the background. This video served as a "neutral" stimulus, not evoking any particular schemas of the subjects.

Prime Manipulation Check

The priming manipulation used in this study was a two-minute videotape depicting two women in career-oriented, leadership roles (discussed above). The primary purpose of this manipulation check was to establish that the subjects focused on the female protagonists in the movie clips and recalled leader attributes rather than female attributes.

To test the priming manipulation, 36 subjects in groups of four were asked to watch the videotape and told that they would be given questions concerning the videotape later in the experiment. After viewing the tape, the subjects were asked to complete a ten-minute Picture-Number Task (Ekstrom, French, Harmon, & Derman, 1976), requiring them to memorize picture-number combinations and then recall the number that corresponded with each picture. This task was used to create a time delay between watching the video and answering questions about its content. Following this, the subjects were given a four-item questionnaire of open-ended questions such as "Please write down everything you can remember from watching this videotape" and "What struck you the most about the characters in this video?". After completing the questionnaire, the subjects were debriefed and excused.

A frequency analysis was conducted to determine if the subjects a) focused on the female leaders in the video rather than other characters in the clips, and b) recalled leader/male attributes about the women or more stereotypical female attributes. This analysis revealed that all 36 subjects (100%) focused on the female

leaders in the videotape. Further, of the 153 characteristics mentioned by the subjects, 140 (92 %) of the characteristics were leader/male attributes (e.g., powerful, intelligent, effective, dominant), while only 13 (8 %) were female attributes (e.g., soft, timid, attractive). An analysis of each individual subject's responses revealed that for 96 % of the subjects, over 80 % of his or her generated characteristics were leader/male attributes. Thus, this analysis revealed that the subjects focused on the women in the leader positions in the two movie segments, and further, characterized these women with leader attributes rather than stereotypical female attributes.

Other Measures

Women as Managers Scale: This scale was given to subjects to assess perceptions of women as potential leaders. Specifically, the questionnaire taps subjects' attitudes about women, which may in turn affect their nominations of group leaders. Although no specific hypothesis concerning scores on this scale and leadership perceptions has been generated, this scale may make explicit the underlying assumptions of the social information processing approach that gender schemas affect the categorization of males and females as leaders.

Lost on the Moon Ability Test: This test evaluates expertise of general astronomy and physics facts. Four specific questions on the Lost on the Moon Ability Test (Polk, 1991) tap knowledge of astronomy and physics concepts that are essential for successful completion of the Lost on the Moon exercise. All subjects who correctly answered these four test items were eliminated from the subject pool, as this indicated

expertise at the "Lost On The Moon" task and could bias the subsequent findings. In the current sample, 4 subjects (1%) answered all of the items correctly and were eliminated from further testing.

Dependent Measure

Leadership emergence was measured in the following way. The group members completed the five-item General Leadership Impression (GLI) scale (Lord et al., 1984; Appendix H), designed to assess leader impressions. This scale included items such as, "How much did the individual contribute to the effectiveness of the group?", as well as items assessing member persuasion, consideration, and initiating structure. The responses were made on a 5-point Likert scale ranging from *nothing* to *extreme amount*. Prior testing by Cronshaw and Lord (1987) has shown that this scale has high internal consistency (Cronbach's $\alpha = .87$). With respect to the current sample, analysis of internal consistency yielded a Cronbach's α of .93. GLI scores were initially calculated for each individual by summing scale scores across the other three group members. The individual item scores were reverse coded so that higher scores indicated higher leader emergence.

Procedure

Phase I. The subjects initially completed a test battery consisting of: Ability to Modify Self-Presentation Scale, Women As Managers Scale, and Lost On The Moon Ability Test. Following completion of this battery, a subject pool was selected according to Lost on the Moon test scores (as specified above) and the following self-

monitoring criterion: a median split procedure was conducted in which subjects with scores below the median were placed in the LSM condition and subjects with scores above the median were placed in the HSM condition. Subjects with self-monitoring scores definitively above (HSM's) and below (LSM's) the median were selected for the group task.

Phase II. Subjects reported to the testing room in groups of four (one HSM male, one LSM male, one HSM female, one LSM female). They were greeted by the experimenter and then seated around a circular table facing each other. The subjects read a description of the experiment, informing them that would be participating in a study about group performance, and that they would be videotaped. The subjects then were asked to watch a short videotape while the experimenter left the room to make copies of the upcoming task. Depending on the priming condition (Prime or No Prime), the subjects were shown a) the two-minute videotape of the two movie clips, or b) the two-minute videotape depicting nature scenes with background music. When the videotape was almost done, the experimenter re-entered the room and feigned to realize that the subjects were in fact watching the wrong videotape. The experimenter decides to go ahead and let the group begin the task, with the caveat that the "correct" videotape would be shown when the task is completed.

To begin the group task, the experimenter reviewed the Consensus guidelines with the subjects and then distributed written copies of the task itself. The subjects were given fifteen minutes to reach group consensus. The particular task (i.e.,

production or interpersonal task) completed by each group was randomly assigned. Following completion of the task, the group response was collected and then the experimenter asked all subjects to complete the GLI scale individually (described above). After completing the scale, subjects were debriefed and excused.

Analysis

All analysis conducted in this study was group-level analysis. Descriptive statistics for the measure used in the experiment (GLI scale) were computed initially. To further analyze the above hypotheses, analysis of variance (ANOVA) was conducted on the dependent measure. Self-monitoring and subject sex were within-subject independent variables and task condition and priming condition were between-subjects independent variables. To analyze hypotheses one through three above, a mixed design 2 (Subject Sex) x 2 (Self-Monitoring) x 2 (Task Condition) x 2 (Priming Condition) analysis of variance was conducted. In order to test hypotheses four and five, two-sample t-tests were utilized.

