# LEADERSHIP, ASCENDANCY, AND GENDER

John P. Hale, M.S.

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERISTY OF NORTH TEXAS

August 2001

APPROVED:

Douglas A. Johnson, Major Professor
Vicki L. Goodwin, Minor Professor
Paul Lambert, Committee Member
Michael Beyerlein, Committee Member
Warren C. Burggren, Dean, College of Arts and Sciences
C. Neal Tate, Dean of the Robert B. Toulouse School of Graduate Studies

Hale, John P., Leadership, Ascendancy, and Gender. Doctor of Philosophy (Psychology), August 2001, 141 pp., 12 tables, 1 figure, references, 81 titles.

By the year 2000 women will constitute more than 50 percent of the workforce in the United States, yet their representation in top management and executive-level positions continues to hover in the single digits. This “glass ceiling,” which is conceptualized as limiting women’s advancement into these roles, has been the subject of much debate and research over the last fifteen years. As both an equal rights and key competitive issue, the topic of women and leadership is gaining ever-increasing emphasis and momentum in American corporations. Although leadership skills have been advocated as a key human capital/person-centered variable leading to managerial ascendancy for women, the empirical research directly investigating this link is virtually non-existent. This longitudinal study proposed to measure the strength of this relationship using a matched sample of male and female managers. Eighty-five subjects, from the same U.S. based health-care products corporation, had previously participated in a multi-rater assessment process where seven different facets of their leadership skills were evaluated. Time two data were collected on four objective measures of ascendancy: percent change in salary, number of promotions (job moves) either offered or accepted, change in number of direct reports, and change in number of indirect reports. Multivariate analysis of covariance indicated that perceived leadership ability did lead to increased ascendancy, specifically in terms of percent salary change, for the female managers, but not for the males. Multiple regressions indicated that the female managers

were not rewarded, necessarily, for gender congruent behavior in this organization, while male managers did appear to be rewarded more so on that particular dimension. Implications of these findings for female managers in the workplace were discussed.

ACKNOWLEDGEMENTS

I am indebted to numerous individuals who have been of help and support to me as I worked to complete this journey of learning and achievement. My University of North Texas dissertation committee members - Vicki Goodwin, Paul Lambert, and Michael Beyerlein - were supremely flexible, patient, and encouraging as we moved through the process together. My committee chair, Doug Johnson, has been a teacher, a colleague, and a sponsor for me, for more years than I wish to remember. I appreciate him being there for me every time I have turned back his way.

Many of my professional colleagues at Personnel Decisions International have contributed to this process in varied and significant ways. While there are too many to mention all by name, I am specifically thankful to: Rick Jernigan for his initial idea and conceptualization; Lois Tamir for her encouragement and support; Maynard Goff for providing the data to get it all started; KC Ejiogu for serving as a strong advisor and consultant to me; and Jason Etchegaray for being my key teammate throughout all the really hard work. And, without the encouragement and sponsorship of Dale Thompson, I would have stopped short of my potential years ago.

My family has had to sacrifice the most to help me achieve this accomplishment, including my children Jordan and Jackson. But none more than my wife, Kitty, who has been a tireless source of support and who never stopped believing in me. I owe her a debt of gratitude that can never be repaid.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure Page

# CHAPTER I

## INTRODUCTION

### Leadership, Ascendancy, and Gender

As the topic of women and leadership gains more interest and related research, the data emerging indicate that the differences between men and women leaders are more imagined than real. While there are some differences in preferred style (e.g., women tending to be more democratic than men), many of the myths concerning why women are viewed as less likely than men to succeed at high level management positions are beginning to fall. For example, meta-analytic studies looking at gender and leadership styles indicate that women, counter to stereotypic beliefs, are as task-oriented as their male counterparts (Eagly & Johnson, 1990). When being evaluated for overall leadership effectiveness, meta-analysis of this literature indicates that women are rated equally effective, if not slightly more so, than male leaders. Yet, when looking specifically at subjective measures of leadership ability and performance, men are still being rated higher than women, implying a continued bias which may be limiting the promotional opportunities afforded women (Eagly, Karau, & Makhijani, 1995).

Given the continued shift in work force demographics, with women entering in ever increasing numbers, and the topic of diversity gaining ever increasing emphasis and momentum in American corporations, it is important that applied research continue to be conducted looking at the reality of women leaders' effectiveness and career

movement. This longitudinal study will examine the relationship between perceived leadership skills and ascendancy for matched samples of men and women leaders.

## The History of Leadership Research

Leadership has been a source of fascination, conjecture, myth, and legend since the emergence of civilized societies. The Egyptians had hieroglyphics for leadership, leader, and follower 5000 years ago. Both Aristotle and Plato wrote on the topic, contemplating, for example, the requirements of the ideal leader in an ideal state. Leaders as chiefs, prophets, priests, and kings served as models and ideals for people in the Bible, the Greek and Latin classics, and in the Icelandic sagas. Early Eastern philosophers, such as Confucius, also contemplated the topics of leaders and leadership in detail. And, from its beginning, the study of history has been, in many ways, the study of leaders - their behavior and motives. Gradually over the centuries, the effort to understand and apply the construct of leadership moved from the domains of history, religion, and philosophy to that of social science in the early 20th century (Bass, 1990).

Despite leadership being a universal phenomenon, up until 1896 the Congressional Library had no book dedicated solely to the topic (Lindzey, 1954). The scientific analysis of leaders and leadership behavior did not attract the attention of the earliest psychologists and was not a heavily researched area through the first few decades of this century. Those that did study and write on the subject appeared to be influenced by the “great person” theory of leadership, namely that leaders were born, not made. Much of this early work was a simplistic search for the “magical” leadership traits and personal characteristics that differentiate leaders from followers (Corsini, 1994). The hope, which

eventually proved rather fruitless, was that this line of research would produce a list of traits that will go together to make a leader. Much like Titchner's efforts at structuralism around the same historical period of time (Hothersall, 1995), these researchers seemed to be working to break leadership down into its most basic universal elements. Upon review, it appears that much of the early emphasis in this first era of leadership research was geared toward understanding children and students, with the hope of applying this knowledge to the training and development of a future generation of leaders

The Trait Approach. The first scientific study of leadership published in a psychological journal was by Terman (1904) while a graduate student at Clark University under the direction of G. Stanley Hall. Even though the first, in a historical context it has also been judged to be one of the best and most informative among the studies conducted looking at leadership traits and characteristics in this early wave of research (Stogdill, 1948). Using public school system students (n=100) in his experiment, he segregated subjects by gender and had them participate in small groups in what was described to them as a memory test. Several iterations of the task were conducted, with subjects being rated on response rate (who spoke in what order) and originality (providing an answer not yet given). Based on teacher input, the children who were the most consistent leaders in this exercise tended to be larger in size, better dressed, brighter in their school work, of more prominent parentage, more fluent of speech, better looking, more daring, greater readers, and less selfish than the followers. Combining these results with a separate leadership-related survey of female students, Terman emphasized in his summary the role that self-confidence appears to play in children demonstrating leadership initiative, and he

cautioned that if leadership characteristics did not develop early in life, they are never likely to appear in substantive ways.

Over the next three decades, dozens of studies were conducted with school-aged children, college students, and various adult populations in an effort to expand and elaborate the understanding of leadership and its characteristics. These studies took place in a wide variety of settings and ran the gamut of experimental design, from the simple to the, for the time, complex and sophisticated. Finally, in an effort to assimilate and integrate the body of research that had been done to date, Stogdill (1948) conducted an exhaustive review of the literature concerned with determining leadership traits and characteristics. Looking at factors which had been studied by three or more investigators, he analyzed reported findings in an effort to determine what types of scientific conclusions may be drawn from more than forty years of related research. Based on his review and analysis, he strongly endorsed a situation-specific model of leadership effectiveness; there was not a uniform set of traits and characteristics found in all leaders in all situations. He wrote, “the qualities, characteristics, and skills required in a leader are determined to a large extent by the demands of the situation in which he is to function as a leader” (p.63). The characteristics found most frequently as significant in the studies surveyed were: intelligence, scholarship, dependability, activity and social participation, and socio-economic status. The items with the highest overall correlation with leadership were: originality, popularity, sociability, judgment, aggressiveness, desire to excel, humor, cooperativeness, liveliness, and athletic ability. He summarized his findings in terms of the broad factors he saw as being most closely associated with leadership:

capacity, achievement, responsibility, participation, and status. Yet, he clearly stated his view that the situational factor is critical in determining who will be best suited to lead in that context. For all intents and purposes, this literature review served as the concluding chapter in this first era of leadership research.

The Behavioral Approach. Serving as a catalyst for the next wave of leadership research, Lewin, Lippitt, and White (1939) published a now famous study on experimentally created "social climates" using different leadership styles. Their main research interest was to better understand the conditions that either fostered or inhibited aggressive behavior in adolescent boys. The experimental design called for the "leaders" to run the club sessions using one of three leadership styles - autocratic, democratic, or laissez-faire - and to rotate leaders and styles every six weeks. While they did advance their understanding of aggressive behavior under different conditions, it was two "throw away" findings from the democratic group conditions that impacted the trend in leadership research. They found that 19 out of the 20 boys preferred their democratic leaders to their autocratic leaders (even though it was the same men playing different "parts"), and the work products produced under the democratic conditions seemed to carry a high positive valence for the boys, whereas the autocratic condition did not. Although these results were not highlighted as "significant" per se, they certainly caught the attention of people interested in the leadership literature and spurred a strong movement toward a different focus and methodology in studying leadership (Corsini, 1994).

With the demise of leadership traits and characteristics as the topic of choice,

researchers turned their attention to the styles and behaviors that might differentiate effective from ineffective leaders. The dominant theories and related research between the years of 1940 to 1960 had three primary characteristics: a belief that the best method of leadership is based on an employee-centered/human relations approach, a focus on interpersonal variables such as the leader's attitudes, behaviors, and motivations, and an avoidance of cognitive variables such as the leader's job knowledge, task ability, and intelligence (Bass, 1990; Corsini, 1994).

In 1945, the Ohio State Leadership Studies were organized to research individuals' leadership-related behavior in groups or organizations. As an early effort in this program, the research team developed a questionnaire for subordinates to complete in describing the behavior of their leader or supervisor. Hemphill and his associates developed a list of about 1800 statements that described varying aspects of leader behavior, later reducing this set to 150 items, which were used to develop the first form of the Leader Behavior Description Questionnaire (LBDQ). Respondents rated a leader using the LBDQ by choosing one of five alternatives to represent how frequently that leader engaged in the behavior described by each item (Bass, 1990; Yukl, 1989a).

Fleishman (1953) described the effort undertaken to empirically identify the factor structure underlying the questionnaire after early attempts to have "expert judges" rationally classify the LBDQ items into various leadership dimensions failed to hold up psychometrically. When the items were examined using factor analytic procedures, two major, and relatively independent, factors were revealed and defined: consideration and initiating structure. Items associated with the consideration dimension were concerned

with the “human relations” aspects of group leadership: the extent to which the leader was considerate of workers’ feelings. The initiating structure dimension items were related to the extent to which the leader defined or facilitated group interactions toward goal attainment. Behaviors that fell into this category included communicating, planning, scheduling, criticizing, and trying out new ideas. Because the factors were relatively independent, it was possible for leaders to be rated as being high on one dimension but not the other, low on both, or high on both.

Over the next 25 years, hundreds of studies by many different researchers were conducted using the LBDQ and its descendants designed to measure behaviors and attitudes consistent with consideration and initiating structure. The results for most of the predictive studies (examining various outcome criteria such as group turnover, number of written grievances, productivity, and subordinate satisfaction) on the effects of consideration and initiating structure have been inconsistent and inconclusive. The only relationship that has been found to be fairly robust is that of consideration on various satisfaction criteria. The various sources of error that occur with behavior description questionnaires (e.g., response bias, item interpretation, accurate recall) and the difficulty in determining the direction of causality in predictive studies are, at this point, well known and documented (Yukl, 1989a).

A second major program of leadership behavior research was being carried out at the University of Michigan during the same general time frame as the Ohio State studies. The research at Michigan was focused on identifying the relationships among leader behavior, group processes, and group performance. Objective measures of group

productivity were used in this series of field studies to classify managers as either effective or ineffective, and information about leader behavior was collected via questionnaires and interviews. Instead of focusing strictly on the description of behaviors that leaders exhibit in the work place, as the earliest Ohio State studies had attempted, this effort was geared toward identifying those behaviors that contributed most strongly to group performance (Hughes, Ginnett, & Curphy, 1999; Yukl, 1989a).

Likert (1961, 1967) summarized the key findings from the Michigan studies aimed at differentiating "high producing" managers from those being less effective against the criteria measured. Using the terms job-centered and employee-centered to describe a supervisor's basic orientation and related behavior in executing their responsibilities, he concluded that supervisors with the best record of production performance tended to focus their primary attention on those things employee-centered. Moreover, these same high-producing units are characterized by positive, cooperative attitudes and high levels of job satisfaction among their group members. Most specifically, he emphasized supportive relationships as a key principal that serves to make the greatest use of human capacity within a work group, along with high performance goals and frequent, effective group supervision (participative management). Likert came to call the behaviors that composed this leadership style "System 4" characteristics.

Both of these extensive research program efforts, Ohio State and Michigan, concluded that there were certain behaviors consistently associated with leadership success. The behaviors that each program attributed to the task-oriented and people-oriented dimensions were similar, yet these two research programs worked from different

basic assumptions about those dimensions. As mentioned earlier, the Ohio State researchers conceptualized the dimensions of initiating structure and consideration as independent continuums, yet the Michigan researchers conceptualized job- and employee-centered behaviors as opposite ends of the same continuum (Hughes, Ginnett, & Curphy, 1999).

Taking the theoretical position that an integration of both task- and people-oriented dimensions leads to superior leadership effectiveness, as opposed to emphasizing only one or the other, Blake and Mouton (1964) proposed their managerial grid concept as a means of understanding what it takes for managers to behave in ways that lead to organizational excellence. Their grid was based on two organization universals as they defined them: concern for production and concern for people. Each of these concerns is expressed on a one to nine point scale, with the higher number being the greater concern, and there are numerous possible interactions between the two. They emphasized five different interactions resulting from the expressed levels of concern on each dimension, with each constituting an alternative way of thinking about accomplishing work through people. Each of these five, in turn, serve as a unique anchor point that drives managerial attitudes, behavior, and practices. In their later writings, Blake and Mouton (1981) began clearly prescribing a 9,9 orientation (team management) as the "one best way" of leading in an organizational setting, regardless of the situation.

Despite Blake and Mouton's claim that there is a universally best way to lead others, the empirical research of this question have resulted in numerous mixed or negative findings, and few studies have directly studied these behaviors/dimensions in an

interactive versus additive model (Bass, 1990; Yukl, 1989a). Also, as Hughes, Ginnett, and Curphy (1999) point out, the research evidence in support of this 9,9 orientation being preferable has come primarily from Blake, Mouton, and their associates; there has been little independent validation of this claim in the published literature. A number of situational contingencies (e.g., subordinates' needs, organizational constraints, the task itself) have been found to moderate the impact of task- and people-orientations on the productivity and satisfaction of followers (Bass, 1990).

In retrospect, the behavioral-based theories of leadership have made significant contributions to our understanding of the leadership process. This line of research broadened the scope of focus to include what leaders actually do in their efforts to lead, and uncovered two valid and credible basic tenants of leadership style and behavior: task- and relationship-orientations. These key factors, along with an increased focus on participative leadership, are viewed as the enduring legacies of this research era. And, even today, these theories' fundamental applicability can be seen in the widespread popularity of leadership competency models and behavioral feedback instruments. Where these theories failed, however, were in serving as an adequate and reliable predictor of most performance outcomes; they simply could not account for the diversity and complexity of leadership effectiveness across a multitude of situations (Hughes, Ginnett, & Curphy, 1999; Northouse, 1997; Yukl, 1989a).

In an attempt to rectify this very point, Bowers (1975) conducted a deeper analysis of the University of Michigan leadership studies data bank and found substantial evidence that leadership was indeed related to satisfaction and group process measures. In his effort

to correct perceived problems in earlier research with these data, Bowers attended closely to the potential moderator variables of hierarchical level and type of industry in his study. Examining a four factor model of leadership behavior (support, interaction facilitation, goal emphasis, work facilitation), he found that all four had significant betas in various regression equations. Yet, different patterns predicted satisfaction and group process measures, and different patterns were significant for different industries. While in his view the variations required to gain relative significance from one setting to the next were not "dramatic," they did require a modest adjustment in behavior from situation to situation. He came to the conclusion that leadership is in many ways a relative and adaptive process, needing to be subtly contingent to be most effective. This theme, though more strongly stated by some, would constitute the next major era of leadership research.

Situational Contingency Approaches. In what is now considered to be a classic article within the leadership literature, Tannenbaum and Schmidt (1958) developed a compelling case that the "modern manager" should not limit himself to a stereotypic view of an effective leader. Rather, there are an entire range of leadership behaviors, related to the amount of control and authority exerted, that are appropriate and warranted given a certain situational context. They identified three situational factors that should be considered in determining the style that is both practical and desirable for that given situation. Those three are the forces in the manager (e.g., personality, background, knowledge, experience), forces in the subordinate (e.g., personality, expectations, skill level, motivation), and forces in the situation (e.g., type of organization, group

effectiveness, nature of the problem, time pressure). Consequently, the successful leader is one who is attuned to these forces, can make thoughtful choices based on those perceptions, and behave accordingly.

Similarly, Fiedler's (1964, 1967) research-based model of leadership effectiveness acknowledged the complexity of the interaction between the leader, followers, and situation. His contingency model theory stated that the effectiveness of interacting work groups is contingent upon the relationship between the leader's style (task or relationship oriented) and degree to which the situation allows or enables the leader to exert influence. In an attempt to account for the apparently conflicting published data regarding which types of leaders are most effective, he proposed the basic premise that differing group situations required differing leadership styles. Acknowledging the daunting task he was undertaking, Fiedler (1967) stated, "a pretzel-shaped universe requires pretzel-shaped hypotheses" (p.14).

Fiedler (1964, 1967) thought that a leader's perceptions of his co-workers revealed important task-relevant attitudes that determine one's natural leadership style, which in turn, affect group interactions and performance. Using a measure he developed (the Least Preferred Coworker scale) to assess whether the leader was more task- or relationship-oriented, and studying the characteristics of various types of "interacting" groups, he identified three relevant situational factors that, in combination, determine which type of leadership style would be most appropriate and effective. These factors were the personal relationships with the group members, the power and authority that particular leadership position provides, and the degree of structure in the task the group

has been assigned. Eventually, he developed taxonomy of eight group types, or octants, as a way of thinking about the various combinations of these major factors. His contingency model predicted that the group's performance would be contingent upon the match between the leader's style and degree of favorableness of the group type for the leader. That match can be affected by either changing the leader to fit the situation or changing the situation to fit the leader. Personally, he viewed the latter as more pragmatic than the former.

While the reviewers of his theory and related validity research have not always been positive (e.g., Vecchio, 1983), Fiedler (1971) has generated an extensive body of work that he claims clearly supports his basic tenants, especially in field study situations. Lab studies, in his view, are inherently flawed, methodologically, in researching these types of leadership and situational variables. For example, he argued that it is virtually impossible to provide a "leader" with high position power - control over the professional fate of other team members - in a lab situation. Yet, that type of variable is very real, and potent, in the world of work. Interestingly, meta-analytic reviews of research on Fiedler's Contingency Model (Strube & Garcia, 1981; Peters, Hartke, & Pohlmann, 1985) do tend to support its fundamental components, however, not for every octant and – opposed to Fiedler's claim – not as well in field studies as those from the laboratory.

Despite the volume of research on Fiedler's theory and measures, much of which is generally supportive as noted above, the validity and utility of the model continues to be disputed, and the initial enthusiasm for the model has waned over the years. Many of the critiques are aimed at the theory's poor explanatory power, the ambiguity around what

the LPC scale actually measures, and its awkward application in real world settings. And, finally, the recommendation by Fiedler and his colleagues for organizations to engage in "situational engineering" to rectify mismatches between a leader and situations in the workplace is viewed as simply unrealistic, if not impossible, in many cases (Bass, 1990; Northouse, 1997; Yukl, 1989a; Yukl, 1989b).