RESULTS

As a preliminary analysis, I checked to see if men tended to emerge as leaders more often than women. Although the mean summated GLI score for men was higher than that for women ($M = 52.75$ and $M = 50.81$, respectively), this difference was not significant, indicating that neither men nor women emerged more frequently as group leaders across the two tasks.

Leader Emergence

To test hypotheses one through three, a mixed design 2 (Subject Sex) x 2 (Self-Monitoring) x 2 (Task Condition) x 2 (Priming Condition) analysis of variance was conducted on the dependent measure. The overall analysis is presented in Table 2, and the corresponding descriptive statistics in Table 3.

- Insert Tables 2 and 3 here -

Consistent with hypothesis one, this analysis revealed a significant main effect for Self-Monitoring, $F(39, 120) = 56.80$, $p < .01$, (HSMs $M = 62.15$, LSMs $M = 45.80$). HSMs emerged as group leaders significantly more often than LSMs.

In addition to this main effect, a two-way interaction between Subject Sex and Task Condition was significant, $F(39, 120) = 5.12$, $p < .05$. Subsequent simple main effects analyses indicated that this interaction partially supported hypothesis two. While males emerged as leaders significantly more often than females in the production task, $t(78) = -2.34$, $p < .05$, (male $M = 54.33$, female $M = 49.38$), females did not emerge as leaders significantly more frequently than males in the

interpersonal task, $t(78) = -.47$, $p > .05$, (male $M = 51.18$, female $M = 52.25$).

Before presenting the analysis for hypothesis three, concern about the effectiveness of the priming manipulation will be addressed. Although the manipulation check on the priming tape (in the prime manipulation check discussed above) demonstrated that subjects clearly focused on women in leadership roles on the videotape, the current sample also was assessed for their reaction to the tape. A frequency analysis was conducted on the questionnaire given to all of the primed subjects, inquiring about their thoughts while watching the videotape. This analysis revealed that, like the pilot sample, all of the subjects (100%, $n = 80$) focused on the female leaders in the tape. Of the 173 characteristics generated by the subjects, 157 (91%) were leader characteristics (e.g., dominant, intelligent, in control), while only 16 (9%) were female characteristics (e.g., passive, soft-spoken). Thus, the videotape clearly evoked the desired images of female leaders.

Turning towards the analysis of hypothesis three, the predicted two-way interaction between Subject Sex and Prime was not significant. Females did not emerge more frequently as group leaders than males when they were primed versus when they were not primed, although there was a trend in this direction. In the primed groups, females received higher leader emergence scores ($M = 52.13$) than females in the unprimed groups ($M = 49.50$). Males, however, received lower leader emergence scores in the primed groups ($M = 52.03$) than the unprimed groups ($M = 53.48$). These mean differences and standard deviations are presented in

Table 3.

Additional within-sex analyses of the primed and unprimed groups revealed that, for females, the priming manipulation did not significantly increase leader emergence, $t(78) = 1.24$, $p > .05$. Likewise, leader emergence in males was not significantly influenced by the prime, $t(78) = -.63$, $p > .05$.

Independent sample t-tests were conducted to test the predictions of hypotheses 4a and 4b. Overall, these hypotheses received partial support. The t-tests confirmed that in the interpersonal task, HSM males ($M = 55.00$) emerged as leaders significantly more often than LSM females ($M = 45.10$), $t(18) = 2.29$, $p < .05$ ($\eta^2 = .225$), supporting hypothesis 4a. However, in the production task, HSM females ($M = 55.00$) did not emerge as leaders significantly more often than LSM males ($M = 47.40$), $t(18) = -1.63$, $p > .05$. Although this finding fails to support hypothesis 4b, inspection of the means reveals a trend in the predicted direction.

Similarly, independent sample t-tests revealed that hypotheses 5a and 5b received partial support. Hypothesis 5a was not supported in that when a group was primed, the t-test showed that HSM females ($M = 56.75$) did not emerge as leaders significantly more often than HSM males ($M = 56.45$) across both tasks, $t(38) = -.11$, $p > .05$. As predicted by hypothesis 5b, however, HSM females ($M = 56.75$) did emerge as leaders significantly more often than LSM males ($M = 47.60$) in both tasks, $t(38) = -3.26$, $p < .01$ ($\eta^2 = .218$).

Exploratory Analysis

Exploratory analysis of the WAMS scale revealed that correlation between the WAMS measure and self-monitoring was not significant ($r = .05$, $p > .05$), nor was the correlation between the WAMS measure and GLI scores significant ($r = -.09$, $p > .05$). Therefore, neither differences in self-monitoring propensities nor differences in perceived leader emergence were associated with attitudes towards women in leadership roles. A positive correlation with sex ($r = .46$, $p < .01$), however, indicated that males tended to rate womens' management and leadership potential less favorably than females did.

Inspection of individual items revealed that those items generating the greatest discrepancy between men and women included those concerning: the influence of emotions on womens' managerial behavior, the ability of women to be assertive in business situations that demand it, and the ability to balance work and family needs. Compared with males in the subject population, females did not agree that these issues would negatively influence a woman's managerial behavior. In contrast, several items revealed some agreement between males and females attitudes about women in business. Both sexes thought that women had the objectivity to evaluate business situations properly and the ambition to be successful in the business world.

DISCUSSION

Consistent with findings of some of the previous literature (e.g., Ellis & Cronshaw, 1992; Dobbins et al., 1990; Snyder, 1979), the results of the present study revealed that high self-monitors emerged more often as leaders than low self-monitors. It is likely that high self-monitors, with both highly developed repertoires of self-presentation skills and an acute sensitivity to specific situations, adapt their behavior to fit the given task. Low self-monitors, however, are more likely to act consistently across situations, relying on their own inner dispositions, and so they may not have modified their behavior to match the task at hand (Snyder, 1987). Therefore, high self-monitors emerged more frequently as the group leaders, as they patterned their behavior in accordance with the situation.