In what they originally called the Life Cycle Theory of Leadership, Hersey and Blanchard (1969) extended the earlier Ohio State behavioral model to include a third dimension - effectiveness - to the already well researched task (initiating structure) and relationship (consideration) dimensions of leadership styles. This was their earliest attempt to capture the situational nature of leadership as they had come to understand it: the best leaders are those who can adapt their leadership behavior to meet the needs of their followers and situation. This effectiveness dimension was incorporated to measure the appropriateness of the leader's behavior for a given environment. Moreover, they proposed a curvilinear relationship between task, relationships, and the "maturity" of one's followers (e.g., relative independence, willingness to take responsibility, achievement motivation). The more "immature" the follower, the more task-oriented and less relationship-oriented the leader needs to be, the more "mature" the follower, the less engaged, overall, the leader needs to be.

Later refined into the Situational Leadership Theory, Hersey and Blanchard's model and set of prescriptive guidelines for adapting one's leadership behavior to the situation (delegating, supporting, coaching, or directing) have become one of the best known, and most frequently applied, leadership training tools in organizations today.

Many find it intuitively sensible, easy to understand, and applicable in a wide range of situations, both personal and professional. Its emphasis on the leader's need to be perceptive and flexible has been noted as one of the theory's strongest contributions: "one size does not fit all" when it comes to this complex social behavior (Hughes, Ginnett, & Curphy, 1999; Yukl, 1989a).

However, despite it popularity, leadership scholars have identified multiple shortcomings and conceptual flaws in the Situational Leadership Theory. First among these is the fact that there have been very few published research studies testing the theory and its various tenants. Those that have been done have shown only partial, and generally weak, support for it. The theory - by admission - ignores many important situational variables, does not address one-to-one versus group leadership, fails to explicitly make the link between leader behavior and outcome effectiveness, and defines its variables (e.g., follower maturity) either too broadly or inconsistently. So, although widely used and taught in corporate settings, it has fallen far short of receiving an enthusiastic endorsement from the academic research community (Northouse, 1997; Yukl, 1989b).

From a more narrow perspective of situational behavior and effectiveness, Vroom and Yetton (1973) looked at ways in which leadership is reflected in social processes used for decision-making, specifically in choices about how much and in what ways to involve subordinates in those decision-making efforts. They developed a normative and prescriptive - yet situational - model that organized the empirical research evidence on participation in decision-making in a manner that, they hoped, would be understandable

and useful to the practicing manager. This organization took the form of decision trees that led the manager to the style they should use in that particular decision-making situation. The contingency aspect came into play because the research evidence had shown that participation increased productivity under some circumstances, but decreased it under others.

With the goal of protecting both the quality of the solution and its acceptance by the subordinates affected, while minimizing the man-hours consumed in the process, Vroom and Yetton keyed on seven different problem attributes in forming these decision trees. An accurate perception of these attributes by the leader is required to arrive at the preferred methodology, which would be one of five decision-making processes spanning autocratic, consultative, and group-based approaches. In their model, the "correct" choice can be moderated by variables around time pressure and concern with subordinate development (Vroom & Jago, 1978).

Research examining the validity and utility of the Vroom-Yetton model have found mixed results. For example, the model is more likely to account for decision acceptance by subordinates than decision quality (Vroom & Jago, 1978). This is due in part because the model does not specify the cognitive or information processing activities that should be followed in the decision-making process, only the social ones. Nevertheless, it has been demonstrated in a number of studies that strict application of the model does appear to increase the number of effective decisions made (e.g., Field, 1982).

In general, the Vroom-Yetton model is considered to be one of the best supported of the situational leadership theories. As Bass (1990) points out, it is intellectually

rigorous and lends itself readily to empirical testing. The fact that it focuses strictly on one component of leadership – decision making – rather than broad behaviors allows for more precise studies and research. Nevertheless, it does have its flaws and limitations, including that some decision rules are better supported than others by research findings, the oversimplification of decision making processes, and a noted lack of parsimony and applicability (Bass, 1990; Yukl, 1989a).

In working to account for the mixed empirical findings over the years regarding the effectiveness of a leader's behavioral style, House (1971) attempted to reconcile and integrate these results by applying concepts derived from a path-goal theory of motivation. Simply stated, these theories flow from the premise that individuals are motivated to engage in behavior that is expected to have "positive" outcomes - especially when the path or relationship between that behavior and outcome appears to be clear and consistent. House thought that in the realm of leadership behavior, as it related to motivating subordinates, there were multiple opportunities to exert direct influence over this path-goal relationship. He presented a series of propositions for his leadership theory, stressing the various ways that a leader can: increase "net positive valences" associated with task/goal attainment, increase valences associated with the behavior/path the subordinate chooses, increase the instrumentality of the path chosen, reduce role ambiguity, and direct behavior at satisfying subordinate needs.

From these propositions, House developed a set of hypotheses that could be empirically tested. In these hypotheses, he emphasized where certain leadership behaviors would be expected to have a positive motivating affect (i.e., initiating structure in an

ambiguous, nonroutine situation) and where that same behavior could be expected to have a demotivating affect (i.e., initiating structure in a routine, system-fixed situation). The challenge for the leader is to use a style (e.g., directive, supportive, participative, achievement-oriented) that best meets the subordinate's motivational needs, given the task at hand. In this initial article, House presented data from three different studies, some of which appeared conflicting and contradictory on the surface that generally supported his premise and related hypotheses. His call for further testing and more direct measurement of this path-goal theory was heeded and followed by many (Bass, 1990; House, 1971; Northouse, 1997).

Over the ensuing years, more than a hundred published surveys and experiments have tested various aspects of path-goal theory. Given its complexity, it is not surprising that a wide array of empirical findings, many of them contradictory, have emerged. Reviews of this research, including those utilizing meta-analytic techniques, have found support for some propositions underpinning the model (e.g., directive leadership behavior increases subordinate satisfaction for unstructured but not structured tasks) but not others (e.g., supportive leadership behavior during mundane, repetitious work improves subordinate motivation). Other critics have targeted the fact that the theory appears to overemphasize the responsibility of the leader to the extent that it appears the leadership process is a one-way event. While the theory has made an important contribution to the study of leadership, especially around identifying potential situational moderator variables, it has not proven "accessible" enough to a lay audience to have garnered much support or application in organizational settings (Bass, 1990; Northouse, 1997; Yukl,

1989a).

By taking a more comprehensive approach than the theories that came before, the situational contingency models have certainly advanced our understanding of the complex, interactional process known as leadership. Through addressing certain aspects of the interplay between leader, follower, and/or situation, these theories have focused on the moderating variables – both intervening and situational – that can affect various expected outcomes. They have also brought important focus to the concept that leaders can, and in many cases should, change their behavior to match the situation in which they find themselves. This concept of leaders needing to react flexibly to their environment has great intuitive appeal for many theorists and practitioners alike. Yet, the empirical support for these theories and models have been mixed at best, with all falling short on various conceptual levels. Due to their limited scope, there are other key factors not accounted for (e.g., organizational culture and climate, technology, economic conditions, organizational design) that can and do affect the leadership process. Until more comprehensive and sophisticated situational contingency theories are developed, others will be content to further the body of knowledge about leadership from various perspectives (Hughes, Ginnett, & Curphy, 1999; Yukl, 1989a).

Modern Approaches. "The term 'charisma' will be applied to a certain quality of an individual personality by virtue of which he is set apart from ordinary men and treated as endowed with supernatural, superhuman, or at least specifically exceptional powers or qualities" (Weber, 1947, p.358). With these words, Max Weber unknowingly laid the foundation for what would eventually become a new theory of leadership - charismatic or

transformational leadership. Weber's opinion was that individuals endowed with these personality characteristics are naturally treated as leaders by others and have a "duty" to recognize one's call and to act accordingly. His stance was that these qualities are transmitted by heredity and can only be "awakened or tested," not learned or taught. While these more radical theories about the nature of charisma have been challenged and refuted over time, the concept has proven to be fascinating to many leadership theorists and researchers.

House (1977) proposed a theory of charismatic leadership that attempted to restate major assertions that had been made in the sociology, social psychology, and political science literature regarding charisma into empirically testable propositions. His view was that the charismatic leader is able to bring about change that is different than the established order by clarifying or specifying a mission or goal for "followers" to rally around. This is accomplished through a combination of specific behaviors and personality traits and characteristics that followers view as favorable or appealing in the leader. He identified a series of these traits and behaviors that differentiate leaders who have "charismatic effects" on followers versus those that do not. These included being viewed as more dominant, self-confident, influential, having strong conviction in the moral righteousness of their beliefs, able to articulate goals in ideological terms, and simultaneously communicate high expectations and confidence in their followers. By defining this type of leadership in more precise terms, House was working to encourage researchers to test these assumptions as a means of refining and advancing the literature in this new and provocative area.

Similarly to House, Burns (1978) wrote of there being different basic types of leadership, and he was the first to write about the differences between transactional and transformational leadership. By his definition, transactional leadership occurs when one person takes the initiative in making contact with another for the purpose of exchanging things of value, whether economic, political, or psychological in nature. This exchange is simply a bargaining process with no enduring purpose that binds the parties together. Yet, in contrast, transformational leadership occurs when one or more people engage with others in such a way that their purposes become fused, and they raise one another to higher levels of motivation and morality. These actions help release human potential and have a "transforming" effect on all involved.

The distinction between these two fundamentally different types of leadership have been expanded, debated, and researched extensively over the last 15 years. Bass (1985) made the argument that transformational leadership is not a rare phenomenon limited to the select few, but is found in varying degrees in all walks of life and in all societies. Identifying three broad factors that compose transformational leadership, he strived to put more specificity around this construct, expanding on the work that House (1977) had done before him.

Bass labeled his first factor charismatic leadership, defined as a combination of personal characteristics and inspirational leadership. Some of the characteristics he identified were self-confidence, self-determination, insight, vision, and the ability to articulate one's thoughts in dramatic and persuasive words and actions. The second factor he called individual consideration, consisting of the desire and ability to treat each

follower or subordinate as a unique individual while being willing to invest time and energy into each of those relationships. The third factor, intellectual stimulation, referred to the ability to arouse and foster increased perceptiveness and related motivation in followers to affect change. In short, he viewed transformational leadership as resulting from a combination of the power of the person and their ideas (Bass, 1985). While the words and terminology are slightly different, other researchers have arrived at similar conclusions regarding the ingredients of effective transformational leadership (e.g., Bennis & Nanus, 1985; Conger & Kanungo, 1987).

The majority of the research work done on transformational leadership has been descriptive and qualitative, using a variety of techniques (e.g., interviews, cases studies, content analysis) to determine and refine the elements of this theory. While capable of providing insight and trends, this type of research is often not of the precise nature needed to reach firm conclusions regarding various hypothesized relationships. Of those studies considered more quantitative in nature, the majority have employed Bass' Multifactor Leadership Questionnaire (MLQ). The MLQ was developed to assess the extent to which a leader exhibits transactional or transformational leadership, and the extent to which followers are satisfied with their leader and think them effective. In general, reviews of his line of research have shown that transformational leadership does have strong effects on unit performance indices that require interdependent effort. Other general conclusions, some of which appear counter-intuitive on the surface, include that transformational or charismatic leadership is more prevalent in the public sector, among women, and in lower-level leaders (Hughes, Ginnett, & Curphy, 1999; Yukl, 1989b).

Despite the fact that transformational leadership has received the majority of the research focus in recent years, there are others who continue to study and espouse a different line of thinking. For example, Manz and Sims (1989) have proposed an alternative to what they call the "heroic" leadership model in organizations. Based on a ten-year search through empirical findings, they have developed a theoretical conceptualization that the most effective leaders in modern organizations are those that lead others to lead themselves more effectively. Flowing from the premise that leadership - or self-direction - comes mainly from within, their position is that the best leaders help others to maximize this inner potential through two classes of strategies: behavior and action, and thinking and feeling. The strategies within these two categories, when successfully employed, lead to better "self-leadership" and, in turn, a more creative, flexible, proactive, and competitive work force.

While not denying that executive control is appropriate and important in certain contexts, Manz and Sims claim that "super-leadership," or the development of self-leadership in others, should be the primary focus of most managers and executives who have responsibility for leading others. This is accomplished on the manager's part through modeling, guided participation, and the gradual development and use of these self-leadership activities and strategies by one's direct reports. In short, they take the position that an executive or manager should not be concerned with being viewed as a "hero" but as a "hero maker" who emphasizes the achievements and potential of the employees in the organization.

Summary. In reflection upon the almost 100 year investment of psychologists'

effort to understand the phenomenon of leadership, the progress has been substantial and the work left to be done is daunting. With over 350 published definitions of leadership and literally thousands of empirical investigations having resulted in no complete theory of leadership, it is hard not to agree with Bennis and Nanus (1985) when they write that "never have so many labored so long to say so little" (p.4). Yet, there has been substantial unraveling of the mystery surrounding the subject and each major era of leadership research has, each in its own way, made substantive contributions to our current understanding of this highly valued and sought after commodity.

While the effort to identify a universal set of leadership traits was eventually deemed to be unrealistic, there have been continued efforts to identify those personal traits and characteristics that do often, if not always, relate to leadership behavior and effectiveness. While not all inclusive, Northouse (1997) lists five that seem to emerge from the vast literature on this topic: intelligence, self-confidence, determination, integrity, and sociability. The behavioral era brought clarity to the two broad, valid factors that combine to account for various leadership styles and behaviors: task- and relationship-orientations. The fundamental applicability of the behavioral approach has resulted in numerous tools and processes (e.g., competency models, 360-degree feedback instruments) that are popular today. Situational contingency models, while incomplete, have brought an important focus to the variety of moderator variables that can and do affect performance outcomes, while highlighting the increased efficacy a leader can have by reacting flexibly to their environment. And, in some ways coming full circle, modern theories around transformational and super-leadership seemed to have come back to

earlier leadership theories, using different terminology and positioning, to emphasize the powerful effect a great man or woman can have on an organization or how creating a sense of empowerment and ownership among followers should be a critical focus for long-term effectiveness.

The clarity that these research efforts have brought, in total, is that leadership is a complex, interactive process between the leader, follower, and situation that is not easily understood, much less predicted. This "interactional framework" allows for continued progress to be made in ongoing efforts to develop a more complete understanding of the leadership process, yet, it also provides a means for studying more specific elements of leadership that are of interest (Hughes, Ginnett, & Curphy, 1999). One of those specific elements of the leader dimension that has been gaining increased momentum and interest over the last two decades is that of gender and leadership.

Women and Leadership

The vast majority of the leadership research done through the years was carried out with men and male leaders. Only during the last 15 years or so have researchers focused on topics relevant to women and leadership. In part, this was because women seldom occupied positions of significant authority and leadership in the real world (Denmark, 1993). While this has improved over the years, women are still grossly underrepresented at the tops of business organizations. Snyder (1993) reported that even the most optimistic accounts of female incumbents holding upper-level management positions (as deep as division head) placed the estimate at only 5 percent. The facts are that although women now account for more than one third of all management positions,

most are stuck in positions of little authority. The “glass ceiling” concept was popularized in the 1980’s to describe a barrier so subtle that it is transparent, yet strong enough to prevent most women from moving up in the management hierarchy (Morrison & Von Glinow, 1990).

With women entering the work force in increasing numbers, the thrust to better understand “glass ceiling” discrimination, whether intended or not, continues to be strong (Brett, Stroh, & Reilly, 1992). Logically, for any organization to maximize its productivity and related profitability, it needs to encourage the maximum contribution that each of its employees is capable of making. Researchers have continued to study various topics regarding women and leadership in hopes of better understanding the similarities and differences between men and women leaders.

Leadership Style. As more women enter the ranks of management within organizations, increased attention has been given to understanding what, if any, differences occur in the typical leadership styles of men and women. And, given the differences or similarities in styles, how are those related to leadership effectiveness? Investigators have examined both specific and general style issues in an effort to more fully understand this research area. For example, Korabik, Baril, and Watson (1993) examined gender differences in conflict management and related them to leadership effectiveness. They assigned 196 MBA students to four-person groups to role play a conflict situation between a supervisor and subordinates regarding a new work policy. Supervisors (27 males and 16 females) played that role based on their actual managerial or supervisory experience.

Results showed no significant gender differences on any conflict management style among experienced managers. Among participants without managerial experience, women rated themselves as more integrating, obliging, and compromising than did men. All post-session ratings of conflict management style and overall outcome measures showed no significant differences between male and female supervisors. Yet, there were perceived differences in leadership effectiveness when correlated with the gender role congruence of the style employed. Across all relevant measures, dominating (competitive) was more negatively related and obliging (cooperative) was more positively related to perceptions of effectiveness for women than for men.

Offermann and Beil (1992) examined ways women seek to achieve and the relationship of achievement strivings to occupancy of leadership roles. As a result of socialization, women and men may define achievement in different ways and seek to achieve along the lines of their own conception of success. Their design compared a national sample (n=195) of college women student leaders to a control group of undergraduate students (49 males and 63 females). Women leaders scored significantly higher than female controls on six of nine achievement style subscales and significantly higher than male controls on three of nine. The only style for which women leaders had a lower mean score than controls was for competitive direct achievement, where males had significantly higher scores. Women leaders reported a wider range of achievement styles than their male or female peers, and they claimed intense satisfaction from all but competitive achievement and establishing social relationships for personal benefit. Women leaders were significantly less apprehensive than female controls regarding

having power and had significantly higher self-esteem than either the male or female controls. Women leaders differed from both male and female controls by placing greater importance on contributing to their communities and becoming authorities in their fields. They also differed significantly from their female peers by expressing a greater desire to become well known professionally and attaching less importance to getting married and becoming a good homemaker.

Many recent studies have focused on transactional (traditional) versus transformational (stimulating and inspirational) approaches to leadership. Hackman, Furniss, Hills, and Paterson (1992) investigated the relationship between perceived gender role characteristics and these approaches. Undergraduate students (71 men and 82 women) reported on a work superior of whom they had vivid recollections. This was not necessarily the person that they would perceive as the most exceptional leader with whom they have been associated. They measured five components of transformational leadership (charisma, inspirational leadership, intellectual stimulation, individualized consideration, and extra effort) and three components of transactional leadership (contingent reward and management by exception, both active and passive).

Both masculine and feminine ratings from the Bem Sex Role Inventory (BSRI) correlated significantly with all transformational leadership characteristics, and with one transactional leadership dimension, contingent reward. A significant negative correlation was found between masculinity and management by exception (observes and intervenes as necessary). Yet, not all correlations were of equal strength. The correlation between individual consideration (providing personal attention) and femininity was significantly

stronger than for masculinity. Charisma, extra effort, inspirational leadership, and contingent reward tended to be associated more strongly with femininity. Intellectual stimulation (promotes rationality and careful problem-solving) tended to be associated more strongly with masculinity

To provide a systematic, quantitative integration of the available research comparing the leadership styles of men and women, Eagly and Johnson (1990) conducted a meta-analysis of 162 studies, consisting of three distinct types: organizational, assessment, and laboratory. They examined four types of leadership styles: task accomplishment (organizing activities to perform assigned tasks), maintenance of interpersonal relationships (tending to the welfare and morale of others), democratic (allow subordinates to participate in decision-making), and autocratic (discouraging subordinates from participating in decision-making). In addition, a measure of perceived congeniality between the leadership role in each study and typical gender roles was developed and applied to the analyses.

Leadership styles were slightly but significantly gender stereotypic across all studies and types of styles. Yet, means computed within each type of leadership style revealed diverse findings. There were no sex differences found in studies that compared gender on task orientation or with comparisons of interpersonal versus task styles of leadership. Women were as concerned as men in attending to the task at hand. Yet, there were stereotypic sex differences in studies that compared gender on maintenance of interpersonal relationships and the use of a democratic versus autocratic leadership style, with women significantly utilizing both styles more than men. The stereotypic finding for

democratic versus autocratic style was especially robust, and the type of study used had no effect on this finding. However, sex differences for organizational studies were significantly less stereotypic than for the assessment or laboratory studies when looking at interpersonal- and task-oriented styles. And, in general, leaders of each sex were especially task-oriented when their role was viewed as being congenial to their gender.

Overall, it appears that women are equally, if not more versatile in their leadership styles than men. On components of effective leadership, such as conflict management and achievement drive, women are capable of using an impressive multitude of styles to find success. And, contrary to stereotypic beliefs, women are as task-oriented as their male counterparts; they drive to get the job done. Women who exhibit both masculine and feminine gender-role characteristics appear to be especially well placed for success in the current business environment, which is placing a stronger emphasis on a transformational, rather than a transactional, leadership style. Once women are socialized into their organizational roles, it appears that many of the traditional gender-role orientations, which often show up in laboratory studies are neutralized. Yet, there do appear to be some important differences between the sexes. Women are less likely than men to try and achieve at another person's expense, and they are much more likely to use a democratic, inclusive leadership style than they are an autocratic one

Leadership Evaluation and Effectiveness. Regarding leaders and their perceived effectiveness, researchers have focused on the role that gender congruent behavior plays in the evaluation process. A recent study by Rojahn and Willemsen (1994) examined the gender-role congruent hypothesis that predicts gender-role congruent behavior will be

evaluated more favorably than gender-role incongruent behavior. Female (n=342) and male (n=154) Dutch undergraduate students read a one-page narrative about a small, mixed sex task-group, which had to jointly produce a class paper. After reading a task- or socio-emotional focused version with male or female pronouns, subjects rated effectiveness, likability, and personality traits of the leader. The gender-role congruence hypothesis was supported, but only among males and only on effectiveness ratings. The task-oriented female leader was seen as less effective than her male counterpart and the socio-emotional female leader was judged to be more effective than her male counterpart. In contrast, female subjects were not affected by leader's sex or leadership style.

A meta-analysis by Eagly, Makhijani, and Klonsky (1992) on gender and the evaluation of leaders found similar, but slightly different results. They examined data and findings from 61 true experiments, most of which had used written vignettes or confederates trained to lead in a particular style. The findings from this meta-analysis were that the overall tendency for men to be more favorably evaluated than women was weak, yet statistically significant when weighted means were used. It was not significant when unweighted means were used or when outliers were excluded. However, the bias against women in leadership roles was stronger and significant under certain conditions. Findings supported the gender-role congruence hypothesis that women are negatively evaluated when they exhibit masculine leadership styles, and the tendency to devalue female leaders was strongest when they behaved in an autocratic manner. Another finding consistent with gender-role congruence was the tendency for men to be more favorably evaluated than women in roles occupied historically by men (e.g., business and

manufacturing settings). Also, studies using all male subjects were significantly more likely to indicate a preference for male leaders than studies using females or mixed sex subjects. Other findings of interest from this meta-analysis were that women were perceived to be significantly more task-oriented than men (which was counter to gender role predictions) when evaluated on equivalent behaviors, and men were not devalued when they utilized stereotypically feminine styles of leadership.

Another recent meta-analysis synthesized research that has been conducted on the topic of gender and leadership effectiveness. Eagly, Karau, and Makhijani (1995) examined 96 studies that consisted of two distinct types: a relatively small number of laboratory experiments (leaders usually randomly appointed to lead fellow students) and a much larger number of organizational studies. The organizational studies looked at both objective measures (e.g. production goals met) and subjective measures (e.g. ratings by self and others in the workplace on leader's effectiveness, performance, or leadership ability); however, the vast majority were subjective. A measure of perceived congeniality between the leadership role in each study and typical gender roles was also developed and applied to the analyses.

When all studies in the sample were aggregated, male and female leaders did not differ in leadership effectiveness. Yet, removal of a number of outlier studies (mainly sports teams and military settings) resulted in a tendency for female leaders to be rated more effective than male leaders. On various types of subjective measures, men were rated higher on measures of leadership ability and performance, and women were rated higher on measures of satisfaction. There were no differences on measures of

effectiveness or motivation. Another finding of note was that effectiveness comparisons favored men for first-level or line leadership and women for second or mid-level (managing managers) leadership. Also, in general, male leaders fared well in roles thought to be congenial to men, and female leaders fared well in roles thought to be congenial to women.

Summary. In total, this line of research seems to indicate that a subtle bias continues to exist against women in leadership roles. On the surface there do not appear to be any "real" differences in the effectiveness between men and women leaders and the degree to which they are evaluated as being effective. Yet, a deeper analysis of the data highlights some important trends. For example, based on aggregate research data, female leaders are perceived as being as, if not more, effective and motivated than their male counterparts. Yet, the male leaders are perceived as having more leadership ability and performing in the role better than their female counterparts. The fact that bias still exists becomes more clear under certain conditions where women are devalued, such as when they use gender-role incongruent behavior or enter roles traditionally held by men. And, in general, men appear to be less objective and unbiased in their evaluations of female leaders than women are of male leaders.

Klenke (1996) stated recently in her review of the scientific literature on leadership and gender that, in contrast to the position taken by many popular writers today (i.e., Helgesen, 1990), researchers generally agree that there are negligible, if any, differences in actual leader behavior between males and females. The evidence fails to support the position that there is a distinctive "feminine" leadership style. The one

difference researchers do agree on is women's generally greater concern for relationships among people, which is considered a positive in most leadership situations. In fact, because of that tendency, many authors on this topic are taking the position that women are uniquely positioned to lead in the non-bureaucratic, employee-involved organizations of the 1990s or where transformational leadership is required (Applebaum & Shapiro, 1993; Lee, 1994; Stanford, Oates, & Flores, 1995). If accurate, with time, women could be expected to begin closing the gap with men more rapidly in terms of career success and advancement.

## Measuring and Predicting Managerial Career Success

### Outcome Measurement.

While managerial and career success has been a favorite topic of numerous business writers and, inherently, it is a topic of keen interest to business professionals, it has not garnered much attention from empirical researchers (Judge, Cable, Boudreau, & Bretz, 1995). Part of the difficulty in studying this concept scientifically is that it is evaluative; judgments of managerial career success depend upon who is doing the judging. While some would argue that, in some cases, simple survival would constitute success (Fok, Crow, Hartman, & Moore, 1994), most researchers in this area agree that in the broadest sense, one either measures success through various subjective and/or objective means (Gattiker & Larwood, 1989; Herriot, Gibson, Pemberton, & Pinder, 1993; Judge, et al., 1995).

Regarding subjective career success, it is often conceptualized as consisting of two primary components: overall career satisfaction and current job satisfaction (Judge, et al., 1995). These are most typically measured via brief scales or questionnaires, such as asking the manager to rate whether they thought they were ahead of, in line with, or

behind the age-appropriate timetable for success in their organization (Lawrence, 1984). Past research has shown that these types of subjective measures tend to be positively related to objective measures of success. For example, pay and promotion opportunities have been found to predict job and career attitudes (Locke, 1976). Given this positive relationship, most research on career success typically focuses upon those objective measures thought to serve as the best criteria in these types of studies (Judge, et al., 1995).

Various measures of objective career success are used to try and capture the concept of managerial advancement, promotion, and/or ascendancy within an organization. The two measures that seem to be most universally employed in studies of this type are salary/total compensation level or progression/number of promotions (Judge, et al., 1995), with another highly popular choice being managerial level (Gaskill, 1991; Herriot, et al., 1993; Jacobs & McClelland, 1994; Tharenou & Conroy, 1994). Others used in this literature include geographic mobility (Brett, et al., 1992), Hay evaluation points (Fok, et al., 1994), span of control/number of subordinates (Tharenou, Latimer, & Conroy, 1994), and level of subordinates (Herriot, et al., 1993), with most studies using multiple indicators as an index of managerial advancement or success.

Prediction. Multiple explanations have been offered to account for managerial success and related career progression, and the processes by which advancement occurs appear to have shifted over the last two decades as organizations have become flatter and more decentralized (Tharenou, 1997). These explanatory theories, and the variables studied within them, can be grouped into at least four categories (Judge, et al., 1995).

Demographic variables have been studied fairly extensively and been found to account for more variance in career success than other influences. For example, one of the most consistent, and perhaps obvious, findings is that age positively predicts objective career success (Gattiker & Larwood, 1989). Other frequently researched demographic variables within the managerial success literature are gender, ethnicity, and marital status, with all tending to be significant predictors of relevant criteria. Consequently, it is important to control for these types of variables unless they are serving as independent variables in the study (Judge, et al., 1995).

Human capital theory proposes that the labor market will reward those individuals who make investments in themselves. Level of education is the human capital variable that has received the most research interest within this category, with these findings being consistently significant. Also, job tenure, total time in one's occupation, amount of experience, and type of experience have been examined in the literature (Judge, et al., 1995; Tharenou, 1997). More broadly, human capital variables can include any job-related competency required to be successful at higher levels within an organization (Brett, et al., 1992; Herriot, et al., 1993; Still, 1992). Demonstration of these competencies, whether acquired through "God given" talent, training, or experience, place people in a position to capitalize on the marketplace demand for those skills and abilities.

The third category encompasses motivational variables. Indicators that have been found to be significant predictors include number of hours worked per week, number of evenings worked per week, work centrality, and ambition or desire to get ahead. Simply

put, executives who desire to work more hours tend to find their work enjoyable and motivating, and, logically, have a greater probability of attaining success than those who do not have those same positive feelings about their jobs (Judge, et al., 1995).

Lastly, organizational variables have been studied as crucial determinants of managerial promotion and ascendancy. Company emphasis on employee development and promotion, difficulty in attracting and retaining employees, company age, industry type, organization size, organization success, and organization structure have all been used as predictors in this research literature (Blum, Fields, & Goodman, 1994; Herriot, et al., 1993; Judge, et al., 1995). Findings have clearly shown in some cases that various contextual aspects of organizations do account for significant portions of the variance in career outcomes (Blum, et al., 1994; Herriot, et al., 1993). Once again, to the extent possible, these variables should be controlled for in studies where they are not central to the research question(s).

Gender Differences. With the amount of popular press attention given to the "glass ceiling" concept over the last decade, researchers have worked diligently to try and account for the variables that seem to either hinder or facilitate career movement for women managers. A variety of theories have been offered to account for this perceived discrimination, including differences in person-centered variables (e.g., traits, behaviors, attitudes, and socialization), labor market discrimination (e.g., White men in power who are biased toward their own kind), and structural discrimination (e.g., widespread policies and practices in the social system)(Morrison & Von Glinow, 1990). Another is that women's multiple roles of family and work lead to role overload and conflict, thereby

becoming a barrier to career advancement (Tharenou, 1997).

Despite the attention this topic receives, there continues to be a striking lack of consensus regarding the key predictors of managerial advancement for women. Based on their empirical findings, researchers in this area are advocating support and career encouragement, which tends to lead to more training and development (Tharenou, et al., 1994), personal ambition and abilities (Gaskill, 1991), and networking (Gold & Pringle, 1988) as critical factors for women desiring to move into upper management positions.

Yet, others are writing that there are no differences between the genders, what predicts success for one predicts success for the other. Tharenou and Conroy (1994) examined the relative importance of situational and personal variables for women's managerial advancement. They concluded that both men and women managers' advancement is similarly predicted by training and development and work experience. Others have reported similar findings, including that both men and women managers perceive their career success to be most closely tied to factors such as direct and indirect assistance/coaching from others, positive work attitudes, training and experience, and personal skills (Gold & Pringle, 1988).

In a recent well-designed study, Brett, Stroh, and Reilly (1992) examined the magnitude of the gap in career progression between a closely matched sample of men and women managers. Sampling from 20 Fortune 500 corporations representing eight industries, they surveyed 1,018 managers (795 men and 223 women) who were similar in terms of having done "all the right stuff" to advance in their careers. For example, all subjects included in the study had relocated within the last two years for their own career

advancement, and the gender groups did not differ significantly in terms of education, proportion of total family income earned, number of workforce exits, or employment in high paying industries. These data were interpreted as indicating the women managers were following a traditional male model of career advancement. Results suggest that some gaps may be closing between gender groups. Specifically, there were no reported differences in this study regarding rate of promotion between men and women managers. Yet, there were significant differences in terms of salary progression and geographic mobility (frequency of career-related moves) between men and women. The implications drawn by the authors highlighted that even though these women managers had followed a traditional male career model, it was still not enough. And, they ask, what are the implications of this for women who are not following this model? They close by posing the question regarding what else can women do to positively affect their rate and level of career progression.

As one answer to the above question, some experts in the field are advocating a refocusing upon a human capital or person-centered approach (Still, 1992). Research continues to show that organizations generally believe, despite many research findings to the contrary, that women lack the necessary qualifications to be promoted to senior management positions. This continues to be the dominant answer given to explain the lack of women at the top of organizations. Furthermore, one of the critical qualifications that needs to be demonstrated beyond a shadow of a doubt is the women manager's leadership skills (Baack, Carr-Ruffino, & Pelletier, 1993; Gavin, Ashworth, & Giacalone, 1992; Rosenberg & Maupin, 1987; Still, 1992). How those skills are best perceived and

evaluated is another topic of much research and debate.

Evaluating Leadership Ability

A recent review of the literature found that there have been more than 350 definitions of leadership published over the years (Bennis & Nanus, 1985). Given the difficulty researchers have had in trying to agree on a way to operationally define the construct of leadership, it is not surprising that there has been significant debate around its measurement. Today, the literature on leadership assessment and evaluation can be organized into at least four broad categories of studies.

Unit performance indices. Some would argue that, theoretically, the most appropriate way to evaluate leadership is in terms of the performance of the team, group, or organization being lead (Hogan, Curphy, & Hogan, 1994). Examining various organizational measures - such as sales, profits, or lost days due to accidents - which can be linked directly to the "bottom line" provide a means of quantifying the effectiveness of a leader. However, these criteria will always be confounded with other external variables beyond the leader's direct control. Conceivably, a leader can do "everything right" and still not score well on these types of indices due to, for example, a poor economy, legal or political events, or natural disasters. Conversely, positive external events can easily override the individual performance of any leader, good or bad. As a result of this inherent contamination issue, most researchers look for other evaluation methods, which might provide a more direct measure of a leaders behavior and/or effectiveness (Hughes, Ginnett, & Curphy, 1999).

Self-ratings. Going straight to the source, the leader him or herself, would, on the

surface, appear to be a logical and efficient way to measure leadership ability and effectiveness. Unfortunately, the results of these types of studies have consistently shown that self-ratings tend to be inflated and, as a result, may be unrelated to other measures of performance (Bass, 1990). Regarding agreement between self-ratings and those of others, Harris and Schaubroeck (1988) conducted a meta-analysis of these types of studies published over the last thirty years. They found that across their sample, the correlations between peer-supervisor ratings were almost twice the size of the correlations from either self-peer or self-supervisor ratings. These differences were even more pronounced when the managerial and professional samples were examined independent of other job classifications. In terms of mean score differences, the self-ratings were over a half standard deviation higher than supervisor ratings and approximately one-quarter higher than peer ratings. They conclude that practitioners intent on using self- ratings should be cognizant of the fact that there will likely be significant disagreement between those ratings and other perspectives. In total, the evidence is clear that self-ratings communicate little regarding leader effectiveness (Hogan, et al., 1994).

Assessment and Assessment Centers. Bass (1990) emphasized and endorsed a twofold use of assessment in evaluating and selecting individuals for leadership positions. First, it can provide the basis for choosing among candidates for leadership and management jobs and, second, it can provide useful information for the counseling and development of leaders once in place. While there is significant variability across different assessment designs, most consist of some combination of the following: paper-and-pencil and/or projective tests of personality, values, and interests; tests of cognitive

abilities, reading, and/or writing skills; and observers' judgments of performance on interviews, in-basket exercises, organizational simulations, role-playing exercises, and leaderless group discussions requiring competition or cooperation. The primary difference between an individual assessment and an assessment center process is that in the latter participants are often processed in groups (i.e., in multiples of six) and final evaluations of participant performance are based on pooled judgments of staff psychologists and managers who have been assigned as observers.

Long-term, sophisticated longitudinal studies have helped to establish the predictive validity of assessment methodology. In a widely quoted research project, Howard and Bray (1988) reported that assessments conducted at A T & T with literally thousands of managers were able to accurately predict, at the end of 20 years, the overall managerial level attained by these individuals. Intelligence scores, personality and motivation measures, and results from interviews and in-basket exercises all contributed positively to the accuracy of those predictions. Similarly, Bentz (1990) found that Sears' executive test battery - consisting of a combination of cognitive measures, personality, values, and preference inventories - taken over 20 years earlier predicted current performance of high-level executives within that corporation.

Because the cost estimates can range up to $5,000 per assessment center participant, the cost effectiveness of this procedure has been widely debated (Bass, 1990). Due to this factor, its use can be prohibitive in some situations, including empirical research. Nevertheless, its utility as a means of evaluating and predicting leadership ability and potential is well established.

Subordinates', Peers', and Superiors' Ratings. Over the last 15 years or so, multi-rater assessment instruments have gained increased popularity and use in applied settings. This process typically consists of subordinates, peers, and/or superiors completing a questionnaire that asks them to rate the target leader's behavior, skills, and effectiveness in a variety of performance-related areas. These respondents, as consistent observers of the leader's behavior and effectiveness, can be considered to be in a unique position to render a meaningful evaluation (Hogan, et al., 1994).

Research into the predictive validity of these instruments has been encouraging. For example, McEvoy and Beatty (1989) conducted a seven-year longitudinal comparison of assessment center ratings and subordinate appraisals of those same managers. As a predictor of future performance ratings, subordinate appraisals outperformed the overall assessment ratings (OAR) at the intermediate terms (2 and 4 year intervals) even though the OARs "caught up" in the long term. The authors claimed that given the size of these validity coefficients, subordinate ratings appear capable of competing with the other most powerful predictors of managerial performance.

Using a multi-rater (boss, peers, direct reports) assessment instrument, Personnel Decisions International recently conducted a study including 622 managers from 49 different companies across multiple industries (Hezlett, Ronnkvist, Holt, & Hazucha, 1996). Respondents were asked to rate managers on four broad criteria: overall competence, long-range potential, chances of having their career be in jeopardy, and promotability. The average ratings on all dimensions (competencies) measured were significantly correlated with the four outcome measures, indicating strong evidence in

favor of the criterion-related validity of this assessment instrument. As a leadership assessment process, Bass (1990) concurs that ratings by subordinates', peers', and superiors' have demonstrated utility and validity under certain conditions.

In conclusion, there does not appear to be a consensus in the literature regarding the best way to evaluate leadership ability and effectiveness. While there is a strong case to be made for unit performance indices, the fact of the matter is that these data are not only difficult to obtain, but frequently badly contaminated by external variables. Assessment centers have been shown to be valid predictors of leadership ability and potential, yet they can be cost prohibitive in many situations. Hogan, Curphy, and Hogan (1994) suggest that the best alternative is to ask subordinates, peers, and superiors to provide the evaluation. They state that the empirical data on this methodology suggests that: these different views of the leader tend to be correlated; these respondent groups tend to focus on different aspects of the leader's performance (e.g., subordinates on perceived integrity, superiors on technical competence); and, taken in concert, these views are moderately yet significantly correlated with team performance.

Longitudinal Studies of Women, Leadership, and Ascendancy

Despite the call for more longitudinal studies as a critical component for better understanding the issues surrounding the "glass ceiling" and relative progress being made to break it (e.g., Tharenou & Conroy, 1994), they continue to be scarce in the research literature. Some studies are being published that deal with various factors that are thought to influence a woman manager's success and ascendancy, such as mentoring (Dreher & Ash, 1990), yet it is virtually impossible to find those targeted directly at leadership skills.

In fact, it is rare to find a longitudinal study with women managers that is even indirectly related to leadership.

In one such relevant, but indirect, study of a leadership-related construct, Jacobs and McClelland (1994) examined the leadership motive patterns of men and women managers as predictors of managerial advancement. Using the Thematic Apperception Test (TAT), they collected leadership motive data on 391 entry-level managers (211 men and 180 women) during an assessment center experience early in these individuals' tenure with their company. After an 8 to 12 year time lag, these individuals were recontacted to determine the management level to which they had advanced.

Results found the Leadership Motive Pattern (LMP) predicted managerial advancement for women in this sample, as it had for men previously. Yet, a content analysis of the themes associated with Power, a key component of the LMP, indicated that there were differences in the ways that successful men and women managers in this sample thought about power. The men were more likely to view power in hierarchical terms, and women were more likely to view power in relationship-oriented terms. These findings were related to those of Rosener (1990) who reported women using more of a transformational leadership style rather than a transactional one.

Tsui (1998) used a single scale self-report measure of leadership self-confidence, along with eight other independent variables, in a longitudinal study examining the effects of suspected income related factors on business management salaries. Surveying 941 individuals (403 men and 538 women) nine years after they entered college, she found that six of these suspected factors did correlate significantly with annual income

earnings, including leadership self-confidence. While not equivalent to observed or measured leadership skills, this finding was noted as substantiating the proposed link between leadership and career success in business, regardless of gender. And, in summary comments, she notes that even at this relatively early career stage for these participants, a notable (significant) income gap between the men and women had already emerged.

Both Bass (1990) and Klenke (1996) stressed the importance of considering the chronology of leadership research as a qualifier in drawing conclusions regarding what is known about women and leadership. Well designed, applied research studies are needed to stay current with changes occurring in the business world. This particular field is noted to be suffering from a lack of well designed empirical research (Northouse, 1997), and the best way to overcome gender stereotypes, misperceptions, and biased attitudes toward women is with timely, valid information (Klenke, 1996).