Other recent literature is also consistent with the present findings. Zaccaro, Foti, and Kenny (1991), for example, found a significant correlation between self-monitoring scale scores and leader rankings such that higher self-monitors received higher leader rankings. Their results supported the prediction that "high self-monitors adapt their behavior to changing situations " (Zaccaro, Foti, & Kenny, 1991, p.312). Likewise, Ellis and Cronshaw (1992) demonstrated that high self-monitors, particularly male high self-monitors, emerged more often as group leaders, while Dobbins, Dedrick, and Clemons (1990) showed that high self-monitors were more frequently nominated as leaders and exerted greater influence on group decisions. In an applied setting, Kilduff (1992) demonstrated that high self-monitors relied on social

networks and external information when making career choices, whereas low self-monitors relied on self-knowledge concerning career preferences. Since they are more attuned to the behaviors of those around them, high self-monitors are more likely to emerge as leaders, as they meet leadership role demands successfully (Kilduff, 1992). These studies along with the current results suggest that high self-monitoring may be indicative of leader emergence, and ultimately, career success.

Not only is self-monitoring an important individual difference variable in leadership emergence, but other recent literature also demonstrates its importance in leadership effectiveness. Kilduff and Day (1994) tracked the career progress of business graduates for five years and found that high self-monitors were more likely to achieve promotions, both internal and external to their current companies, than low self-monitors. "The impression management and interpersonal skills of high self-monitors may give them increasing advantages as they move up the corporate ladder" (Kilduff & Day, 1994, p.1056). Such findings indicate that an individual's self-monitoring tendency may have implications throughout his or her career.

The present findings also showed that the emergence of either men or women as group leaders may be a function of task characteristics. However, while men emerged as leaders most often in production tasks, women did not emerge as leaders more often in interpersonal tasks. These differences in leader emergence may be explained by the influence of culturally prescribed gender roles. As previous literature has shown, male gender roles and leader attributes coincide, but female

gender roles and leader characteristics conflict (Eagly & Karau, 1991; Heilman, 1984). Based on social role theory (Eagly, 1987; Eagly & Karau, 1991), individuals engage in activities that fit with socially defined gender roles. "Men are believed to possess attributes suited for the roles that they occupy, and women are believed to possess attributes for the roles they typically occupy" (Eagly & Karau, 1991, p.686). Behavior that is consistent with these defined roles is acceptable and evaluated more favorably than behavior that is inconsistent with socially prescribed roles. Thus, it is likely that despite progress, stereotypes still remain that adversely affect women's upward mobility.

Specifically, gender role schemas suggest that men, but not women, will emerge as leaders. Since these schemas which organize our expectancies about male and female behavior are resistant to change (Fiske & Taylor, 1984), women's progression into upper-level positions will be slow. The particular kinds of positive attributes most often ascribed to women (i.e, friendly, nurturing qualities) probably "contribute to the exclusion of women from certain kinds of high-status roles" (Eagly, 1995, p.155). Although women may tend to manifest interpersonal and democratic behavior in a group setting, thereby acting consistently with gender roles, such behavior is inconsistent with typical leader behavior (Eagly & Johnson, 1990). It may be the "specialization" of behavior, namely, that men focus on task completion whereas women focus on social interactions, that contributes to the long-standing association between men and leadership, but not women and leadership (Eagly &

Karau, 1991). It may be that a change in the stereotype of leaders to include more social and communal qualities is required before women will emerge more frequently as leaders.

Overall, it appears that women may be evaluated less favorably as leaders when they exhibit either interpersonal behavior or leader (male) behavior. At the same time, men who typically manifest an autocratic and production-oriented style meet both the gender role stereotypes and leader expectations of the perceiver. Therefore, the association between gender role stereotypes and characteristics individuals perceive as requisite for leadership emergence and managerial success may still be relatively strong. The "lack of fit" between perceptions of job requirements and women's attributes results in expectations that women will fail miserably in such jobs (Heilman, 1984). As long as these current gender role stereotypes are prevalent, women may continue to emerge as leaders less frequently than men.

Thus, although past research offers some theoretical and empirical support for the importance of situational characteristics on the emergence of leaders (e.g., Eagly & Karau, 1991; Powell, 1993), the current research may explain why a large discrepancy still exists in the number of male and female leaders. If the characteristics of a setting differentiate male and female leader emergence, then it is likely that a greater number of women would hold leadership positions in organizations than is currently the case. The fact that very few women do hold upper management positions (Lord & Maher, 1991; Devanna, 1987) indicates that other

factors are interfering with their leader emergence. The discrepancy may be due to a continued emphasis on the controlling and productive aspects of leadership. To the extent that men have occupied a majority of leadership roles in the past, the importance of an autocratic, task-oriented style of leadership may be stressed, while a democratic, interpersonal style is downplayed. Although organizations have become more accepting of women on the surface, the deep structure of valued characteristics and leader style remains dominated by male characteristics (Burke & McKeen, 1992). Such expectations about leadership style may gradually change as more women enter managerial roles. "Many organizations may be changing to favor styles of management that are less autocratic and more participative, producing managerial roles that tend to be more congenial to women" (Eagly et al., 1995). Over time, these subtle changes may create a greater acceptance of female leadership styles. It is with these changes that women may eventually emerge more frequently as leaders.

The present study also predicted that priming groups with images of female leaders would affect leader emergence. However, priming did not significantly change the leader emergence in the groups. Looking specifically at the prediction that females would emerge more often as leaders than males when primed (hypothesis three), it is clear that the prime was not effective in improving female leader emergence. What is even more surprising, however, is that the within-sex comparison of primed and unprimed females, as well as primed and unprimed males, yielded no significant changes in leader emergence. One explanation is that, as the

earlier discussion suggests, gender stereotypes are still powerful enough to hinder female emergence despite favorable conditions (i.e., priming or interpersonal situations).

Another possibility, given these findings, is that the priming manipulation in this study was not effective. Although the manipulation check demonstrated that the priming tape evoked the desired female leader category, the subsequent task may not have been interpreted as an instance of this category. Herr, Sherman, and Fazio (1983) concluded that the prime "must be presented in a context that is closely related or no association will be made between the prime and the target" (p.337). Further, prior priming research has emphasized the importance of achieving adequate magnitude of the priming manipulation in order for it to be effective (Hansen & Hansen, 1988). This may not have been achieved in the present study.

In addition, the level of motivation of subjects may have affected the results, as it has been shown that motivation can affect the activation of a primed category (Isen, Shaker, Clark, & Karp, 1978). The students in this research may have had low levels of motivation, and consequently, this lessened the effect of the priming manipulation. Another possibility is that the two task conditions were not ambiguous enough to evoke the use of the primed category. Prior priming research has emphasized that when subjects are given *ambiguous* information, this information is categorized in the most recently activated category (Herr, Sherman, & Fazio, 1983). However, the tasks administered to the subjects may not have been ambiguous, and

therefore, the tasks were not perceived in light of the recently activated primed category. A final consideration is that the priming manipulation did not reach statistical significance as predicted due to a small effect size. The obtained effect size of .2 is considered small by conventional standards (Cohen, 1988), and potentially due to the small sample size in this study, as discussed below.

Consistent with the above discussion, the partial support for hypothesis four may have been indicative of the current gender role stereotypes. Even though high self-monitoring males could overcome task differences in the interpersonal task, and emerge as leaders more often than low self-monitoring females, high self-monitoring females were not able to emerge more frequently as leaders than low self-monitoring males in the production task. Even those women with high self-monitoring propensities may not be able to overcome the expectations established by gender role schemas. Lee and Alvares (1977), for example, demonstrated that females were devalued relative to males when they adopted a leadership style that was stereotypically masculine (i.e., autocratic, directive). "Role conflict for female leaders might be minimized by adopting ... a leadership style that would meet people's traditional expectations about female behavior" (Eagly et al., 1995, p.126). Therefore, female high self-monitors would perceive an interactive style to be effective across situations, whereas male high self-monitors would perceive an autocratic style to be effective across situations. According to gender role theory, the perceptions of both high self-monitoring males and females would be accurate.

However, because male characteristics and leader characteristics are similar, males can emerge as leaders in a variety of situations, as was demonstrated in this study. On the other hand, female attributes and leader attributes are too discrepant for females to overcome these role conflicts and emerge as leaders, even if they are high self-monitors.

Another possibility for these findings is the low power of this study. Since the insignificant trend was in the predicted direction, indicating that high self-monitoring females emerge as leaders more often than low self-monitoring males in production-oriented tasks, this further supports such an explanation. Although this hypothesis received only partial support, this may have been due to the small sample size. There were only ten groups in each condition (for a total of forty groups), which clearly could have reduced the power of the analysis of variance test. Especially for the analyzed three-way interaction, the study may have lacked sufficient power to reach adequate levels of significance and reject the null hypothesis (Pedhazur & Schmelkin, 1991). The fact that the trend was in the predicted direction supports this explanation for the insignificance of some the results.

Likewise, the above discussion may explain why the between self-monitoring, sex, and priming in hypothesis five was also only partially supported. Although high self-monitoring women emerged more often as leaders than low self-monitoring men when primed, high self-monitoring women did not emerge more often than high self-monitoring men when primed. This is consistent with the previous findings in this

study. If culturally defined gender roles are so pervasive, they may have inhibited high self-monitoring women from altering their style of interacting in the groups, or altered the way in which these women were perceived by the other group members. Just as high self-monitoring women could not overcome stereotypes and emerge as leaders in production tasks (hypothesis four), they also could not emerge as leaders over high self-monitoring men across the task conditions, even when they were primed.

Second, the results may have been due to the ineffectiveness of the priming manipulation, as suggested above. Briefly, the prime may not have been of sufficient length or magnitude to remain salient during task completion, or the tasks were unambiguous, leaving little room for interpretation on the part of the subjects. Finally, like hypothesis four, the insignificant difference between high self-monitoring males and females in primed groups may have been affected by the low power of the study. With additional groups in each of the four testing conditions, high self-monitoring females may have emerged significantly more often as group leaders across both tasks when they were primed.

In order to evaluate whether there were any conditions in this study under which females would emerge more often as leaders than males, an exploratory analysis was conducted in which the most optimal conditions for female leader emergence were tested. Thus, primed, high self-monitoring females were compared with primed, low self-monitoring males on an interpersonal task. The results of this

analysis were encouraging, as females did emerge most frequently as the leaders of this task ($p < .05$). However, when this analysis was conducted on the production task, females failed to emerge as leaders. Nonetheless, these results offer encouragement that there are conditions under which females will emerge as group leaders.

Although no *a priori* predictions were made, the exploratory analysis of the WAMS questionnaire offers some insight into the current perceptions of women in management. Men clearly perceived women to be less effective in leadership roles than men, while women did not share this perception. Brenner, Tomkiewicz, and Schein (1989) found similar results, whereby men ascribed leader characteristics to men but not to women, but women perceived leaders to possess characteristics ascribed to both women and men. Likewise, Eagly et al. (1995) and Dubno (1985) demonstrated that men significantly favored men as leaders and while women did not favor one sex over the other. Overall, it appears that "sex role stereotypes regarding women's behavior and work habits and the reasons women work have a real and negative impact on women" (Brenner et al., 1989, p.663). The WAMS questionnaire emphasized this, as it was women's lack of assertiveness, lack of control over emotions, and problems balancing family and work issues that created the biggest sex discrepancy. These issues in particular put women in management or leadership positions at odds with the traditional female gender role stereotype. Since stereotypes are resistant to change, this barrier will be especially difficult to remove.