Summary of the Introduction

By the year 2000, it is projected that women will constitute almost 50 percent of the U.S. workforce (Schreiber, Price, & Morrison, 1993), yet their representation in top management and executive-level positions continues to hover in the single digits. This "glass ceiling," which is conceptualized as limiting women's advancement into these roles, has been the subject of much debate and research over the last fifteen years. While this apparent discrimination - whether intentional or not - certainly brings forth much controversy on issues of equality and equal rights alone, from a competitive standpoint, U.S. corporations trying to compete in a global marketplace can ill afford to ignore one half of the best leadership talent available (McCauslan & Kleiner, 1992).

The position that there are enduring, deep-seated gender differences in leadership skills, which account for women's lack of managerial progress, does not hold up under close scientific scrutiny. When men and women leaders are evaluated and compared across varying time frames, contexts, and research methodologies, differences are negligible and of little practical significance (Klenke, 1996). Yet, the perception that men are more effective leaders than women persists (Eagly, et al., 1995).

The one area that does consistently show gender differences is preferred leadership style; women are more likely to use a democratic versus an autocratic style in their approach (Eagly & Johnson, 1990). The emphasis that this style places on maintaining interpersonal relations and fostering collaboration among team members is currently viewed as being more appropriate and conducive to success in today's business environment. Perhaps more so now than ever, women leaders are uniquely positioned to contribute and reap the accompanying rewards and recognition that come with career ascendancy.

Yet, surprisingly, applied research studies have not recently explored the direct link between leadership skills and ascendancy in any substantive manner. The lack of well-designed longitudinal studies in the literature is noteworthy and highlights an area of need in future research. This paper describes a study which addresses this need, while making a unique contribution to the literature with its subject sample and well accepted measures of leadership and ascendancy.

Research Questions and Hypotheses

The purpose of this study is to contribute current and timely data on the link

between leadership skills and managerial ascendancy and success. The two research questions explored by the design of this study are: (1) Do clearly perceived and acknowledged leadership skills lead to managerial ascendancy for women as consistently as they do for men? Is the current business environment leading to greater equality in rates of ascendancy between gender groups than earlier studies have shown? and (2) Do there continue to be differences in the style and associated skills/behaviors used between men and women leaders in attaining success? Is the notion of gender congruent style and behavior becoming obsolete in today's business environment?

Hypothesis 1. There will be small but significant differences between gender groups in terms of the degree to which perceived leadership skills predicts ascendancy, with females continuing to lag behind their male colleagues.

Hypothesis 2. There will be significant differences in terms of which leadership dimensions are most predictive of ascendancy within gender groups, with females successfully employing a more supportive and collaborative style (i.e., gender congruent) than males.

# CHAPTER II

# METHOD

## Subjects

Subjects consisted of 85 mid-level managers, 45 females and 40 males, from a large, U.S. based health-care products corporation. The subjects were grouped by gender and matched on salary range at time of assessment and approximate assessment date. Other available demographic information, such as age, ethnicity, education level, job tenure, and amount of managerial experience, that have been deemed important as potential predictors of managerial ascendancy (Judge, Cable, Boudreau, & Bretz, 1995; Tharenou, 1997) were also collected at time of assessment.

All subjects had participated in a multi-rater assessment process within their organization as part of a company-sponsored developmental program between the years of 1992-1997. At that point, they had been informed that their data could be used anonymously in future research efforts and that participation in the process designated consent to those terms. Each subject was re-contacted with a request to volunteer to participate in a follow-up survey that would be collecting various leadership advancement criteria from them, and it was clarified that final results from this study would be made available to those subjects designating interest. Those declining follow-up participation, whether overtly or by nonresponse, were excluded from the study. Previously collected demographics of those declining participation were analyzed for apparent biases.

Measures

The multi-rater assessment tool used by the research sponsoring organization was The PROFILOR by Personnel Decisions International (PDI). Using a process that combined both extensive research and applied consulting experience, PDI developed the first edition of this instrument (called at that time the Management Skills Profile) in the early 1980s. Attempting to differentiate between effective and ineffective managers, the focus of the item design was on skills and behaviors rather than style (Holt & Hazucha, 1991).

Using a content-related approach to the development and validation of the instrument, PDI operationalized 18 dimensions of managerial performance and effectiveness that grouped into eight factors. Ratings were collected on 122 items from four perspectives (self, boss, peers, and direct reports). A 5-point Likert-type scale, ranging from "1 = Not at all" to "5 = To a very great extent," asked respondents to evaluate the extent to which the target manager performed each of the behaviors. A sixth scale point "N/A" allowed respondents to indicate that the behavior "does not apply" to the manager's role or activities. Scannable answer sheets were completed by each participant and by up to ten respondents of their choosing. The respondents'coded answer sheets were mailed to PDI for computer scoring and processing. The target manager received a feedback report packaged with an interpretive guide. The majority of these managers received their feedback in either a group workshop or in an individual session facilitated by an internal or external consultant.

By 1991, more than 20,000 managers and 100,000 respondents had completed the

instrument. Data from approximately 11,000 managers were analyzed to update the technical manual (Holt & Hazucha, 1991). Some highlights from those analyses include:

- Corrected item-scale correlations ranged from .32 to .81 for the boss perspective, from .29 to .80 for the direct report perspective, from .37 to .91 for the peer perspective, and from .17 to .78 for the self perspective.
- Self-ratings were consistently more lenient than those of bosses, peers, or direct reports. Among the three non-self perspectives, bosses and peers were most similar, while peers and direct reports were somewhat more similar than bosses and direct reports.
- Cronbach's alpha values for the 18 scales ranged from .70 to .91, and across all scales the average internal consistency was .83 for the average other perspective.

In 1990 PDI began research on the evolving nature of managerial work, including an update of the relevant management and psychology literature. Finding that there had been substantive changes in the U.S. business environment (e.g., a greater emphasis on quality, teamwork, and participative management approaches), PDI engaged in a series of job analyses projects, group interviews, and subject matter expert critiques to update the model and items used in their instrument. The resulting dimensions and items overlapped significantly with the earlier version, yet there were some clear differences as well. Released in 1991, the revised, and current, version of the instrument was renamed The PROFILOR and consisted of 135 items organized into 24 dimensions (i.e., facets) and eight factors.

The seven dimensions within the Leadership Skills factor were used in this study as

independent variables. The dimensions scores representing the "all other" category (boss, peers, and direct reports averaged together) were used in the analyses. These seven dimensions contain 44 behavioral items labeled: Provide Direction, Lead Courageously, Influence Others, Foster Teamwork, Motivate Others, Coach and Develop, and Champion Change (see Appendix B).

Data from more than 15,000 managers and 100,000 respondents were analyzed in 1994 (Hezlett, Ronnkvist, Holt, & Hazucha, 1996), with the following results specific to these Leadership Skill dimensions:

- Cronbach's alpha values based on the average other response category were: Provide Direction, .92; Lead Courageously, .93; Influence Others, .91; Foster Teamwork, .93; Motivate Others, .94; Coach and Develop, .92; and Champion Change, .90.
- Interrater reliability for the peer and direct report response categories, respectively, were: Provide Direction, .48 - .55; Lead Courageously, .57 - .60; Influence Others, .55 - .57; Foster Teamwork, .53 - .57; Motivate Others, .54 - .58; Coach and Develop, .49 - .56; and Champion Change, .51 - .53.
- Correlations with a five-item composite of overall managerial performance were: Provide Direction, .76; Lead Courageously, .78; Influence Others, .78; Foster Teamwork, .65; Motivate Others, .69; Coach and Develop, .72; and Champion Change, .75.

Given the wide divergence in time of assessment among the subjects in this study, months since assessment was calculated for each subject and included as another

independent variable in the study (an approach supported by a previous pilot study conducted, see Appendix F, and by a correlation matrix containing possible covariates from this study, see Appendix D), and held constant as a covariate during the multivariate analyses.

The dependent variables measuring ascendancy were collected via a web-based questionnaire, administered by one of the sponsoring organization's HR departments (Executive Sourcing and Development). In an effort to capture the change in the individual's job responsibilities and their career movement over the time period in question, two data points were gathered for each subject for each variable: historical data from the subject's time of assessment and current data at the time contacted to complete the follow-up survey. As shown to be relevant and well accepted indicators of career advancement and ascendancy (Judge, et al., 1995), survey items included percent change in salary and number of promotions (job moves) either offered or accepted. On the sponsoring organization's request, a third measure collected was change in number of direct reports. While this metric has been used in previous research (Tharenou, Latimer, & Conroy, 1994), it has been reported to be an unreliable indicator due to extreme variation. For example, in many organizations, upper managers have fewer direct reports than lower-level managers, not more. Nevertheless, it was included here. Also, change in number of indirect reports was used as a fourth measure of ascendancy (again, upon request) as a proposed indicator of span of control and extent of managerial responsibility.

To determine which of The PROFILOR leadership dimensions tend to be associated

with male and female gender congruent behavior, as relevant to Hypothesis 2, a group of sixteen subject-matter experts were polled. PDI maintains a globally dispersed team of "assessment champions" in each of its Operating Offices. These individuals were asked to vote on the seven leadership dimensions regarding whether they would consider that skill/behavior to be more stereotypical of males or females. A majority vote of these subject matter experts determined how that dimension would be coded for the purposes of this study (see Appendix E). Three of the dimensions received strong majority votes as being more congruent with a feminine style: Foster Teamwork, Motivate Others, and Coach and Develop. Three dimensions received strong majority votes as being more congruent with a masculine style: Lead Courageously, Influence Others, and Champion Change. One dimension, Provide Direction, got a slight majority vote as being more masculine, yet the voting was quite close, implying a less clear cut gender association on this one as compared to the other six.

Procedure

Based on the volume of PROFILOR usage during the early to mid 1990s, three organizations were contacted regarding their interest in participating in this study. Human resource development (HRD) directors were targeted as the initial point of contact. Once contacted by telephone, the research project was briefly described to them and, if interested, a more complete written description of the study was provided. Upon final consent to participate, the selected company was asked to appoint a liaison to serve as project manager for the study. In order to avoid the added complexity of working with organizations of widely divergent size, industry, culture, etc., the first "qualified"

organization that agreed to participate was selected as a single research site. This organization is a large, U.S. based health-care products corporation. While they are headquartered in the Midwest, they have operations and employees working in various locales around the world.

Once selected, the sponsoring organization's archival PROFILOR database (maintained by PDI Minneapolis) was reviewed to establish the total number of potential female subjects eligible for the study. The principal selection criterion was whether or not there had been at least a four-year time lag between their assessment and the proposed time for conducting the follow-up survey (resulting in a range from 1992–1997), with the rationale being that this time lag would allow advancement opportunities to occur for most participants. This process generated a potential sample of 293, which was then reduced to the final sample size of 148 based on the criterion of needing to still be actively employed by the sponsoring organization, so that the follow-up survey could be administered. Reported salary range, at time of assessment, was also captured from the PDI database as a matching variable to be used with the male manager subject set.

A similar process was used in identifying the male managers eligible for the study. The initial PDI database search, using the same time lag parameters as with the female set, resulted in a potential pool of 776 male managers. This set was then reduced by only including those still active with the sponsoring organization as "eligible." At that point, the male sample was matched against the final female sample using salary range at time of assessment and date of assessment, targeting approximately the same number of subjects in each year span represented, to arrive at a final male number of 148 and a total

combined potential sample of 296.

The final subject pool, both male and female, were contacted via interoffice email, initiated by the sponsoring HR department, requesting their participation in the research study and related follow-up survey. As part of the email text, they were provided with their assessment date, for reference purposes. In addition, a “hot link” was embedded in the email text that, if engaged, would take them directly to the electronic survey site, hosted on the organization’s intranet. Once at the site, they were provided with a brief letter from the experimenter requesting participation and asking for their informed consent to do so. Upon agreement to the consent details, access to the survey site was granted (see Appendix A). Those declining to participate exited the program before gaining access to the survey itself. As data were submitted they were captured in a database spreadsheet.

Over the course of two months, three different “waves” of surveys were sent via the methodology described above. With each wave, between two and three weeks apart, the introductory text soliciting participation was edited slightly to try and appeal to eligible subjects who had not yet responded. In total, 85 complete follow-up survey data sets were collected from the total of 296, representing a 29% response rate. Of these complete sets, 45 were female managers and 40 were male.

# CHAPTER III

# RESULTS

## Descriptives and Relationships

Descriptive data were run on the demographics collected, deemed important as potential predictors of managerial ascendancy (age, ethnicity, education level, job tenure, and amount of managerial experience), for the total subject set (Table 1). In comparing the subset of subjects who responded to the follow-up survey (n=85) versus the subset who did not respond (n=211), t-tests reveal one variable being significantly different between the two subgroups: education level ($t$ (294) = 2.25, $p$ < .05). The ethnicity variable did not show enough variance to be meaningfully included in the comparison table.

Table 1
Comparison of N=85 vs. N=211 Demographics

| | N=85 | | | | | | N=211 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | Min. | Max. | Range | | Mean | sd | Min. | Max. | Range | | t-test | Sign. |
| Time in Current Position | 2.49 | 0.98 | 1.00 | 5.00 | 5.00 | | 2.30 | 1.00 | 1.00 | 5.00 | 5.00 | | 1.53 | ns |
| Education | 5.06 | 1.21 | 3.00 | 8.00 | 6.00 | | 4.67 | 1.40 | 3.00 | 8.00 | 6.00 | | 2.25 | p<.05 |
| Age | 38.20 | 6.15 | 27.00 | 54.00 | 27.00 | | 39.50 | 6.11 | 26.00 | 55.00 | 29.00 | | 1.66 | ns |
| Time in Management | 4.26 | 1.36 | 1.00 | 7.00 | 7.00 | | 4.27 | 1.33 | 1.00 | 7.00 | 7.00 | | 0.07 | ns |

**Note:** For ethnicity, 256 of 296 (86.49%) participants were Caucasian.
**Note:** See Appendix H for demographic choice descriptors, applicable to all associated demographic tables.

Descriptive data were run comparing the female and male managers from the "responding" group on the key demographics (Table 2). T-tests reveal no significant differences between the subgroups on these variables.

Table 2
Comparison of Females and Males on Demographics (N=85)

| | Females (N=45) | | | | | Males (N=40) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | Min. | Max. | Range | Mean | sd | Min. | Max. | Range | t-test | Sign. |
| Time in Current Position | 2.38 | 0.89 | 1.00 | 5.00 | 5.00 | 2.63 | 1.08 | 1.00 | 5.00 | 5.00 | 1.16 | ns |
| Education | 5.18 | 1.25 | 3.00 | 8.00 | 6.00 | 4.93 | 1.16 | 3.00 | 7.00 | 5.00 | -0.96 | ns |
| Age | 38.24 | 5.51 | 30.00 | 53.00 | 23.00 | 38.15 | 6.88 | 27.00 | 54.00 | 27.00 | -0.07 | ns |
| Time in Management | 4.29 | 1.27 | 1.00 | 7.00 | 7.00 | 4.23 | 1.46 | 1.00 | 7.00 | 7.00 | -0.22 | ns |

Descriptive data were run on the independent variables, with leadership dimension scores captured as "all other" ratings, for the total subject set (Table 3). In comparing the subset of subjects who responded to the follow-up survey (n = 85) versus the subset who did not respond (n = 211), t-tests reveal no significant differences between the two subgroups. While not significant, it was noted that the "responding" group mean scores were higher on all seven dimensions and the "non-responding" group tended to have more variation in scores, especially on the low (minimum) end of the scale.

Table 3
Comparison of N=85 vs. N=211 on Independent Variables

| | | N=85 | | | | | | N=211 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | Min. | Max. | Range | Mean | sd | Min. | Max. | Range | t-test | Sig. |
| Provide Direction | 3.61 | 0.36 | 2.65 | 4.57 | 1.92 | 3.55 | 0.38 | 2.07 | 4.41 | 2.34 | -1.342 | ns |
| Lead Courage-ously | 3.66 | 0.36 | 2.45 | 4.50 | 2.05 | 3.60 | 0.43 | 1.95 | 4.49 | 2.54 | -1.301 | ns |
| Influence Others | 3.57 | 0.34 | 2.47 | 4.28 | 1.81 | 3.53 | 0.38 | 1.97 | 4.36 | 2.39 | -0.789 | ns |
| Foster Teamwork | 3.75 | 0.36 | 2.84 | 4.54 | 1.70 | 3.70 | 0.38 | 2.12 | 4.50 | 2.38 | -1.016 | ns |
| Motivate Others | 3.60 | 0.40 | 2.66 | 4.50 | 1.84 | 3.55 | 0.43 | 2.01 | 4.50 | 2.49 | -1.014 | ns |
| Coach & Develop | 3.58 | 0.37 | 2.46 | 4.37 | 1.91 | 3.51 | 0.38 | 2.04 | 4.30 | 2.26 | -1.508 | ns |
| Champion Change | 3.59 | 0.39 | 2.27 | 4.50 | 2.23 | 3.50 | 0.40 | 2.19 | 4.40 | 2.21 | -1.757 | ns |

Descriptive data were run comparing the female and male managers from the "responding" group on both independent (Table 4) and dependent variables (Table 5). T-tests revealed no significant differences between the subgroups for either variable set. While not significant, it was noted that female managers were evaluated more favorably on the average than the male managers on all seven leadership dimensions. While not significant, it was noted that the mean salary percent increase was larger for the females than the males in this sample set, although the males averaged more promotional opportunities than the females. In addition, while not significant, the male managers averaged larger increases and standard deviations in both the number of direct and indirect reports over time than did the females.

Table 4
Comparison of Females and Males on Independent Variables (N=85)

| | Females (N=45) | | | | | | Males (N=40) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | Min. | Max. | Range | | Mean | sd | Min. | Max. | Range | t-test | Sign. |
| Provide Direction | 3.66 | 0.31 | 2.93 | 4.23 | 1.30 | | 3.56 | 0.41 | 2.65 | 4.57 | 1.92 | 1.22 | ns |
| Lead Courageously | 3.71 | 0.32 | 2.91 | 4.50 | 1.59 | | 3.61 | 0.39 | 2.45 | 4.35 | 1.90 | 1.28 | ns |
| Influence Others | 3.60 | 0.30 | 2.90 | 4.21 | 1.31 | | 3.54 | 0.38 | 2.47 | 4.28 | 1.81 | 0.89 | ns |
| Foster Teamwork | 3.80 | 0.33 | 3.03 | 4.44 | 1.41 | | 3.69 | 0.38 | 2.84 | 4.54 | 1.70 | 1.41 | ns |
| Motivate Others | 3.63 | 0.36 | 2.66 | 4.50 | 1.84 | | 3.57 | 0.44 | 2.74 | 4.47 | 1.73 | 0.67 | ns |
| Coach & Develop | 3.64 | 0.32 | 2.77 | 4.21 | 1.44 | | 3.52 | 0.42 | 2.46 | 4.37 | 1.91 | 1.59 | ns |
| Champion Change | 3.65 | 0.32 | 2.88 | 4.50 | 1.62 | | 3.52 | 0.45 | 2.27 | 4.39 | 2.12 | 1.65 | ns |

Table 5
Comparison of Females and Males on Dependent Variables (N=85)

| | Females (N=45) | | | | | | Males (N=40) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | Min. | Max. | Range | | Mean | sd | Min. | Max. | Range | t-test | Sign. |
| % Salary Change | 0.40 | 0.25 | 0.06 | 1.29 | 1.23 | | 0.34 | 0.22 | 0.02 | 1.00 | 0.98 | -1.10 | ns |
| Promotions (Added together) | 2.07 | 1.64 | 0.00 | 6.00 | 6.00 | | 2.30 | 1.70 | 0.00 | 6.00 | 6.00 | 0.64 | ns |
| Direct Report Difference | -2.11 | 6.99 | -30.00 | 10.00 | 40.00 | | 0.33 | 10.59 | -24.00 | 48.00 | 72.00 | 1.27 | ns |
| Indirect Report Difference | 5.20 | 46.71 | -132.00 | 223.00 | 355.00 | | 26.18 | 109.07 | -100.00 | 650.00 | 750.00 | 1.18 | ns |

A correlation matrix containing both the independent and dependent variables (Table 6) for the “responding” subject set revealed a number of significant relationships. All seven of the independent variables/leadership dimensions were highly correlated ($p < .01$) with one another, a finding consistent with previous and more extensive research on The PROFILOR instrument (see Appendix C). Significant relationships among the dependent variables/ascendancy measures were found between: Percent Salary Change

and Promotions ($r$ = .49, $p$ < .01), Promotions and Indirect Report Difference ($r$ = .39, $p$ < .01), and Percent Salary Change and Indirect Report Difference ($r$ = .27, $p$ < .05). Other significant relationships were found between several of the independent and dependent variables. Significant correlations noted with Direct Report Difference were: Provide Direction ($r$ = .22, $p$ < .05), Foster Teamwork ($r$ = .25, $p$ < .05), Motivate Others ($r$ = .22, $p$ < .05), and Champion Change ($r$ = .25, $p$ < .05). Indirect Report Difference correlated significantly with Lead Courageously ($r$ = .25, $p$ < .05). A number of other relationships approached significance.