Overall, the results of the present study clearly indicate some avenues for future research. More research is needed to specify situations that favor women and those that favor men for leadership. The current findings suggest that although men emerge more often as leaders in production-oriented situations, women did not emerge more often as leaders in interpersonally-oriented situations. As social role theory (Eagly, 1987) suggests that there may in fact be situations in which women are more likely to emerge as leaders, future research could address what these situations are and where they are likely to occur. Eagly and Karau (1991) suggested that if "what constitutes excellent leadership would shift somewhat to incorporate greater attentiveness to personal relationships...women would probably achieve greater representation in the ranks of leaders" (p.705). In organizations, particular situations may be better handled by either male or female managers. Lower-level management may require more technical skills, for example, whereas middle-level management may require more interactive skills, such as those needed to develop and motivate subordinates (Paolillo, 1981). To date, however, specific organizational situations such as this have not been addressed in the leadership literature.

Second, the effects of priming need to be studied more extensively. As suggested here, the magnitude and duration of the prime, and the ambiguity of stimuli are important considerations in future priming research. Further, priming effects could be approached in applied settings as well as in the laboratory. For example, the lack of female mentors in organizations is one potential explanation for the failure of

women to advance to top management positions (Burke & McKeen, 1992; Jayson & Williams, 1986). The presence of female mentors in an organization may serve as a "prime" for women, and affect their emergence as group leaders. As role models, such mentors may greatly enhance women's performance as leaders. Research in this domain could provide valuable insight for business professionals concerned with promoting female leaders within their organizations.

Finally, the pervasiveness of the wrong kind of gender role stereotypes continues to hinder the emergence of women as leaders. The perception that women in general are less effective leaders than men persists. "Gender role expectations spill over onto leadership roles within organizations and groups and produce important consequences for the effectiveness of leaders" (Eagly et al., 1995). While the consequences of gender role stereotypes in the domain of leadership have been extensively studied, the process of altering these stereotypes is less understood. The exploration of this process offers a challenge to psychological research that would further provide invaluable insight into perceptions of women and men in professional and managerial jobs. Through a greater understanding of the conditions under which men and women emerge as leaders, organizations can obtain the best people for their leadership positions, and help to guarantee that all levels of management are filled with strong executives.

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APPENDIX A
ABILITY TO MODIFY SELF PRESENTATION SCALE

Ability To Modify Self Presentation Scale

The statements on the following pages concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. Place a checkmark above the selection that most accurately reflects how you normally act in each situation.

It is important for our research that you answer as frankly and as honestly as you can. Your answers will be kept in the strictest confidence.

1. In social situations, I have the ability to alter my behavior if I feel that something else is called for.

certainly,
always true

generally
true

somewhat true,
but with
exception

somewhat false,
but with
exception

generally
false

certainly,
always
false

2. I am often able to read people's true emotions correctly through their eyes.

certainly,
always true

generally
true

somewhat true,
but with
exception

somewhat false,
but with
exception

generally
false

certainly,
always
false

3. I have the ability to control the way I come across to people, depending on the impression I wish to give them.

certainly,
always true

generally
true

somewhat true,
but with
exception

somewhat false,
but with
exception

generally
false

certainly,
always
false

4. In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.

certainly,
always true

generally
true

somewhat true,
but with
exception

somewhat false,
but with
exception

generally
false

certainly,
always
false

5. When I feel that the image I am portraying isn't working, I can readily change it to something that does.

<div><div></div><div>certainly, always true</div></div>	<div><div></div><div>generally true</div></div>	<div><div></div><div>somewhat true, but with exception</div></div>	<div><div></div><div>somewhat false, but with exception</div></div>	<div><div></div><div>generally false</div></div>	<div><div></div><div>certainly, always false</div></div>
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6. My powers of intuition are quite good when it comes to understanding others' emotions and motives.

<div><div></div><div>certainly, always true</div></div>	<div><div></div><div>generally true</div></div>	<div><div></div><div>somewhat true, but with exception</div></div>	<div><div></div><div>somewhat false, but with exception</div></div>	<div><div></div><div>generally false</div></div>	<div><div></div><div>certainly, always false</div></div>
---	---	--	---	--	--

7. I have trouble changing my behavior to suit different people and different situations.

<div><div></div><div>certainly, always true</div></div>	<div><div></div><div>generally true</div></div>	<div><div></div><div>somewhat true, but with exception</div></div>	<div><div></div><div>somewhat false, but with exception</div></div>	<div><div></div><div>generally false</div></div>	<div><div></div><div>certainly, always false</div></div>
---	---	--	---	--	--

8. I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.

<div><div></div><div>certainly, always true</div></div>	<div><div></div><div>generally true</div></div>	<div><div></div><div>somewhat true, but with exception</div></div>	<div><div></div><div>somewhat false, but with exception</div></div>	<div><div></div><div>generally false</div></div>	<div><div></div><div>certainly, always false</div></div>
---	---	--	---	--	--

9. I have found that I can adjust my behavior to meet the requirements of any situation I find myself in.

<div><div></div><div>certainly, always true</div></div>	<div><div></div><div>generally true</div></div>	<div><div></div><div>somewhat true, but with exception</div></div>	<div><div></div><div>somewhat false, but with exception</div></div>	<div><div></div><div>generally false</div></div>	<div><div></div><div>certainly, always false</div></div>
---	---	--	---	--	--

10. I can usually tell when I've said something inappropriate by reading it in the listener's eyes.

<div><div></div><div>certainly, always true</div></div>	<div><div></div><div>generally true</div></div>	<div><div></div><div>somewhat true, but with exception</div></div>	<div><div></div><div>somewhat false, but with exception</div></div>	<div><div></div><div>generally false</div></div>	<div><div></div><div>certainly, always false</div></div>
---	---	--	---	--	--

11. Even when it might be to my advantage, I have difficulty putting up a good front.

<u>certainly,</u> always true	<u>generally</u> true	<u>somewhat true,</u> but with exception	<u>somewhat false,</u> but with exception	<u>generally</u> false	<u>certainly,</u> always false
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12. If someone is lying to me, I usually know it at once from the person’s manner of expression.

<u>certainly,</u> always true	<u>generally</u> true	<u>somewhat true,</u> but with exception	<u>somewhat false,</u> but with exception	<u>generally</u> false	<u>certainly,</u> always false
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13. Once I know what the situation calls for, it’s easy for me to regulate my actions accordingly.

<u>certainly,</u> always true	<u>generally</u> true	<u>somewhat true,</u> but with exception	<u>somewhat false,</u> but with exception	<u>generally</u> false	<u>certainly,</u> always false
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APPENDIX B

WOMEN AS MANAGERS SCALE

Women As Managers Scale

Instructions: The following items are an attempt to assess the attitudes people have about women in business. The best answer to each statement is your personal opinion. The statements cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many people feel the same way you do.

Using numbers from 1 to 7 on the rating scale given below, mark your personal opinion about each statement in the blank that immediately precedes it. Remember, give your personal opinion according to how much you agree or disagree with each item. Please respond to all 21 items. Thank you.

Rating Scale

1 = Strongly Disagree

2 = Disagree

3 = Slightly Disagree

4 = Neither Disagree or Agree

5 = Slightly Agree

6 = Agree

7 = Strongly Agree

- _____ 1. It is less desirable for women than men to have a job that requires responsibility.
- _____ 2. Women have the objectivity required to evaluate business situations properly.
- _____ 3. Challenging work is more important to men than women.
- _____ 4. Men and women should be given equal opportunity for participation in management and training programs.
- _____ 5. Women have the capability to acquire the necessary skills to be successful managers.
- _____ 6. On the average, women managers are less capable of contributing to an organization's overall goals than are men.
- _____ 7. It is not acceptable for women to assume leadership roles as often as men.
- _____ 8. The business community should someday accept women in key managerial positions.
- _____ 9. Society should regard work by female managers as valuable as work by male managers.
- _____ 10. It is acceptable for women to compete with men for top executive positions.
- _____ 11. The possibility of pregnancy does not make women less desirable employees than men.
- _____ 12. Women would no more allow their emotions to influence their managerial behavior than would men.
- _____ 13. Problems associated with menstruation should not make women less desirable than men as employees.
- _____ 14. To be a successful executive, a woman does not have to sacrifice some of her femininity.

- _____ 15. On the average, a woman who stays at home all the time with her children is a better mother than a woman who works outside the home at least half-time.
- _____ 16. Women are less capable of learning mathematical and mechanical skills than are men.
- _____ 17. Women are not ambitious enough to be successful in the business world.
- _____ 18. Women cannot be assertive in business situations that demand it.
- _____ 19. Women possess the self-confidence required of a good leader.
- _____ 20. Women are not competitive enough to be successful in the business world.
- _____ 21. Women cannot be aggressive in business situations that demand it.

APPENDIX C
LOST ON THE MOON ABILITY TEST

Lost On The Moon Ability Test

Answer the multiple choice questions below. This test is intended to test your basic knowledge of the Moon and some general physics concepts.

1. Objects are _____ on the Moon than on the Earth.
 - a. lighter
 - b. the same weight
 - c. heavier
2. The Moon
 - a. rotates on its axis with the same period as its revolution about the Earth
 - b. does not rotate
 - c. always points the same face toward the Sun
3. Which element is not found on the Moon's crust?
 - a. Aluminum
 - b. Iron
 - c. Carbon
 - d. Silicon
4. The Moon's diameter is approximately
 - a. 500 kilometers
 - b. 1,500 kilometers
 - c. 2,500 kilometers
 - d. 3,500 kilometers
5. *Maria* are thought to have originated as
 - a. bodies of water which are now dried up
 - b. lava flows
 - c. highlands
6. *Rilles* are
 - a. smooth valleys
 - b. canyons
 - c. highlands

7. The temperature on the lighted side of the Moon is approximately
 - a. -150 degrees Celsius
 - b. -75 degrees Celsius
 - c. 0 degrees Celsius
 - d. 110 degrees Celsius
 - e. 230 degrees Celsius
8. The temperature on the dark side of the Moon is approximately
 - a. -150 degrees Celsius
 - b. -75 degrees Celsius
 - c. 0 degrees Celsius
 - d. 110 degrees Celsius
 - e. 230 degrees Celsius
9. How does the Moon's magnetic field compare to the Earth's?
 - a. The Moon's magnetic field has the same form as the Earth's.
 - b. The Moon's magnetic field is stronger than the Earth's.
 - c. The Moon has no magnetic field.
10. The Moon's gravity is _____ the Earth's gravity.
 - a. 1/6th
 - b. 1/2
 - c. the same as
 - d. twice
11. Where is the Moon when full Moon occurs?
 - a. Between the Earth and the Sun.
 - b. Opposite the Sun from the Earth.
 - c. At a 90° angle from the Sun as seen from the Earth.
12. In comparison to Earth's surface, the Moon receives how much radiation (at all wavelengths)?
 - a. More radiation.
 - b. About the same amount of radiation.
 - c. Less radiation.
13. The oxygen content of the Moon's atmosphere is
 - a. approximately the same as the Earth's.
 - b. greater than the Earth's.
 - c. less than the Earth's.
 - d. The Moon has no atmosphere.