Table 6
Correlations between Dependent and Independent Variables (N=85)

| | | | Provide Direct-ion | Lead Cour. | Influence Others | Foster Team work | Mot. Others | Coach/ Dev. | Champ. Change | Salary Change | Prom. | DR Diff. | IDR Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | | | | | | | | | | | |
| Provide Direction | 3.61 | 0.36 | - | | | | | | | | | | |
| Lead Courageously | 3.66 | 0.36 | **.67*** ** | - | | | | | | | | | |
| Influence Others | 3.57 | 0.34 | **.79*** ** | **.78*** ** | - | | | | | | | | |
| Foster Teamwork | 3.75 | 0.36 | **.80*** ** | **.52*** ** | **.78*** ** | - | | | | | | | |
| Motivate Others | 3.60 | 0.40 | **.72*** ** | **.54*** ** | **.72*** ** | **.87*** ** | - | | | | | | |
| Coach & Develop | 3.58 | 0.37 | **.84*** ** | **.71*** ** | **.80*** ** | **.85*** ** | **.88*** ** | - | | | | | |
| Champion Change | 3.59 | 0.39 | **.82*** ** | **.79*** ** | **.83*** ** | **.80*** ** | **.80*** ** | **.89*** ** | - | | | | |
| Salary Change | 0.37 | 0.24 | 0.08 | 0.09 | 0.13 | 0.07 | -0.06 | 0.00 | 0.03 | - | | | |
| Promotions | 2.18 | 1.66 | -0.06 | 0.07 | -0.08 | -0.14 | -0.15 | -0.06 | -0.04 | **.49*** ** | - | | |
| Direct Report Difference | -0.96 | 8.90 | **.22** ** | 0.10 | **0.18*** | **.25** ** | **.22** ** | **0.21*** | **.25** ** | -0.02 | 0.20* | - | |
| Indirect Report Difference | 15.07 | 82.32 | 0.03 | **.25** ** | 0.10 | -0.10 | -0.13 | -0.02 | 0.05 | **.27** ** | .39*** | 0.20* | - |

Note: * indicates p < .10; ** indicates p < .05; *** indicates p <, .01

Correlation matrices containing both the independent and dependent variables by gender group revealed a number of significant relationships. In the female subset (Table 7), once again, all seven of the independent variables/leadership dimensions were highly correlated ($p < .01$) with one another. Significant relationships among the dependent variables/ ascendancy measures were found between: Percent Salary Change and Promotions ($r = .54$, $p < .01$) and Percent Salary Change and Indirect Report Difference ($r = .50$, $p < .01$). In addition, significant correlations were noted between Percent Salary Change and Provide Direction ($r = .30$, $p < .05$) and Direct Report Difference and Influence Others ($r = .32$, $p < .05$). A number of other relationships approached significance.

Table 7
Correlations between Independent and Dependent Variables for Females (N=45)

| | | | Provide Direction | Lead Courage-ously | Influence Others | Foster Teamwork | Motivate Others | Coach & Develop | Champion Change | Salary Change | Promo-tions | DR Diff. | IDR Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | | | | | | | | | | | |
| Provide Direction | 3.66 | 0.31 | - | | | | | | | | | | |
| Lead Courageously | 3.71 | 0.32 | .58*** | - | | | | | | | | | |
| Influence Others | 3.60 | 0.30 | .78*** | .69*** | - | | | | | | | | |
| Foster Teamwork | 3.80 | 0.33 | .72*** | .51*** | .85*** | - | | | | | | | |
| Motivate Others | 3.63 | 0.36 | .55*** | .53*** | .75*** | .85*** | - | | | | | | |
| Coach & Develop | 3.64 | 0.32 | .78*** | .70*** | .82*** | .82*** | .81*** | - | | | | | |
| Champion Change | 3.65 | 0.32 | .78*** | .75*** | .81*** | .79*** | .74*** | .83*** | - | | | | |
| Salary Change | 0.40 | 0.25 | .30** | 0.12 | 0.28* | 0.26* | 0.19 | 0.20 | 0.15 | - | | | |
| Promotions | 2.07 | 1.64 | 0.01 | 0.02 | -0.08 | -0.11 | -0.06 | 0.02 | -0.08 | .54*** | - | | |
| Direct Report Difference | -2.11 | 6.99 | 0.27* | 0.06 | .32** | 0.28* | 0.23 | 0.15 | 0.24 | 0.13 | 0.02 | - | |
| Indirect Report Difference | 5.20 | 46.71 | 0.27* | 0.06 | 0.16 | 0.26* | 0.17 | 0.24 | 0.23 | .50*** | 0.24 | 0.27* | - |
| | | | | | | | | | | | | | |
| Note: * indicates p < .10; ** indicates p < .05; *** indicates p <, .01 | | | | | | | | | | | | | |

In the male subset (Table 8), once again, all seven of the independent variables/leadership dimensions were highly correlated ($p < .01$) with one another. Significant relationships among the dependent variables/ascendancy measures were found between: Percent Salary Change and Promotions ($r = .47$, $p < .05$), Promotions and Direct Report Difference ($r = .32$, $p < .05$), and Promotions and Indirect Report Difference ($r = .49$, $p < .01$). In addition, significant correlations were noted between Indirect Report Difference and Lead Courageously ($r = .37$, $p < .05$) and Percent Salary Change and Motivate Others ($r = -.32$, $p < .05$). A number of other relationships approached significance.

Table 8
Correlations between Independent and Dependent Variables for Males (N=40)

| | | | Provide Direct-ion | Lead Courage-ously | Influence Others | Foster Teamwork | Motivate Others | Coach & Develop | Champion Change | Salary Change | Promo-tions | DR Diff. | IDR Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | sd | | | | | | | | | | | |
| Provide Direction | 3.56 | 0.41 | - | | | | | | | | | | |
| Lead Courageously | 3.61 | 0.39 | .72*** | - | | | | | | | | | |
| Influence Others | 3.54 | 0.38 | .80*** | .85*** | - | | | | | | | | |
| Foster Teamwork | 3.69 | 0.38 | .86*** | .51*** | .73*** | - | | | | | | | |
| Motivate Others | 3.57 | 0.44 | .83*** | .54*** | .70*** | .89*** | - | | | | | | |
| Coach & Develop | 3.52 | 0.42 | .87*** | .70*** | .79*** | .86*** | .94*** | - | | | | | |
| Champion Change | 3.52 | 0.45 | .84*** | .80*** | .85*** | .81*** | .85*** | .93*** | - | | | | |
| Salary Change | 0.34 | 0.22 | -0.16 | 0.03 | -0.05 | -0.16 | -0.32** | -0.23 | -0.13 | - | | | |
| Promotions | 2.30 | 1.70 | -0.09 | 0.14 | -0.06 | -0.16 | -0.22 | -0.11 | 0.02 | .47** | - | | |
| Direct Report Difference | 0.33 | 10.59 | 0.23 | 0.17 | 0.13 | 0.28* | 0.23 | 0.29* | 0.30* | -0.10 | .32** | - | |
| Indirect Report Difference | 26.18 | 109.07 | -0.03 | .37** | 0.10 | -0.23 | -0.24 | -0.08 | 0.02 | 0.23 | .49*** | 0.16 | - |

Note: * indicates p < .10; ** indicates p < .05; *** indicates p <, .01

Research Questions and Hypotheses

The two research questions explored by the design of this study were: (1) Do clearly perceived and acknowledged leadership skills lead to managerial ascendancy for women as consistently as they do for men? and (2) Do there continue to be differences in ohe style and associated skills/behaviors used between men and women leaders in attaining success?

Hypothesis 1. There will be a small but significant difference between gender groups in terms of the degree to which perceived leadership skills predict ascendancy, with females continuing to lag behind their male colleagues.

A MANCOVA was utilized to test Hypothesis 1. Given the high degree of multicollinearity between the seven leadership dimensions, a single averaged leadership score was computed for each subject. Then, given the relative range restriction of these scores, an a priori decision was made to rank order these averaged scores and divide them at the median, resulting in two groups of participants to be considered “less” and “more” effective leaders. This split resulted in a 2 X 2 factorial design, with less and more effective leaders as the levels for one variable and gender as the other variable (see descriptive statistics in Table 9). Time since assessment (measured in months) was used as a covariate for this analysis.

Table 9
Descriptive Statistics for the MANCOVA

| | | | Salary Change | Promotions | Direct Report Difference | Indirect Report Difference |
|---|---|---|---|---|---|---|
| Gender | Leadership | N | Mean/sd | Mean/sd | Mean/sd | Mean/sd |
| Men | Less Effective | 22 | .40 / .24 | 2.59 / 1.65 | -2.55 / 8.73 | 30.09 / 142.97 |
| Men | More Effective | 18 | .27 / .18 | 1.94 / 1.73 | 3.83 / 11.81 | 21.39 / 44.72 |
| Women | Less Effective | 21 | .28 / .14 | 1.81 / 1.66 | -3.33 / 7.07 | -4.14 / 34.15 |
| Women | More Effective | 24 | .49 / .28 | 2.29 / 1.63 | -1.05 / 6.89 | 13.37 / 54.86 |

SPSS MANCOVA was run with the following dependent variables: Percent Salary Change, Promotions, Direct Report Difference, and Indirect Report Difference (see Appendix G). Wilks' Lambda as the criterion (Table 10) indicated that the combined dependent variables were significantly affected by the interaction between gender and leadership ($\underline{F}$ (4, 80) = 3.127, $\underline{p} < .05$). The main effects for gender and leadership on the combined dependent variables were non-significant, however. Additionally, the covariate, Months Since Assessment, was not significantly related to the combined dependent variables.

Given the significant effect of the interaction term on the dependent variables, univariate statistics were examined to better understand which dependent variables were affected by the independent variables. These tests indicated that the interaction between gender and leadership was significantly related to Percent Salary Change ($\underline{F}$ (1,80) = 11.87, $\underline{p} < .001$). Figure 1 contains the graph for this interaction, which shows that males who were less effective had $\underline{M}$ = .40 Percent Salary Change, while males who were more effective had $\underline{M}$ = .27 Percent Salary Change. Conversely, females who are less effective

had M = .28 Percent Salary Change, while females who were more effective had M = .49 Percent Salary Change. These results do not support the prediction, directionally, of Hypothesis 1 regarding better male leaders and their related ascendancy.

In addition to the significant interaction, the univariate statistics revealed a significant main effect for leadership on Direct Report Difference ($F(1,80) = 5.76$, $p < .05$), where less effective leaders had a difference in direct reports of M = -2.94 and more effective leaders had a difference of M = 1.40.

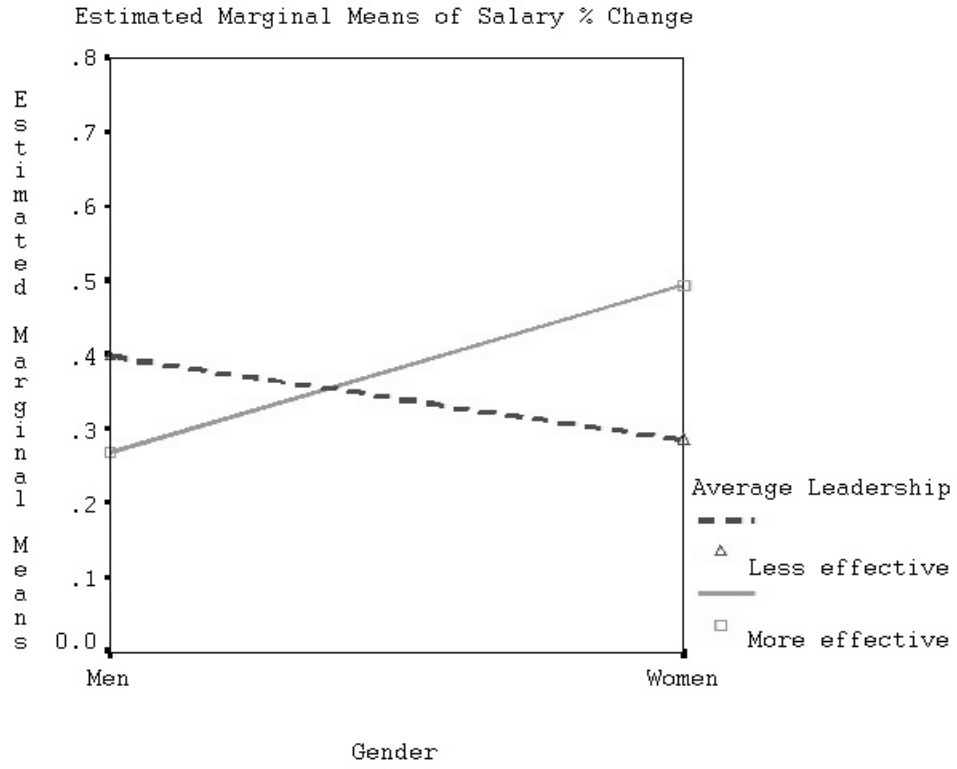
Table 10
MANCOVA Results (N=85**)**

| | | Overall | Salary Change | Promotions | Direct Report Difference | Indirect Report Difference |
|---|---|---|---|---|---|---|
| | Wilks Lambda | F | F | F | F | F |
| Gender | 0.93 | 1.39 | 1.33 | 0.35 | 2.27 | 1.37 |
| Leadership | 0.89 | 2.28 | 0.67 | 0.21 | 5.76* | 0.00 |
| Gender*Leadership | 0.86* | 3.13* | 11.87* | 1.74 | 0.88 | 0.24 |

**Note 1:** * indicates $p < .05$, df = 4 for the overall test, and df = 1 for the individual tests of the dependent variables.

**Note 2**: Months Since Assessment was the covariate for this analysis.

Figure 1




From an exploratory perspective, an additional MANCOVA analysis was run examining the potential relationships between masculine- and feminine-type leadership behaviors and the various ascendancy measures, by gender. However, the results were not deemed meaningful due to extremely small sub-sample sizes and, therefore, did not enhance the findings reported from the original multivariate analyses.

Hypothesis 2. There will be significant differences in terms of which leadership dimensions are most predictive of ascendancy within gender groups, with females successfully employing a more supportive and collaborative style (i.e., gender congruent)

than males.

SPSS Stepwise Regression was used to test Hypothesis 2, examining the relative importance of the different leadership dimensions when predicting the dependent variables. To test this, the impact of the seven leadership dimensions on each (separate) dependent variable was examined, by gender (see Appendix G). The primary statistics of interest are the amount of variance in the dependent variable accounted for by the independent variable ($R^2$), the amount of incremental variance ($R^2\Delta$) accounted for in the dependent variable when additional independent variables are added to the regression equation beyond the first independent variable, and the standardized beta weights (ß) for the independent variables.

For females, none of the leadership dimensions predicted Promotions or Indirect Report Difference, which is consistent with the previously reported zero-order correlations (Table 7). As seen in Table 11, a significant amount of variance for Percent Salary Change was accounted for by Provides Direction ($R^2$ = .09, $F$ (1,43) = 4.15, $p$ < .05) and the loading of Provides Direction on Percent Salary Change was also significant (ß = .30, $t$ (43) = 2.04, $p$ < .05). None of the other independent variables accounted for incremental variance in Percent Salary Change beyond Provides Direction; therefore, it was not possible to test for $R^2\Delta$.

Also as seen in Table 11, a significant amount of variance for Direct Report Difference in the female group was accounted for by Influence Others ($R^2$ = .10, $F$ (1,43) = 4.77, $p$ < .05) and the loading of Influence Others on Direct Report Difference was also significant (ß = .32, $t$ (43) = 2.18, $p$ < .05). Once again, none of the other independent

variables accounted for incremental variance in Direct Report Difference beyond Influence Others. Overall, these results do not support the prediction made in Hypothesis 2 regarding the ascendancy of female managers being related to the use of gender congruent behaviors.

Table 11
Regression of Leadership Dimensions on Percent Salary Change and Direct Report Difference for Females

| | Percent Salary Change | B | Beta | t-test for B | Sign. for t | Constant | Sign. of constant | $R^2$ | Adjusted $R^2$ | F-test for $R^2$ | Sign. for $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Provide Direction | | 0.235 | 0.297 | 2.04 | p< .05 | -0.464 | ns | 0.09 | 0.067 | 4.15 | p < .05 |
| | | | | | | | | | | | |
| | Direct Report Difference | | | | | | | | | | |
| Influence Others | | 7.33 | 0.316 | 2.18 | p < .05 | -28.507 | p < .05 | 0.10 | 0.079 | 4.77 | p < .05 |

For males, none of the leadership dimensions predicted Promotions and Direct Report Difference, which is, again, consistent with the previously reported zero-order correlations (Table 8). As seen in Table 12, a significant amount of variance for Percent Salary Change was accounted for by Motivate Others ($\underline{R^2}$ = .10, $\underline{F}$ (1,38) = 4.42, $\underline{p}$ < .05) and the *negative* loading of Motivate Others on Percent Salary Change was also significant (ß = -.32, $\underline{t}$ (38) = -2.10, $\underline{p}$ < .05). None of the other independent variables accounted for incremental variance in Percent Salary Change beyond Motivate Others; therefore, it was not possible to test for $\underline{R^2\Delta}$.

Also as seen in Table 12, the first regression step for Indirect Report Difference indicated that Lead Courageously accounted for a significant amount of variance ($\underline{R^2}$ = .14, $\underline{F}$ (1,38) = 6.14, $\underline{p}$ < .05). The second regression step indicated that adding the

Motivate Others dimension to the model resulted in significant incremental variance explained in Indirect Report Difference (see Appendix G) as evidenced by the significant $R^2$ change ($\underline{R^2\Delta}$ = .28, $\underline{F}$ (1,37) = 17.87, $\underline{p}$ < .01). Both beta weights were also indicative of a significant loading on Indirect Report Difference, although Lead Courageously loaded positively (ß = .72, $\underline{t}$ (38) = 4.80, $\underline{p}$ < .01) while Motivate Others loaded negatively (ß = -.63, $\underline{t}$ (38) = -4.23, $\underline{p}$ < .01).

Table 12
Regression of Leadership Dimensions on Percent Salary Change and Indirect Report Difference for Males

| | Percent Salary Change | B | Beta | t-test for B | Sign. for t | Constant | Sign. of constant | $R^2$ | Adjusted $R^2$ | F-test for $R^2$ | Sign. for $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Motivate Others | | -0.165 | -0.32 | -2.103 | p < .05 | 0.929 | < .01 | 0.10 | 0.081 | 4.42 | p < .05 |
| | | | | | | | | | | | |
| | Indirect Report Diff. | | | | | | | | | | |
| Lead Courageously | | 202.02 | 0.72 | 4.797 | p < .01 | -142.358 | ns | 0.14 | 0.116 | 6.14 | p < .05 |
| Motivate Others | | -157.045 | -0.63 | -4.227 | p < .01 | | | 0.42 | 0.388 | 13.37 | p < .01 |

From an exploratory perspective, canonical correlation was utilized to examine the various combinations of the independent and dependent variables and their relationship to one another as blended constructs representing leadership and ascendancy. The “best fit” combination for these data were not significant at the $\underline{p}$ < .05 level.

# CHAPTER IV

# DISCUSSION

## Descriptives and Relationships

Across the total subject set, there did not appear to be any meaningful differences between the responding and nonresponding subgroups. Demographically, the two subgroups appeared remarkable similar, with the only noteworthy difference being in educational level. The responding subgroup, on average, had more formal education than the nonrespondents. However, given the category options that were being bridged (Bachelor's degree to Some graduate work) this finding does not appear to be particularly meaningful. Perhaps, if anything, this finding may imply a slight additional interest in research on the part of the responding subgroup, or perhaps empathy for one trying to do applied research.

Regarding perceived skill on the independent variables/ leadership dimensions, no significant differences were found between the responding or nonresponding subgroups. Both appear to be more than "competent," on average, across these various leadership skills/behaviors. The responding group did have higher mean scores and less score variation across all seven dimensions. So, it is difficult to know whether the "better" leaders were, for some reason, more intrigued by or interested in this study, or whether the slight score differences were only an artifact of the sample size differences. But, regardless, it does not appear that there were any noteworthy variations in those

responding to this research study versus those that did not.

Similarly, there did not appear to be any significant or meaningful differences between the female and male manager groups regarding demographics, as the two groups were virtually identical, on average. In most meaningful ways, according to the literature (Judge, Cable, Boudreau, & Bretz, 1995; Tharenou, 1997), these two groups would be deemed similar and competitive in terms of being poised for advancement.

Turning to the independent and dependent variable performance, once again, no significant or meaningful differences emerged for the gender groups. An interesting finding, aligned with major literature review reports (e.g., Eagly & Johnson, 1990), was that the female managers were evaluated (slightly) more favorably than their male counterparts across all leadership dimensions. These female managers appear to be quite versatile in their leadership style and behavior, performing well across the breadth of skills and behaviors represented by these various facets.

Examining the ascendancy measures, several interesting trends were noted. The female managers were, on average, rewarded with larger percentage salary increases than the males. Perhaps there was a noted gender "inequity" across the pay system that this organization was working to rectify during these years, or a stronger push for diversity in the managerial ranks, and salaries were accelerated accordingly. Yet, somewhat conversely, the male managers retained a "lead" in average number of promotions – offered or accepted – and in the increased size of their organizations (and perhaps responsibility and span of control) as measured by average increases in both the number of direct and indirect reports. While not significantly different, the difference in number

of indirect reports between the two groups looks worthy of deeper investigation and/or analysis. What is not known is the extent to which managerial level and function (i.e., line versus staff) played out with these two groups over time. It is well documented that female managers tend to be severely underrepresented in line positions (Snyder, 1993) where the numbers of employees typically are larger for most organizations. It is interesting to conjecture whether or not these trends would become more, or less, apparent with a larger sample size even within this single organization.

The various leadership dimensions used as independent variables were all significantly correlated as expected. While there was some variation in the strength of these interrelationships, the construct of "leadership" in this study appeared to be best measured by combined, rather than a series of individual, scores.

The construct of "ascendancy" for this sample, and organization, appeared to be well represented by these four criterion measures. The relationship between Percent Salary Change and Promotions was strong for the total responding group, as was the relationship between those two variables and Indirect Report Difference. This would seem to imply a logical flow and connection between these three variables: as one got promoted in this corporation, pay increased as did one's span of control and extent of managerial responsibility – as measured by the number of indirect reports in one's organization. The one variable that did not obviously follow that logical flow was Direct Report Difference. Others have reported similar inconsistencies (e.g., Tharenou, Latimer, & Conroy, 1994) on that metric because of extreme variations, and a tendency, for many corporations to reduce those numbers with advancement, not increase them. However, in

this corporation, the trend, though not significant with this sample size, was for Direct Report Difference to be positively correlated with Promotions.

This trend became a significant finding for the male subgroup when examined separately. In this group, Promotions were related to both Direct and Indirect Report Difference, implying that for these male managers job moves did tend to result in increased numbers of employees reporting to them, regardless of category. For females, Indirect Report Difference remained related to Percent Salary Change, not necessarily Promotions, and Direct Report Difference was not related to either Percent Salary Change or Promotions. Once again, unknown differences in the type of, or purpose for, these promotions and/or differences in managerial level and function may be interacting with these other outcome variables to produce differences between these gender groups.

Research Questions and Hypotheses

The primary focus of this study was to examine the relationship between perceived leadership skills and managerial ascendancy and success, and whether or not this relationship holds equally for males and females. Hypothesis 1 predicted that the relationship would be stronger for males than for females. In fact, just the opposite was found. In this study, females who were perceived to be stronger in their leadership skill/behavior were more likely to ascend than the males who were perceived stronger on those same dimensions. More specifically, the better male leaders were *less* likely to ascend over time.

Upon closer inspection, the ascendancy outcome variable that carried the strongest relationship to leadership and gender was Percent Salary Change. Promotions, though not

significantly related, trended strongly in the same direction as Percent Salary Change. Given the strong relationship found between these two outcome variables, this finding appears logical and consistent. A similar, but less robust, trend was observed for Indirect Report Difference, following a previously noted pattern of aligning with Percent Salary Change and Promotions.

Within this organization, female managers who are noted to be stronger leaders appear to be recognized and rewarded overtly via increased salary/compensation, and potentially with more varied forms of advancement opportunities. It would appear that this corporation is successfully "paying for performance" when it comes to their females demonstrating effective leadership. However, what is not known is what affect, if any, this organization's diversity initiatives may have had in accelerating this progression or, at the very least, sensitizing the organization to the need for this type of female promotion. But, the bottom-line is that they appear to be selecting those more talented in these leadership dimensions for advancement; they are getting "good ones" in places where they are more likely to have a positive impact on the organization and related business.

Interestingly, the same cannot be said for the male managers. In stark contrast to the female managers, the *less* skilled male leaders are more likely to receive larger salary increases, and their data trend in similar ways for Promotions and Indirect Report Difference. Perhaps this organization has traditionally rewarded a different skill or attribute with advancement – technical prowess, intelligence, or a results-orientation, as examples. So, when it comes to evaluating male managers those skills and attributes may

still get dominant consideration. What is not known is to what extent leadership, as measured here, may be inversely related to some of these other dimensions that might be salient to their unique culture.

The one reverse to this trend as described above for males, and it was significant for either gender, was that managers showing "more" leadership ability tended to gain direct reports over time. Given this break in the male pattern, it seems important to consider what is different about this variable from all the others. Perhaps this is the one variable, of the four, that may have the strongest relationship to the concept of creating a "followership" among others in the workplace. It is conceivable that these managers showing more leadership behavior are assigned more direct reports because they have earned a reputation for being effective with them, or perhaps others request to be assigned (or refuse to be reassigned) to these managers because of this observed effectiveness. It is also interesting to note that this was the one outcome variable that had the most leadership dimensions/predictor variables significantly correlate with it. In fact, the zero-order correlations run previously (see Table 6) found four of the seven dimensions related to Direct Report Difference, with two more clearly trending in that direction. The uniqueness of this variable appears to warrant further research and investigation.

The secondary focus of this study was to examine whether or not there continues to be differences in the style and associated skills/behaviors used between male and female leaders in attaining success. Hypothesis 2 predicted that there would be significant differences between the gender groups, with the female managers successfully employing a more supportive and collaborative style (i.e., gender congruent) than the males.

In this study, there were differences found between the gender groups. However, the hypothesis around employing more gender congruent behavior for success was not supported for the females. Females who receive more Percent Salary Change over time, as associated with their leadership skills, were predicted most strongly by those demonstrating skills and behaviors associated with Providing Direction. This was the one dimension, of the seven, that the "expert" panel voted to be most androgynous on the gender congruence question, although it had a slight masculine majority vote (See Appendix E). Females who have more Direct Report Difference change over time, as associated with their leadership skills were predicted most strongly by those demonstrating skills and behaviors associated with Influence Others. This dimension was thought to be more masculine than feminine by the expert panel.

For the males, the data indicate that they do tend to be rewarded for gender congruent behavior. Males who receive more Percent Salary Change over time, as associated with their leadership skills, were predicted most strongly by those *not* demonstrating skills and behaviors associated with Motivating Others, a dimension voted to be strongly congruent with a feminine style by the expert panel. Males who have more Indirect Report Difference change over time, as associated with their leadership skills, were predicted most strongly by those demonstrating skills and behaviors associated with Leading Courageously (voted strongly congruent with a masculine style by the panel) and those *not* demonstrating skills and behaviors associated with Motivating Others.

As noted earlier for the female manager group, Percent Salary Change was the outcome variable that was most strongly associated with overall leadership skills and

behaviors. Now, perhaps more precisely, it appears that underlying aspects of Provide Direction – fostering a common vision, providing clear direction and priorities, and clarifying roles and responsibilities – are skills and behaviors that can serve as a springboard to advancement for females in this organizational environment and culture. In some ways, this dimension may be the "purest" of the seven. Leaders in almost any organization setting would need to do these things well to be effective and, as noted above, this dimension can be viewed as the most "gender neutral" of the group. Perhaps these behaviors are more readily apparent, and accepted, by decision-makers in this organization when identifying leadership talent.

The "different" outcome variable in this study, Direct Report Difference, was most strongly associated with Influence Others for these female managers. Continuing the earlier speculation regarding this variable being associated with attracting and/or retaining "followers", some of these underlying skills and behaviors (e.g., gaining support and commitment from others, readily commands attention and respect) may lend themselves to solidifying a sense of loyalty to or admiration for the leader in some way. Once again, these potential connections are intriguing to speculate about, but certainly warrant further research and investigation to be better understood.

As discussed previously, male managers in this organization's culture and environment are not necessarily rewarded for demonstrating strong leadership skills and behavior; it would appear that "something else" is given more weight and importance. Given that finding, it was interesting to note that the one leadership dimension that did emerge as positively related to an outcome variable – Indirect Report Difference – was

Lead Courageously, the dimension that was voted as "most masculine" by the expert panel. These underlying behaviors (e.g., are assertive, act decisively, drive hard on the right issues) tend to have a results-orientation aspect to them. The fact that Motivate Others is *negatively* related to two different outcome variables for these male managers is also intriguing. These underlying behaviors (e.g., inspiring and rewarding others, creating an enjoyable environment, adapting approach to motivate each individual) tend to connote sensitivity and thoughtfulness on the leader's part. For whatever reason, these may not be particularly valued or rewarded for males in this environment, at least in terms of pay and span of control (if measured by number of indirect reports).

Of course, the tentative interpretations and speculations around these leadership style and behavioral differences must be considered as nothing more than that. Given the number of independent and dependent variables included in these regression equations, these statistically significant findings are occurring at a rate approaching those that could be expected by chance. Also, given the high degree of multicollinearity among the seven leadership dimensions, there would certainly appear to be a lot of shared variance between these different dimensions. These, and other, limitations of this study will be discussed in more detail below.

Summary and Conclusions

In working to better understand the link between leadership skills and ascendancy in an applied research setting, this study was able to confirm some findings from the literature, raise some interesting questions, and perhaps shed some light on the progress women are making - and how - in trying to penetrate the "glass ceiling."

As has been reported in various meta-analytic studies (e.g., Eagly & Johnson, 1990; Eagly, Makhijani, & Klonsky, 1992), female managers are often viewed to be as, if not more, skilled and effective as leaders as their male counterparts. This was certainly found to be the case in this study as well. As many have postulated when discussing the need for women to demonstrate their qualifications for top-management jobs, leadership skills are critical in this resume building process (e.g., Baack, Carr-Ruffino, & Pelletier, 1993). The women in this study and in this organization were able to demonstrate this prerequisite, based on the evaluations of those working with them most closely.

Human capital theory proposes that the marketplace will recognize and reward talent and experience that is required for success. In this study, the female managers who demonstrated more leadership skill did advance further, based on the objective criteria collected four to nine years after their leadership assessments. More specifically, the female managers' percentage salary change appeared to be related to the degree of leadership skill they demonstrated. Using this research site organization as a sample of U.S. corporations, albeit a single one, female leaders - at least the better ones - may indeed be making progress on some key advancement criteria as related to the "glass ceiling."

Regarding the specific style and skills employed to get ahead, the outcomes of this study would imply that gender congruent behavior is not necessarily rewarded in the successful female managers within this organization. This finding is consistent with that reported by Eagly and Johnson (1990) as they noted gender differences in style were significantly less stereotypic in organizational studies than in lab settings or assessments.

However, this finding raises the question regarding much of the current business climate emphasis regarding leaders needing to be "kinder and gentler" in the workplace: is this really more rhetoric than reality? Perhaps this is something that sounds good in theory, looks good on a competency model or corporate mission statement, yet is simply not rewarded in actuality when the dust has settled – regardless of the leader's gender.

Longitudinal in nature, conducted in an applied setting, and using multiple, robust measures of leadership and ascendancy, this study has been able to extend, methodologically, the empirical research conducted on women and leadership. From an applied perspective, the implications of this study and its findings appear simple, yet perhaps compelling in that simplicity. Female managers can increase the probability of their career advancement by developing, and demonstrating, their leadership skills. For those searching for a career catalyst, that focus may help reduce some of the frustration and mystery surrounding successful career movement.

Limitations of this Study

Despite a "healthy" total subject pool, the response rate to the follow-up survey netted a final subject set of less than 100. Given the number of independent and dependent variables, and the range restriction found on some of these variables, the result was low power for the various statistical analyses being run. So, while the good news was that statistical significance was found in various examined relationships, the risk of overfitting the data was certainly high in this case. Also, as mentioned earlier, the regression results showing significant relationships occurred at a rate that was approaching what would be expected by chance. A larger sample would have offset some

of these problems and, perhaps, have allowed for a hold out sample to be cross-validated to substantiate these findings. A larger sample size would, in addition, allow for more sophisticated analyses (i.e., structural equation modeling) to be conducted in an effort to understand the relationships between these independent and dependent variables more precisely.

From a measurement standpoint, there were several data points missing that appear critical in terms of better understanding and interpreting these findings. First, the managerial level and functional positions (e.g., line versus staff) for these subjects were not captured over time. Within many organizations, these variables can play an enormous role in determining pay, the relative difficulty (competitiveness) in receiving a promotion, and certainly the number of employees reporting up through a particular managerial position. These potential confounds were not captured as data points, much less controlled for in this study. Second, some type of measure of "cultural climate" applied at various points over this type of longitudinal study would be invaluable. This would allow a better understanding of the changes that may be occurring within the organization serving as the research site (e.g., diversity initiatives) that may boost or inhibit these kinds of criterion outcomes across gender groups. Also, a standardized survey of this type would allow for more equivalent comparisons across and between organizations/ companies.

In terms of strengthening the measures that were taken, several improvements could be made there as well. The self-report nature of the outcome variables calls into question their overall reliability/accuracy. With a nine-year time lag occurring for some

subjects, it is certainly likely that many respondents were relying on their faulty memory for these "time one" data, simply taking their best guess. A more accurate technique may be to capture, or at least verify these data from corporate records where feasible (e.g., salary levels). Regarding the longitudinal nature of this research, rather than two data points, it would have been preferable to have had multiple data points (e.g., every two years) across time to allow a stronger trend to, potentially, emerge with stronger inferences and conclusions drawn.

Finally, from an external validity perspective, the generalizability of these findings are limited by the fact that a single organization served as the research site. It is impossible to know the extent to which this organization's industry, history, culture, business performance, etc. may have combined to form a unique environment that limits the relevance of these findings to other major corporations interested in similar research questions and issues. Broadening this reach and relevance will be an opportunity for future research.

Future Research Directions

As researchers continue to work at unraveling the mysteries of leadership, and more precisely those issues associated with women leaders, there appear to be plenty of advances yet to be made regarding research methodology and applicability. Many of these opportunities are obvious in theory, yet difficult in practice. More longitudinal studies in organizations, larger sample sizes, more sophisticated measures of leadership and ascendancy, and an increased focus on specific skill and behavioral predictors of advancement – including questions around gender congruency - all warrant further focus

and attention.

This study highlighted, perhaps, the untapped potential of various criteria of ascendancy in helping us understand some of the nuances of the dynamics between leaders and followers or leadership and other situational variables. An example being the potential relationship between various aspects of leadership and one's direct report team size. Likewise, there appears to be much additional work to be done in understanding the interaction effects that can occur between one's leadership talent, organizational culture, and opportunity afforded individuals at various management levels and within different functions of an organization. There is certainly much work yet to be done on this most fascinating and intriguing of topics.

# APPENDIX A

## REQUEST FOR PARTICIPATION, CONSENT FORM AND SURVEY

Please read the following information before proceeding with the survey completion.

UNIVERSITY OF NORTH TEXAS
CONSENT TO PARTICIPATE IN RESEARCH
Project: Leadership, Ascendancy, and Gender

We are asking for your help. You are eligible to participate in a research study investigating various predictors of managerial advancement and success. This research project is being conducted by John P. Hale from the University of North Texas and Personnel Decisions International (PDI). This research will fulfill requirements for Mr. Hale's completion of his doctorate degree.

As you may remember, you were part of a group of managers at XYZ Corporation who participated in a developmental process between the years of 1992-1997 that used PDI's PROFILOR as a feedback tool aimed at helping you better understand how others perceive your skills and performance. At that point, you were informed that your data could be used for research purposes and you provided demographic information to help with that effort. XYZ's Divisional Vice President of Executive Sourcing and Development thought that you would be interested in participating in this follow-up study.

The survey/data collection process will only take a few minutes of your time and, for your effort, we would like to send you a copy of the summary report when it is completed. To participate, please read the following consent form carefully, then designate your desire to participate by hitting the appropriate button at the bottom of this page. Thank you in advance for your courtesy and timely cooperation.

## CONSENT DETAILS

I agree to participate in the research study described above. I understand that the survey will be asking me to provide information regarding my previous and current salary, number of direct and indirect reports in my organization, and number of promotions (job moves) I have had since my PROFILOR assessment date, which has been provided to me.

I understand that my participation in this follow-up study is strictly voluntary and that no direct, personal benefits from this process are being promised to me. I have been informed that all reporting of research results will be done in summary form, with no individual identifiers provided either to individual participants or to XYZ Corporation. Although my organization will be involved in administering the follow-up survey, they will not be receiving any data from my PROFILOR report. Under these conditions, I agree that any information obtained from this research may be used in any way thought best for job-related application or professional publication and education.

I understand that there is minimal to no risk anticipated with this research study and that I

am free to withdraw my consent and discontinue participation in this study at any time. A decision to withdraw from the study will in no way affect my employment, benefits, or standing at my company.

This project has been reviewed and approved by the University of North Texas Institutional Review Board for the Protection of Human Subjects in Research 940/565-3940.

If I have any questions or problems that arise in connection with my participation in this follow-up survey, I should contact John P. Hale at 713/499-7520 or Dr. Doug Johnson, the UNT project team director, at 940/565-2680.

Please click one of these buttons to continue.

**I want to participate in this research**

**I do not want to participate**

Leadership, Ascendancy, and Gender

Thank you for your cooperation and participation in this study investigating various predictors of managerial advancement and success at XYZ Corporation. Please complete the following survey as accurately as possible and, once you are confident of your answers, please hit the 'Submit' button below.

If you have any questions or problems that arise in connection with participation in this follow-up survey, please contact John P. Hale at 713/499-7520 or Dr. Doug Johnson, the UNT project team director, at 940/565-2680.

Please note: It is not necessary to include a dollar sign ($) in your answers.

Please enter your FULL NAME: _____

Item 1: My yearly salary on the date of my PROFILOR assessment was: _____

My current yearly salary is: _____

Item 2: The total number of promotions (job moves) – as commonly defined at XYZ Corporation - that I have received since my PROFILOR assessment date have been: _____

The number of promotions (job moves) offered to me that I have chosen not to accept since my PROFILOR assessment date has been: _____

Item 3: The total number of *direct* reports (defined as the number of people in my organization/group/team who I directly and formally supervise) that I was responsible for on the date of my PROFILOR assessment was:

The current total of *direct* reports in my organization/group/team is _____

Item 4: The total number of *indirect* reports (defined as the total number of people in my organization/group/team who do not report formally to me) that I was responsible for on the date of my PROFILOR assessment was:_____.

The current total number of *indirect* reports in my organization/group/team is _____.

*Please click here if you would like to receive a copy of this research study report when it is completed: _____.