14. The Moon's surface has more craters than the Earth's surface because
 - a. erosion has eliminated most of the Earth's craters.
 - b. the Moon has no atmosphere to shield it from meteorites, dust, and solar radiation.
 - c. both a and b.
15. The mountainous areas of the Moon
 - a. are rocky with steep cliffs and valleys.
 - b. are more rounded than the Earth's largest mountains.
 - c. There are no mountainous areas on the Moon.
16. What happens to an ice skater who throws a rock?
 - a. The skater moves away from the direction the rock was thrown.
 - b. Nothing.
 - c. The skater moves towards the direction the rock was thrown.
17. Why couldn't you pick up K92 on the west coast, even if it had a large transmission signal?
 - a. The west coast is below the horizon of the Earth as seen from Roanoke.
 - b. The signal would be absorbed by the atmosphere.
 - c. Other nearby stations on the same channel would swamp the signal.
18. Why can we pick up short wave radio transmissions from the west coast?
 - a. They are transmitted along the power line grid.
 - b. They reflect off the Earth's ionosphere.
 - c. They are bent in the atmosphere.
19. If the Sun's gravity were to disappear suddenly, how would the Earth move?
 - a. It would move directly away from where the Sun was.
 - b. It would move in a straight line tangent to the point in the orbit where it was when the Sun's gravity stopped.
 - c. It would continue to move in the same orbit around the place where the Sun was.
20. If you hit a ping pong ball and a golf ball with a small stick, which would move the fastest at first?
 - a. The ping pong ball.
 - b. The golf ball.
 - c. Both would go the same speed.

Lost On The Moon Ability Test (cont.)

What is your major? _____

What year in college are you in?

What Astronomy courses have you taken?

Course

Semester Taken

APPENDIX D
PRODUCTION TASK

Lost On The Moon

Your spaceship has just crash-landed on the lighted surface of the Moon. You were scheduled to rendezvous with a mother ship 200 miles away. The rough landing has ruined your ship and destroyed all the equipment on board, except for the 15 items listed below.

Your 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 and their necessity to you in reaching the rendezvous point. Discuss the problem as a group until you reach consensus as to the correct order of the items. To record your group's response, place the number 1 by the most crucial item, the number 2 by the second most crucial, and so on through number 15, the least important.

- | | |
|--|---------------------|
| _____ Box of matches | _____ First-aid kit |
| _____ Food concentrate | _____ Signal flares |
| _____ Fifty feet of nylon rope | |
| _____ Parachute silk | |
| _____ Solar-powered portable heating unit | |
| _____ Two .45 caliber pistols | |
| _____ One case of dehydrated Pet milk | |
| _____ Two 100-pound tanks of oxygen | |
| _____ Stellar map (of the Moon's constellations) | |
| _____ Self-inflating life raft | |
| _____ Magnetic compass | |
| _____ Five gallons of water | |
| _____ Solar-powered FM receiver transmitter | |

APPENDIX E
CONSENSUS GUIDELINES

Consensus Guidelines

Consensus is a decision process for making full use of available resources and for resolving conflicts creatively. Consensus is difficult to reach, so not every decision will meet everyone's *complete* approval. Complete unanimity is not the goal - it is rarely achieved. But each individual should be able to accept the group's decisions on the basis of logic and feasibility. When all group members feel this way, you have reached consensus as defined here, and the judgement may be entered as a group decision. This means, in effect, that a single person can block the group if he or she thinks it necessary; at the same time, he or she should use this option in the best sense of reciprocity. Here are some guidelines to use in achieving consensus:

1. Avoid arguing for your own ranking or response. Present your position as lucidly and logically as possible, but listen to the other members' reactions and consider them carefully before you press your point.
2. Do not assume that someone must win and someone must lose when discussion reaches a stalemate. Instead, look for the next-most acceptable alternative for all parties.
3. Do not change your mind simply to avoid conflict and to reach agreement and harmony. When agreement seems to come too quickly and easily, be suspicious. Explore the reasons and be sure everyone accepts the solution for basically similar or complementary reasons. Yield only to positions that have objective and logically sound foundations.
4. Avoid conflict-reducing techniques such as majority vote, averages, coin-flips and bargaining. When a dissenting member finally agrees, don't feel that he or she must be rewarded by having his or her own way at some later point.
5. Differences of opinion are natural and expected. Seek them out and try to involve everyone in the decision process. Disagreements can help the group's decision because with a wide range of information and opinions, there is a greater chance that the group will hit upon more adequate solutions.

APPENDIX F
LOST ON THE MOON ANSWER KEY

Answer Key

1. Two 100-pound tanks of oxygen. Most pressing survival need.
2. Five gallons of water. Replenishes loss by sweating.
3. Stellar map. Primary means of navigation.
4. Food concentrate. Efficient means of supplying energy requirements.
5. Solar-powered FM receiver-transmitter. For communication with mother ship, but FM requires line-of-sight transmission and short ranges.
6. Fifty feet of nylon rope. Useful in scaling cliffs, tying injured together.
7. First-aid kit. Needles for vitamins, medicines, etc., will fit special aperture in NASA space suits.
8. Parachute silk. Protection from sun's rays.
9. Self-inflating life raft. CO2 bottle may be used for propulsion.
10. Signal flares. Distress signal when mother ship is sighted.
11. Two .45-caliber pistols. Possible means of self-propulsion.
12. One case dehydrated Pet milk. Bulkier duplication of food concentrate.
13. Solar-powered portable heating unit. Not needed unless on dark side.
14. Magnetic compass. Magnetic field on moon is not polarized, worthless for navigation.
15. Box of matches. No oxygen on moon to sustain flame.

APPENDIX G
DISCUSSION TASK

Man Charged In Wife's Mercy Death

PONTIAC, Mich. (UPI) - Robert Waters told his wife of 40 years he loved her, then he kissed her goodbye. Minutes later, she was dead.

Waters, a 65-year-old former high school principal, has been charged with manslaughter in the Nov. 13 death of his wife Kathleen. He pleaded innocent and was released on bond.

Police said Waters was responsible for his wife's death because he helped her get into a motor-running auto in the couple's garage, then closed the door.

Waters said his wife was despondent because of failing health and wanted to commit suicide. He said he could not talk her out of it.

"In the car he asked her if she was sure this was what she wanted," Oakland County Prosecutor L. Brooks Patterson said.

"She said yes," Patterson said. "And then she said to kiss her goodbye and they expressed their love for one another. And then he got out of the car."