**SUBMIT**

# APPENDIX B

## THE PROFILOR QUESTIONNAIRE – LEADERSHIP FACTOR

PROVIDE DIRECTION

Foster the development of a common vision
Provide clear direction and define priorities for the team
Clarify roles and responsibilities with team members
Link the team's mission to that of the broader organization
Make the team mission and strategies clear to others

LEAD COURAGEOUSLY

Take a stand and resolve important issues
Confront problems early, before the get out of hand
Challenge others to make tough choices
Drive hard on the right issues
Act decisively
Demonstrate managerial courage
Are assertive

INFLUENCE OTHERS

Readily command attention and respect in groups
Negotiate persuasively
Give compelling reasons for ideas
Win support from others
Get others to take action
Influence and shape the decisions of upper management

FOSTER TEAMWORK

Value the contributions of all team members
Involve others in shaping plans and decisions that affect them
Use a team approach to solve problems when appropriate
Foster teamwork within the team
Promote teamwork among groups; discourage "we vs.they" thinking
Acknowledge and celebrate team accomplishments
Seek appropriate input before making decisions

MOTIVATE OTHERS

Convey trust in people's competence to do their jobs
Inspire people to excel
Create an environment that makes work enjoyable
Reward people for good performance

Adapt approach to motivate each individual
Create an environment where people work their best

COACH AND DEVELOP

Accurately identify strengths and development needs in others
Give specific and constructive feedback
Let people know when they are performing well
Let people know when results are not up to expectations
Coach others in the development of their skills
Provide challenging assignments to facilitate individual development
Show interest in employees' careers
Know when to supervise and coach people and when to leave them own their own

CHAMPION CHANGE

Champion new initiatives within and beyond the scope of own job
Stimulate others to make changes and improvements
Involve others in the change process
Prepare people to understand changes
Set up needed systems and structures to support changes

APPENDIX C

CORRELATIONS BETWEEN LEADERSHIP DIMENSIONS
(N=296 AND FOR PDI PROFILOR DATABASE)

| Correlations between Leadership Dimensions (N=296 and for PDI Profilor database) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Provide Direct-ion | Lead Courage-ously | Influence Others | Foster Team work | Motivate Others | Coach & Develop | Champion Change |
| | Mean | sd | | | | | | | |
| Provide Direction | 3.56 | 0.37 | - | **0.79** | **0.82** | **0.80** | **0.80** | **0.85** | **0.87** |
| Lead Courageously | 3.62 | 0.41 | **0.78** | - | **0.84** | **0.60** | **0.66** | **0.77** | **0.79** |
| Influence Others | 3.54 | 0.37 | **0.82** | **0.83** | - | **0.74** | **0.78** | **0.78** | **0.82** |
| Foster Teamwork | 3.71 | 0.38 | **0.83** | **0.63** | **0.77** | - | **0.90** | **0.82** | **0.80** |
| Motivate Others | 3.56 | 0.42 | **0.80** | **0.65** | **0.77** | **0.91** | - | **0.88** | **0.80** |
| Coach & Develop | 3.53 | 0.38 | **0.85** | **0.76** | **0.78** | **0.85** | **0.88** | - | **0.85** |
| Champion Change | 3.53 | 0.40 | **0.86** | **0.79** | **0.83** | **0.81** | **0.82** | **0.86** | - |

**Note:** all correlations are significant at $p < .01$

Below the diagonal are the correlations for the 296 data set; above the diagonal are correlations from the PDI PROFILOR database (N > 65,000)

# APPENDIX D

## CORRELATIONS BETWEEN DEPENDENT VARIABLES AND DEMOGRAPHICS

Correlations between Dependent Variables and Demographics

| | Mean | sd | Salary Change | Promotions | Direct Report Difference | Indirect Report Difference | Months Since Assessment | Time in Current Position | Education | Age | Time In Mangmt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Salary Change | 0.37 | 0.24 | - | | | | | | | | |
| Promotions | 2.18 | 1.66 | **.49*** ** | - | | | | | | | |
| Direct Report Difference | -0.96 | 8.9 | -0.02 | .20* | - | | | | | | |
| Indirect Report Difference | 15.07 | 82.32 | **.27** ** | .39*** | **.20*** | - | | | | | |
| Months Since Assessment | 72.05 | 13.62 | 0.08 | **.20*** | -0.08 | **.19*** | - | | | | |
| Time in Current Position | 2.49 | 0.98 | **-0.26** ** | **-0.20*** | 0.00 | 0.07 | -0.13 | - | | | |
| Education | 5.06 | 1.21 | **-0.21*** | -0.17 | 0.08 | -0.07 | -0.11 | 0.03 | - | | |
| Age | 38.2 | 6.15 | **-0.24** ** | **-0.34** ** | -0.14 | -0.05 | -0.01 | **.46*** ** | **.29*** ** | - | |
| Time in Management | 4.26 | 1.36 | **-0.23** ** | -0.11 | 0.05 | 0.11 | **-0.19*** | **.41*** ** | 0.10 | **.44*** ** | - |

**Note:** *** indicates p < .01, ** indicates p < .05, * indicates p < .10

# APPENDIX E

## RESULTS FROM POLL OF SUBJECT MATTER EXPERTS REGARDING GENDER CONGRUENCY OF BEHAVIORS FOR PROFILOR LEADERSHIP DIMENSIONS

| | Masculine | Feminine | Neutral | Majority Opinion* |
|---|---|---|---|---|
| Provide Direction | 9 | 7 | 0 | Masculine |
| Lead Courageously | 13 | 1 | 2 | Masculine |
| Influence Others | 10 | 5 | 1 | Masculine |
| Foster Teamwork | 2 | 13 | 1 | Feminine |
| Motivate Others | 5 | 11 | 0 | Feminine |
| Coach & Develop | 1 | 13 | 2 | Feminine |
| Champion Change | 12 | 3 | 1 | Masculine |
| * Poll of 16 Assessment Champions at PDI; North America, Europe, China, Japan, and Singapore locations represented; 8 males and 8 females responded | | | | |

# APPENDIX F

## LEADERSHIP, ASCENDANCY, AND GENDER
## PILOT STUDY 1997-98: METHOD, RESULTS, AND DISCUSSION

## Method

### Subjects

Subjects consisted of 62 midlevel managers, of equal gender proportions, from Ericsson Incorporated. While their U.S. corporate headquarters is in Richardson, Texas, subjects lived and worked in multiple locations around the country, and even included a small set of international employees. All subjects had participated in a multi-rater assessment process within their organizations as part of a company-sponsored leadership development program between the years of 1992-1995.

At that point, they had been informed that their assessment data could be used anonymously in future research efforts and that participation in the process designated consent to those terms. Each subject was recontacted with a request to volunteer to participate in a follow-up survey and to allow their organizations to confirm that information where feasible. Those declining follow-up participation or denying permission to verify information were excluded from the study.

### Measures

The multi-rater assessment tool used by Ericsson, Inc. was The PROFILOR by Personnel Decisions International (PDI). The seven dimensions within the Leadership Skills factor were used in this study as independent variables. These seven dimensions contain 44 behavioral items and are labeled: Provide Direction, Lead Courageously, Influence Others, Foster Teamwork, Motivate Others, Coach and Develop, and Champion Change.

In addition, gender was used as an independent variable in order to test whether or

not there were differences in findings along this dimension. The coding used (female = 0, male = 1) allowed gender, in this case, to be interpreted as a measure of "maleness," and allowed an examination of this construct in relation to other data collected and analyzed.

The dependent variables measuring ascendancy were collected via e-mail questionnaire, administered by Ericsson's HR department. In an effort to capture the change in the individual's job responsibilities and their career movement over the time period in question, two data points were gathered for each subject for each variable: historical data from the subject's time of assessment and current data at the time contacted to complete the follow-up survey. As shown to be relevant and well accepted indicators of career advancement and ascendancy (Judge, et al., 1995), survey items included percent change in salary and total number of developmental moves (promotions) either offered or accepted. Also, numerical change, either up or down, of direct and indirect reports were used as potential measures of ascendancy. Number of direct reports has been used previously (Tharenou, et al., 1994) and was reported to be an unreliable indicator due to extreme variation, yet was included here on Ericsson's request. Number of indirect reports was included as a potential indicator of span of control and extent of managerial responsibility. An additional measure of ascendancy collected, again on the organization's request, was the number of job band (job grade) changes during the time period captured by the study. Given the wide divergence in time of assessment among this sample, days since assessment were calculated for each subject and included as another variable to be examined in the study.

Procedure

Ericsson, Inc., a consistent user of the PROFILOR instrument over the past five years, was contacted regarding their interest in participating in this study. Their Director of Human Resource Development (HRD) indicated initial interest and, after a more extensive proposal was made, discussed, and approved by their legal department, the study was commissioned. To facilitate the coordination and execution of the study, Ericsson assigned one of their HRD employees as the project manager and single point of contact for the researcher and subjects/employees.

As a first step, Ericsson's archival PROFILOR data bases (maintained by PDI Minneapolis) were reviewed to establish the number of potential female subjects eligible for the study, with the criterion being that there had been at least a two-year time lag between their assessment and the proposed time for conducting the follow-up survey. Of those potential subjects, 31 were still employed by the company and were included in the study.

To identify the male subject set, salary range at time of assessment was used as the matching variable and a potential list was generated from male managers assessed during those same time frames. After review by Ericsson to reduce the potential list to those still employed, the managers were sorted by assessment date (year) and were randomly selected (using a table of random numbers) until roughly equivalent subgroups were chosen to equate to ($n$ = 31) the final female manager list.

The complete subject list, male and females, were contacted via interoffice e-mail with a request to participate in the study (see Appendix A). If in agreement, they were

asked to complete the accompanying consent form and survey (see Appendix B and C), and to return it to the Ericsson project manager. Those responses were logged, verified through the Ericsson's HR systems database, and forwarded to the researcher via e-mail. Missing data and respondent "question marks" (e.g., don't remember my initial salary) were added by the project manager from database records. Follow-up reminders were sent on two different occasions over an 18-day time span. This process resulted in 31 complete data sets, a 50% return rate, which consisted of 16 males and 15 females.

Hypotheses Testing

Due to the relatively small final sample size and the relatively large number of independent variables included in the study, the decisions was made to not run the regression equations against each of the dependent variables, as called for in the original research design. The probability of overfitting the data was judged to be too high, given any significant results could be found. Descriptive analyses, intercorrelations among both independent and dependent variable sets, and intercorrelations between the independent and dependent variables were run in order to search for any significant relationships, and/or trends, that may shed light on the research hypotheses and future research efforts around these same questions.

## Results

Descriptive data were run on both the independent variables, the seven PROFILOR dimensions, and the dependent variables designed to measure ascendancy in this study. A review of the independent variables (Table 1) reveals a range of scores on each dimension from below average (less than 3.0) to above average (greater than 4.0) on

all except Coach and Develop, which topped out at a score of 3.93. Mean scores for each dimension surpassed the average benchmark of 3.0 in all cases, with Foster Teamwork being the strongest leadership dimension for this management sample.

Table 1
*Means, Standard Deviations, and Range of Independent Variables (n = 31)*

| | Mean | Std Dev | Minimum | Maximum |
|---|---|---|---|---|
| CHPCHG | 3.38 | .39 | 2.50 | 4.01 |
| COACH | 3.41 | .34 | 2.59 | 3.93 |
| INFLNCE | 3.45 | .39 | 2.33 | 4.07 |
| DIRECT | 3.47 | .34 | 2.54 | 4.01 |
| LEADCHG | 3.47 | .36 | 2.55 | 4.27 |
| MOTIVAT | 3.48 | .37 | 2.58 | 4.17 |
| FSTTEAM | 3.59 | .36 | 2.75 | 4.25 |

Descriptives on the ascendancy measures (Table 2) indicate wide variation on some variables, including change in number of indirect reports, percent salary increase, and total number of days between assessment and follow up survey. Others, such as change in job band and number of developmental moves had less relative variation. Mean scores, other than change in number of direct reports, indicate that this sample of managers, in total, are progressing/ascending in their careers against this set of criteria.

Table 2
*Means, Standard Deviations, and Range of Dependent Variables (n = 31)*

| | Mean | Std Dev | Minimum | Maximum |
|---|---|---|---|---|
| SALRYCHG | 31.77 | 20.38 | 4.00 | 105.00 |
| JOBBAND | .87 | .85 | .00 | 3.00 |
| DEVMOVS | 1.58 | 1.29 | .00 | 5.00 |
| DRCHG | -2.23 | 5.18 | -19.00 | 10.00 |
| IDRCHG | 6.06 | 28.51 | -94.00 | 91.00 |
| DAYS | 1207.77 | 288.52 | 749.00 | 1841.00 |

A correlation matrix of the independent variables (Table 3) revealed a high degree of multicollinearity; all seven dimensions were significantly correlated ($\underline{p} < .0001$) with each other. The correlation coefficients ranged from .91 between Motivate Others and

Coach and Develop on the high end, to .60 between Leads Courageously and Fosters Teamwork on the low end. This finding supports the proposition that these seven dimensions are clearly related to a higher order Leadership Factor, yet are different enough to warrant separate measurement.

Table 3
*Intercorrelations of Independent Variables (n = 31)*

| | CHP-CHG | COACH | DIREC | FST-TEAM | INFLNCE | MOTIVAT | LEAD CHG |
|---|---|---|---|---|---|---|---|
| CHP-CHG | 1.0000 P=.000 | | | | | | |
| COACH | .7976 P=.000 | 1.0000 P=.000 | | | | | |
| DIRECT | .8721 P=.000 | .8358 P=.000 | 1.0000 P=.000 | | | | |
| FST-TEAM | .7158 P=.000 | .7521 P=.000 | .8222 P=.000 | 1.0000 P=.000 | | | |
| INFLNCE | .7680 P=.000 | .7459 P=.000 | .8822 P=.000 | .8039 P=.000 | 1.0000 P=.000 | | |
| MOTIVAT | .7517 P=.000 | .9086 P=.000 | .8418 P=.000 | .8806 P=.000 | .8079 P=.000 | 1.0000 P=.000 | |
| LEAD CHG | .6683 P=.000 | .8090 P=.000 | .7470 P=.000 | .6037 P=.000 | .7657 P=.000 | .7892 P=.000 | 1.0000 P=.000 |

A correlation matrix of the dependent variables (Table 4) revealed significant correlations between: percent salary change and number of developmental moves ($\underline{r}$ = .45,$\underline{p}$ < .01), job band change and number of developmental moves ($\underline{r}$ = .44,$\underline{p}$ < .01), percent salary change and job band change ($\underline{r}$ = .50,$\underline{p}$ < .005), days since assessment and number of developmental moves ($\underline{r}$ = .35,$\underline{p}$ < .05). These results support the interpretation that percent salary change, number of developmental moves, and job band change are related measures of the concept labeled ascendancy for this organization. Total change in number of reports, either direct or indirect, appeared to be relatively independent from the other three objective measures of ascendancy in the study.

Table 4
*Intercorrelations of Dependent Variables (n = 31)*

| | DEV-MOVS | DRCHG | IDRCHG | SALRY-CHG | JOB-BAND | DAYS |
|---|---|---|---|---|---|---|
| DEV-MOVS | 1.0000 p=.000 | | | | | |
| DRCHG | -.1601 p=.390 | 1.0000 p=.000 | | | | |
| IDRCHG | .0426 p=.820 | .1910 p=.303 | 1.0000 p=.000 | | | |
| SALRY-CHG | .4507 p=.011 | -.1070 p=.567 | .0055 p=.976 | 1.000 p=.000 | | |
| JOB-BAND | .4390 p=.013 | -.0754 p=.687 | -.0369 p=.844 | .5008 p=.004 | 1.000 p=.000 | |
| DAYS | .3529 p=.052 | -.2023 p=.275 | .0202 p=.914 | .3037 p=.097 | .2828 p=.123 | 1.000 p=.000 |

A correlation matrix containing independent and dependent variables (Table 5) from this study revealed significant correlations between three different predictors and percent salary change: Influence Others ($r = .36, p < .05$), Leading Courageously ($r = .42, p = <.05$), and Motivating Others ($r = .42, p = <.05$). Other correlations approaching significance were: Coach and Develop with percent salary change ($r = .32, p < .10$), Foster Teamwork with percent salary change ($r = .30, p < .10$), Provide Direction with percent salary change ($r = .26, p < .20$), Lead Courageously with change in number of direct reports ($r = -.32, p < .10$), and gender (maleness) with percent salary change ($r = -.32, p < .10$). In fact, gender/maleness was inversely related to all three dependent variables found to be related in this study: percent salary change as noted above, number of developmental moves ($r = -.21, p < .25$), and job band change ($r = -.22, p < .25$).

Table 5

*Intercorrelations Between Independent and Dependent Variables (n = 31)*

| | CHP-CHG | COACH | DIREC | FST-TEAM | INFLN | LEADCHG | MOTI-VATE | GEND-ER |
|---|---|---|---|---|---|---|---|---|
| DAYS | -.1719 p=.355 | -.0711 p=.704 | -.1624 p=.383 | -.0785 p=.675 | -.1375 p=.461 | .0310 p=.869 | -.0776 p=.678 | -.2205 p=.233 |
| SAL-CHG | .1994 p=.282 | .3132 p=.086 | .2581 p=.161 | .3037 p=.097 | .3585 p=.048 | .4181 p=.019 | .4201 p=.019 | -.3200 p=.079 |
| DEV-MVS | -.0134 p=.943 | .0960 p=.607 | -.0079 p=.966 | .1042 p=.577 | .1173 p=.530 | .1782 p=.337 | .0980 p=.600 | -.2191 p=.236 |
| DR-CHG | -.1253 p=.502 | -.1008 p=.589 | -.1556 p=.403 | -.1305 p=.484 | -.1460 p=.433 | -.3232 p=.076 | -.2384 p=.196 | .0205 p=.913 |
| IDR-CHG | .0362 p=.847 | .0525 p=779 | -.0051 p=978 | -.1908 p=.304 | .0580 p=.757 | .1238 p=.507 | -.0355 p=.850 | .0321 p=.864 |
| JOB-BAND | -.0408 p=.827 | .1122 p=.548 | .0808 p=.666 | .1933 p=.297 | .1713 p=.357 | .0683 p=.715 | .2121 p=.252 | -.2276 p=.218 |

Discussion

As a representative group of midlevel mangers within this organization, these individuals appear to be somewhat above average, overall, in their demonstrated leadership skills. Yet, there was enough variability in their PROFILOR scores to avoid severe range restriction among the independent variables being measured in this study. As a consequence, these scores increased the probability of finding significant relationships among the predictors and outcome measures, given they were there. As a pilot study for a potentially larger effort around these same research questions, it would seem that these predictors, although highly intercorrelated will allow for differentiation among subjects

and outcome measures.

Of the dependent measures employed, percent salary change appears to be the variable that most closely captures the concept of ascendancy for several reasons. It was unidirectional (everybody increased), and the variation of the salary increases was wide and substantial. Some people received what would be considered a less than cost of living increase (i.e., four percent combined for a two plus year period) while others more than doubled their salary over the time frame in question. It would certainly appear that some people were being identified and rewarded differentially compared to their colleagues.

The other two measures that were closely correlated with percent salary change, number of developmental moves and job band change, had less range with this sample. These restrictions, along with the small sample size in this study, resulted in lower power in those analyses, making it more difficult to find a traditionally ($p < .05$) significant correlation. Yet, if a more lenient alpha is used (e.g., .20 to .30), several relationships do show a trend toward being consistently found in the data. For example, Lead Courageously with number of developmental moves ($r = .18, p = .34$) and Motivate Others with job band change ($r = .21, p = .25$) might be relationships worthy of further investigation, among others.

The other two dependent variables, total change in number of direct and indirect reports, were not found to be highly related to the other three measures of ascendancy. In fact, change in number of indirect reports showed virtually no correlation with percent salary change ($r = .01, p = .98$), while change in number of direct reports had a low negative correlation with percent salary change ($r = -.11, p = .57$). For the study sample,

most managers had fewer direct reports at time two than they did at time one (M = -2.23). There was, on average, a moderate increase in number of indirect reports (M = 6.06) for this sample of managers, yet the range and standard deviation numbers were so high that it is difficult to detect any type of consistent pattern in the assignment of indirect reports based on performance or tenure. At Ericsson, many developmental moves are offered as a means for expanding the manager's range of experiences and learning. As a result, they do not necessarily reflect a traditional "promotion" in terms of more people/more responsibility. This would seem to be reflected in the relatively random pattern of increases and decreases in employees within a given manager's organization for this sample. Depending on the organizational culture being studied, these may or may not be effective criterion measures for ascendancy.

Days since assessment does appear to be related to the three key ascendancy criteria in this study: percent salary change ($r = .30, p < .10$), number of developmental moves ($r = .35, p < .05$), and job band change ($r = .28, p < .15$). While not all significant, these data and trends suggest that the longer a manager has the opportunity to demonstrate their abilities, the more likely they are to ascend. Consequently, when developing regression equations on a larger sample set, this variable should be held "constant" by entering it first in a hierarchical procedure.

Although the sample size relative to number of variables measured did not allow for precise testing of the research questions and hypotheses in this study, there were findings that appear relevant to the broader topics at hand. One finding, within the context of testing for a "glass ceiling" effect within Ericsson, was that the female managers were

more likely to get larger salary increases, to increase their job band ratings, and to be provided developmental moves than their male counterparts. Considering the gender/maleness variable, there were negative correlations (all approaching significance with a lenient alpha level of .20) between it and all of the criterion measures noted above. This is counter to the predicted direction in the experimental hypothesis, implying that the gap may not only be closing between rewards and opportunities between men and women, but women may be pulling into the lead in some organizations.

Regarding the relationship between perceived leadership skills and objective measures of ascendancy, the results of this pilot study were supportive of that connection and, in some cases, impressively so. Looking at the "best" measure of ascendancy in this study, percent salary change, three of the seven leadership dimensions from the PROFILOR were found to be significantly correlated with it, while the other four were clearly in that same direction as well. In this sample, those managers, whether male or female, who demonstrated better leadership skills tended to be financially rewarded for it. Once again, with a more lenient alpha level employed, several of the leadership dimensions (e.g., Foster Teamwork, Motivate Others) tended to be related to job band change, even with its restriction in range. So, while these data were not sufficient to address the gender style hypothesis, they did lend support to the conceptual link between leadership ability and ascendancy in one's managerial career.