Mrs. Waters died of carbon monoxide poisoning.

Waters pleaded innocent to a charge that he "did willfully, feloniously, negligently and knowingly, but without malice or pre-meditation, kill and slay Kathleen Waters."

"This couple was very close," Patterson said. "But I am a servant of the law and am obliged to carry it out."

Should Mr. Waters be punished for helping his wife commit suicide? Why or why not? Please discuss this issue as a group and come up with 3 arguments for each side - 3 reasons why Mr. Waters should be punished and 3 reasons why he should not be punished.

Reasons to punish Mr. Waters:

- 1 _____
- 2 _____
- 3 _____

Reasons not to punish Mr. Waters:

- 1 _____
- 2 _____
- 3 _____

APPENDIX H

GENERAL LEADERSHIP IMPRESSION SCALE

General Leadership Impression Scale

The following questions concern your feelings toward and evaluations of group member _____. Please circle the answer which best reflects your feelings.

1. How much did this member contribute to the effectiveness of the task?

extreme amount	substantial amount	moderate amount	very little	nothing
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2. What degree of influence did this member exert in determining the final outcome of the task?

extreme amount	substantial amount	moderate amount	very little	nothing
-------------------	-----------------------	--------------------	----------------	---------

3. How much leadership did this member exhibit?

extreme amount	substantial amount	moderate amount	very little	nothing
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4. How much control over a group’s activities did this member exhibit?

extreme amount	substantial amount	moderate amount	very little	nothing
-------------------	-----------------------	--------------------	----------------	---------

5. If you had to choose a leader for a task, how willing would you be to vote for this member as leader?

extreme amount	substantial amount	moderate amount	very little	nothing
-------------------	-----------------------	--------------------	----------------	---------

APPENDIX I

TABLES

Table 1

Means and Standard Deviations on the Self-Monitoring Scale

	Entire Population	Males	Females	LSM	HSM
<u>N</u>	160	80	80	80	80
M	53.98	53.74	54.21	45.80	62.15
SD	9.17	9.18	9.20	4.55	3.61

Table 2

Summary of Analysis of Variance on GLI Scores

Source	<u>MS</u>	<u>df</u>	<u>F</u>	η^2
Self-Monitoring (A)	4030.056	1	56.804**	.257
Sex (B)	150.156	1	2.116	
Task Condition (C)	.756	1	.011	
Prime (D)	13.806	1	.195	
A x B	41.006	1	.578	
A x C	66.306	1	.935	
A x D	39.006	1	.550	
B x C	363.006	1	5.117*	.032
B x D	166.056	1	2.341	
C x D	26.406	1	.372	
A x B x C	158.006	1	2.227	
A x B x D	58.81	1	.829	
A x C x D	.06	1	.001	
B x C x D	294.31	1	4.15	
A x B x C x D	33.31	1	.469	

* $p < .05$. ** $p < .01$.N = 160.

Table 3

Means and Standard Deviations of GLI Scores as a Function of Sex, Self-Monitoring, Task Condition, and Priming Condition

		Males				Females			
		HSM		LSM		HSM		LSM	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
No Prime Condition									
	Production Task	62.50	8.13	49.50	8.34	49.50	8.15	43.10	7.57
	Interpersonal Task	57.70	9.62	44.20	8.90	58.30	6.84	47.10	9.46
Prime Condition									
	Production Task	57.90	8.52	47.40	9.11	55.00	10.62	49.90	4.86
	Interpersonal Task	55.00	9.28	47.80	9.69	58.60	5.81	45.10	9.05

N = 160.

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EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA

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Concentration: Industrial/Organizational Psychology

Thesis: The Emergence of Female Leaders: The Effects of Priming, Self-Monitoring, and Task Characteristics

Haverford College, Haverford, PA

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PROFESSIONAL EXPERIENCE

Fu Associates, Ltd., Arlington, VA

- **Human Resources Research Analyst**, 1992-1993.
- Consultant to the Federal Aviation Administration's (FAA) Office of Human Resource Development.
- Managed the production and publication of the FAA's Demographic Profiles of the Airway Facilities Work Force, designed for forecasting and planning staffing and training requirements.
- Assisted in the development and execution of a strategic human resource planning system for the implementation of state-of-the-art technology for air traffic control staffing and training needs.

Children's National Medical Center, Washington, D.C.

- **Clinical Research Assistant**, 1991-1992.
- Conducted statistical analysis on clinical data from drug studies on neurological disorders.
- Administered depression and ataxia tests to neurology patients.
- Assisted in preparation of drug protocols and edited manuscripts for publication.

RELEVANT COURSEWORK

Organizational Psychology I and II
Industrial Psychology I and II
Statistics for Social Science
Job Analysis
Advanced Psychometric Theory
Psychological Measurement

Psychometrics
Research Methods
Personality Psychology
Social Psychology
Developmental Psychology

COMPUTER SKILLS

- Proficiency in SAS, SPSS-X, BMDP, WESTLAW, WordPerfect 6.0, Microsoft Word, AmiPro, Harvard Graphics, Excel, Presentation Team, GEM, CricketGraph.

PUBLICATIONS AND PRESENTATIONS

- Smith, J., Buchanan, L., & Hauenstein, N. (May, 1995). Goal setting and human performance. Poster presented at the annual conference of the Society for Industrial and Organizational Psychology, Orlando, FL.
- Birch, L., Campbell, L., Bradburn, W., & Khan, S. (1992). Demographic Profiles of the Airway Facilities Work Force. Fu Associates, Ltd.
- Tate, E., Pranzatelli, M., & Birch, L. (1992). Depression in Progressive Myoclonus Epilepsy: Effect of L-5-HTP. Poster presented at the annual conference of the American Academy of Neurology, San Diego, CA.

PROFESSIONAL AFFILIATIONS

- American Psychological Association
- Society for Human Resource Management
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