Limitations of this Study

The final sample size for this study prohibited, unfortunately, the examination of the primary questions and hypotheses identified for research. The associated issue with

this sample size, combined with range restriction on several of the dependent measures employed, was low power for many of the analyses which made it more difficult to gain statistical significance for the correlations/relationships being examined. These problems can be addressed in future research with much larger sample sizes (e.g., 200+ subjects) and possibly different statistical analyses. For example, instead of regression equations being employed on those dependent variables with limited range (e.g., number of developmental moves), discriminant function analysis might be more suitable for identifying those leadership skills that differentiate those groups.

Another limitation in this study was the lack of demographic information available for analysis. There might have been themes in that data that would have provided some clarity on the differences, if any, between the group of managers who did respond to the follow-up survey and those who did not. This, too, should be rectified in the next, larger study by collecting that information from the archival databases of PDI and included in the dataset for descriptive analyses.

And, finally, the number of days since assessment appears to be most appropriately characterized as an independent variable in future research. There was ample evidence that there is a clear relationship between this time lag and one's potential to ascend in his/her organization.

APPENDIX G

SPSS OUTPUT

MANCOVA Results: General Linear Model

**Between-Subjects Factors**

| | | N |
|---|---|---|
| SEX | 1.00 | 40 |
| | 2.00 | 45 |
| LDR50 | 1.00 | 43 |
| | 2.00 | 42 |

**Descriptive Statistics**

| | SEX | LDR50 | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| SALARYCH | 1.00 | 1.00 | .3980 | .24491 | 22 |
| | | 2.00 | .2690 | .17672 | 18 |
| | | Total | .3399 | .22391 | 40 |
| | 2.00 | 1.00 | .2842 | .14427 | 21 |
| | | 2.00 | .4949 | .27716 | 24 |
| | | Total | .3965 | .24680 | 45 |
| | Total | 1.00 | .3424 | .20788 | 43 |
| | | 2.00 | .3981 | .26237 | 42 |
| | | Total | .3699 | .23662 | 85 |
| PROMADD | 1.00 | 1.00 | 2.5909 | 1.65210 | 22 |
| | | 2.00 | 1.9444 | 1.73111 | 18 |
| | | Total | 2.3000 | 1.69766 | 40 |
| | 2.00 | 1.00 | 1.8095 | 1.66190 | 21 |
| | | 2.00 | 2.2917 | 1.62799 | 24 |
| | | Total | 2.0667 | 1.64317 | 45 |
| | Total | 1.00 | 2.2093 | 1.68407 | 43 |
| | | 2.00 | 2.1429 | 1.66120 | 42 |
| | | Total | 2.1765 | 1.66316 | 85 |
| DIRECTDI | 1.00 | 1.00 | -2.5455 | 8.72723 | 22 |
| | | 2.00 | 3.8333 | 11.80852 | 18 |
| | | Total | .3250 | 10.58879 | 40 |
| | 2.00 | 1.00 | -3.3333 | 7.06635 | 21 |
| | | 2.00 | -1.0417 | 6.88716 | 24 |
| | | Total | -2.1111 | 6.98772 | 45 |
| | Total | 1.00 | -2.9302 | 7.87520 | 43 |
| | | 2.00 | 1.0476 | 9.50726 | 42 |
| | | Total | -.9647 | 8.89549 | 85 |
| INDRCTDI | 1.00 | 1.00 | 30.0909 | 142.96550 | 22 |
| | | 2.00 | 21.3889 | 44.72023 | 18 |
| | | Total | 26.1750 | 109.07182 | 40 |
| | 2.00 | 1.00 | -4.1429 | 34.15009 | 21 |
| | | 2.00 | 13.3750 | 54.86094 | 24 |
| | | Total | 5.2000 | 46.70634 | 45 |
| | Total | 1.00 | 13.3721 | 105.23647 | 43 |
| | | 2.00 | 16.8095 | 50.33606 | 42 |
| | | Total | 15.0706 | 82.32280 | 85 |

**Multivariate Tests**[b]

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|---|---|---|---|---|---|---|
| Intercept | Pillai's Trace | .143 | 3.219[a] | 4.000 | 77.000 | .017 |
| | Wilks' Lambda | .857 | 3.219[a] | 4.000 | 77.000 | .017 |
| | Hotelling's Trace | .167 | 3.219[a] | 4.000 | 77.000 | .017 |
| | Roy's Largest Roo | .167 | 3.219[a] | 4.000 | 77.000 | .017 |
| MSA | Pillai's Trace | .091 | 1.934[a] | 4.000 | 77.000 | .113 |
| | Wilks' Lambda | .909 | 1.934[a] | 4.000 | 77.000 | .113 |
| | Hotelling's Trace | .100 | 1.934[a] | 4.000 | 77.000 | .113 |
| | Roy's Largest Roo | .100 | 1.934[a] | 4.000 | 77.000 | .113 |
| SEX | Pillai's Trace | .067 | 1.385[a] | 4.000 | 77.000 | .247 |
| | Wilks' Lambda | .933 | 1.385[a] | 4.000 | 77.000 | .247 |
| | Hotelling's Trace | .072 | 1.385[a] | 4.000 | 77.000 | .247 |
| | Roy's Largest Roo | .072 | 1.385[a] | 4.000 | 77.000 | .247 |
| LDR50 | Pillai's Trace | .106 | 2.281[a] | 4.000 | 77.000 | .068 |
| | Wilks' Lambda | .894 | 2.281[a] | 4.000 | 77.000 | .068 |
| | Hotelling's Trace | .118 | 2.281[a] | 4.000 | 77.000 | .068 |
| | Roy's Largest Roo | .118 | 2.281[a] | 4.000 | 77.000 | .068 |
| SEX * LDR50 | Pillai's Trace | .140 | 3.127[a] | 4.000 | 77.000 | .019 |
| | Wilks' Lambda | .860 | 3.127[a] | 4.000 | 77.000 | .019 |
| | Hotelling's Trace | .162 | 3.127[a] | 4.000 | 77.000 | .019 |
| | Roy's Largest Roo | .162 | 3.127[a] | 4.000 | 77.000 | .019 |

a. Exact statistic

b. Design: Intercept+MSA+SEX+LDR50+SEX * LDR50

**Tests of Between-Subjects Effects**

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Corrected Model | SALARYCH | .730[a] | 4 | .183 | 3.675 | .008 |
| | PROMADD | 15.371[b] | 4 | 3.843 | 1.417 | .236 |
| | DIRECTDI | 651.222[c] | 4 | 162.806 | 2.172 | .080 |
| | INDRCTDI | 31959.305[d] | 4 | 7989.826 | 1.190 | .322 |
| Intercept | SALARYCH | .342 | 1 | .342 | 6.878 | .010 |
| | PROMADD | .849 | 1 | .849 | .313 | .577 |
| | DIRECTDI | 43.162 | 1 | 43.162 | .576 | .450 |
| | INDRCTDI | 11706.690 | 1 | 11706.690 | 1.743 | .191 |
| MSA | SALARYCH | 4.133E-04 | 1 | 4.133E-04 | .008 | .928 |
| | PROMADD | 7.477 | 1 | 7.477 | 2.757 | .101 |
| | DIRECTDI | 63.908 | 1 | 63.908 | .853 | .359 |
| | INDRCTDI | 18456.021 | 1 | 18456.021 | 2.748 | .101 |
| SEX | SALARYCH | 6.603E-02 | 1 | 6.603E-02 | 1.330 | .252 |
| | PROMADD | .959 | 1 | .959 | .353 | .554 |
| | DIRECTDI | 169.743 | 1 | 169.743 | 2.265 | .136 |
| | INDRCTDI | 9223.902 | 1 | 9223.902 | 1.373 | .245 |
| LDR50 | SALARYCH | 3.339E-02 | 1 | 3.339E-02 | .672 | .415 |
| | PROMADD | .559 | 1 | .559 | .206 | .651 |
| | DIRECTDI | 431.971 | 1 | 431.971 | 5.764 | .019 |
| | INDRCTDI | 1.965 | 1 | 1.965 | .000 | .986 |
| SEX * LDR50 | SALARYCH | .590 | 1 | .590 | 11.872 | .001 |
| | PROMADD | 4.720 | 1 | 4.720 | 1.740 | .191 |
| | DIRECTDI | 66.237 | 1 | 66.237 | .884 | .350 |
| | INDRCTDI | 1615.911 | 1 | 1615.911 | .241 | .625 |
| Error | SALARYCH | 3.973 | 80 | 4.966E-02 | | |
| | PROMADD | 216.982 | 80 | 2.712 | | |
| | DIRECTDI | 5995.672 | 80 | 74.946 | | |
| | INDRCTDI | 537312.272 | 80 | 6716.403 | | |
| Total | SALARYCH | 16.334 | 85 | | | |
| | PROMADD | 635.000 | 85 | | | |
| | DIRECTDI | 6726.000 | 85 | | | |
| | INDRCTDI | 588577.000 | 85 | | | |
| Corrected Total | SALARYCH | 4.703 | 84 | | | |
| | PROMADD | 232.353 | 84 | | | |
| | DIRECTDI | 6646.894 | 84 | | | |
| | INDRCTDI | 569271.576 | 84 | | | |

a. R Squared = .155 (Adjusted R Squared = .113)

b. R Squared = .066 (Adjusted R Squared = .019)

c. R Squared = .098 (Adjusted R Squared = .053)

d. R Squared = .056 (Adjusted R Squared = .009)

## Estimated Marginal Means

**1. Grand Mean**

| Dependent Variable | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|
| | | | Lower Bound | Upper Bound |
| SALARYCH | .362[a] | .024 | .313 | .410 |
| PROMADD | 2.162[a] | .180 | 1.805 | 2.520 |
| DIRECTDI | -.780[a] | .944 | -2.659 | 1.099 |
| INDRCTDI | 15.324[a] | 8.938 | -2.464 | 33.111 |

a. Evaluated at covariates appeared in the model: MSA = 72.0471.

**2. SEX**

| Dependent Variable | SEX | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| SALARYCH | 1.00 | .334[a] | .035 | .263 | .404 |
| | 2.00 | .390[a] | .033 | .323 | .456 |
| PROMADD | 1.00 | 2.269[a] | .262 | 1.748 | 2.790 |
| | 2.00 | 2.055[a] | .246 | 1.566 | 2.545 |
| DIRECTDI | 1.00 | .641[a] | 1.376 | -2.097 | 3.378 |
| | 2.00 | -2.201[a] | 1.293 | -4.775 | .373 |
| INDRCTDI | 1.00 | 25.798[a] | 13.023 | -.119 | 51.715 |
| | 2.00 | 4.850[a] | 12.245 | -19.519 | 29.218 |

a. Evaluated at covariates appeared in the model: MSA = 72.0471.

**3. LDR50**

| Dependent Variable | LDR50 | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| SALARYCH | 1.00 | .341[a] | .034 | .273 | .409 |
| | 2.00 | .382[a] | .035 | .312 | .451 |
| PROMADD | 1.00 | 2.244[a] | .253 | 1.742 | 2.747 |
| | 2.00 | 2.080[a] | .258 | 1.567 | 2.593 |
| DIRECTDI | 1.00 | -3.069[a] | 1.328 | -5.711 | -.426 |
| | 2.00 | 1.508[a] | 1.355 | -1.189 | 4.205 |
| INDRCTDI | 1.00 | 15.169[a] | 12.571 | -9.848 | 40.187 |
| | 2.00 | 15.478[a] | 12.828 | -10.051 | 41.007 |

a. Evaluated at covariates appeared in the model: MSA = 72.0471.

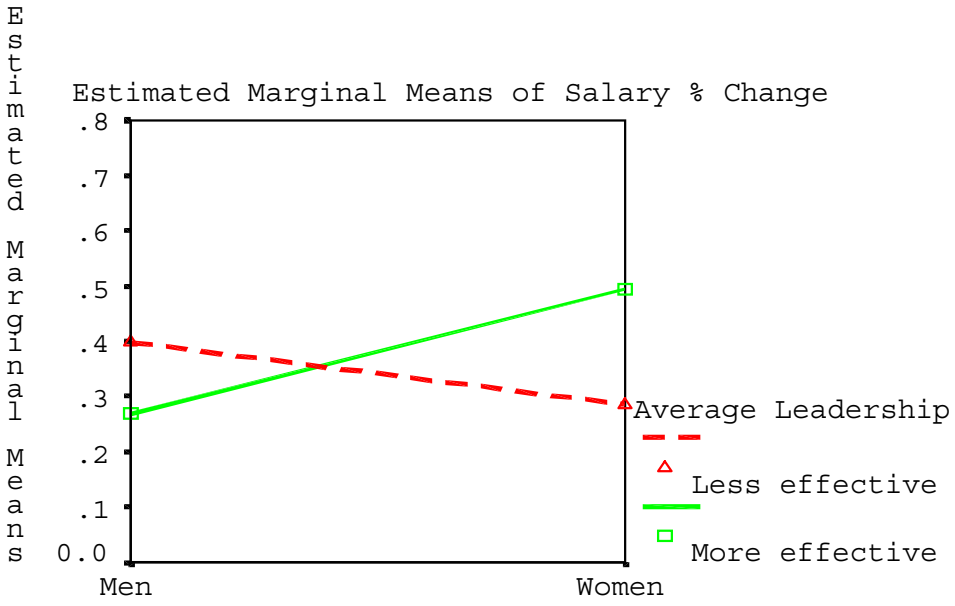
**4. SEX * LDR50**

| Dependent Variable | SEX | LDR50 | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| SALARYCH | 1.00 | 1.00 | .398[a] | .048 | .303 | .493 |
| | | 2.00 | .269[a] | .053 | .164 | .374 |
| | 2.00 | 1.00 | .285[a] | .049 | .187 | .383 |
| | | 2.00 | .494[a] | .046 | .403 | .586 |
| PROMADD | 1.00 | 1.00 | 2.591[a] | .351 | 1.892 | 3.289 |
| | | 2.00 | 1.947[a] | .388 | 1.175 | 2.720 |
| | 2.00 | 1.00 | 1.898[a] | .363 | 1.175 | 2.621 |
| | | 2.00 | 2.212[a] | .340 | 1.537 | 2.888 |
| DIRECTDI | 1.00 | 1.00 | -2.544[a] | 1.846 | -6.217 | 1.129 |
| | | 2.00 | 3.825[a] | 2.041 | -.235 | 7.886 |
| | 2.00 | 1.00 | -3.593[a] | 1.910 | -7.394 | .208 |
| | | 2.00 | -.810[a] | 1.785 | -4.362 | 2.742 |
| INDRCTDI | 1.00 | 1.00 | 30.072[a] | 17.473 | -4.699 | 64.844 |
| | | 2.00 | 21.523[a] | 19.317 | -16.918 | 59.965 |
| | 2.00 | 1.00 | .266[a] | 18.080 | -35.715 | 36.248 |
| | | 2.00 | 9.433[a] | 16.897 | -24.193 | 43.059 |

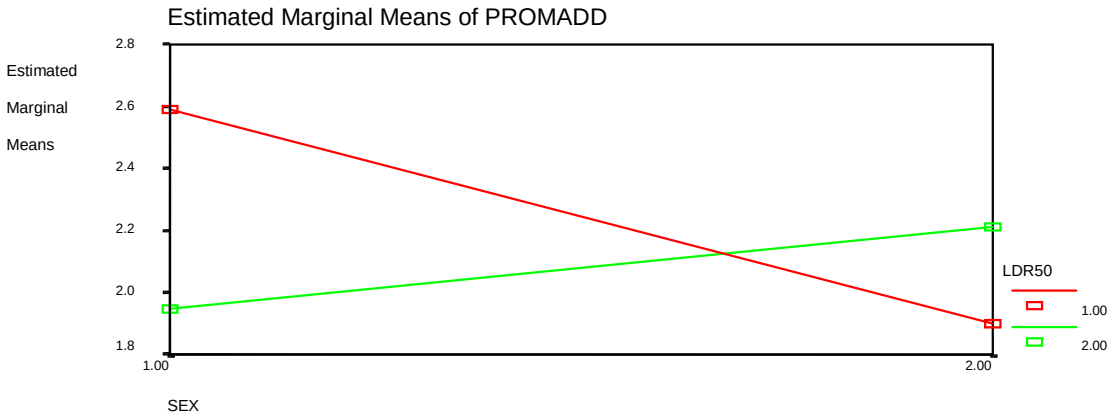
a. Evaluated at covariates appeared in the model: MSA = 72.0471.

## Profile Plots

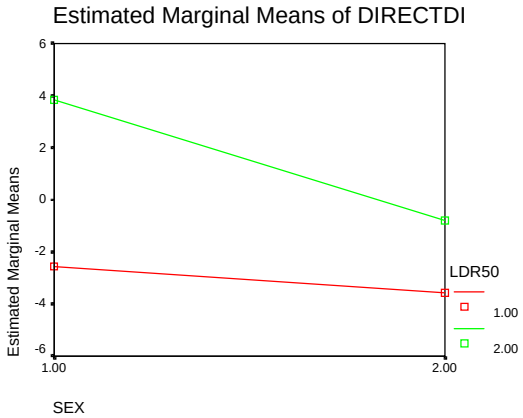
### SALARYCH



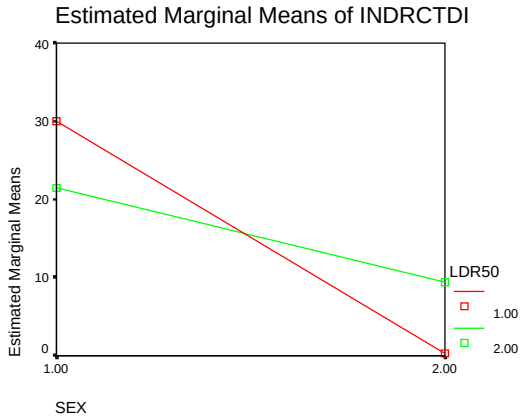
## PROMADD




## DIRECTDI




## INDRCTDI



## Regression for Women: Leadership Dimensions and Salary Percentage Change

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Provide Direction | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Salary Change

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .297[a] | .088 | .067 | .23841 |

a. Predictors: (Constant), Provide Direction

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .236 | 1 | .236 | 4.154 | .048[a] |
| | Residual | 2.444 | 43 | .057 | | |
| | Total | 2.680 | 44 | | | |

a. Predictors: (Constant), Provide Direction

b. Dependent Variable: Salary Change

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.464 | .424 | | -1.096 | .279 |
| | Provide Direction | .235 | .116 | .297 | 2.038 | .048 |

a. Dependent Variable: Salary Change

**ExcludedVariable [b]**

| Model | | Beta | t | Sig. | Partia Correlatio | Collinearit Statistic Toleranc |
|---|---|---|---|---|---|---|
| 1 | Lead | -.078[a] | -.431 | .669 | -.066 | .663 |
| | Influence | .126[a] | .540 | .592 | .083 | .397 |
| | Foster | .096[a] | .457 | .650 | .070 | .486 |
| | Motivate | .031[a] | .173 | .864 | .027 | .697 |
| | Coach & | -.08[ | -.373 | .711 | -.058 | .390 |
| | Champion | -.216[a] | -.922 | .362 | -.14 | .388 |

a. Predictors in the Model: (Constant), Provide

b. Dependent Variable:

## Regression for Women: Leadership Dimensions and Direct Report Difference

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Influence Others | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Direct Report Difference

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .316[a] | .100 | .079 | 6.70634 |

a. Predictors: (Constant), D06AV

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 214.522 | 1 | 214.522 | 4.770 | .034[a] |
| | Residual | 1933.922 | 43 | 44.975 | | |
| | Total | 2148.444 | 44 | | | |

a. Predictors: (Constant), Influence Others

b. Dependent Variable: Direct Report Difference

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -28.507 | 12.128 | | -2.351 | .023 |
| | Influence Others | 7.330 | 3.356 | .316 | 2.184 | .034 |

a. Dependent Variable: Direct Report Difference

**Excluded Variables[b]**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics: Tolerance |
|---|---|---|---|---|---|---|
| 1 | Provide Direction | .070[a] | .303 | .764 | .047 | .397 |
| | Lead Courageously | -.305[a] | -1.551 | .128 | -.233 | .523 |
| | Foster Teamwork | .026[a] | .092 | .927 | .014 | .277 |
| | Motivate Others | -.016[a] | -.071 | .944 | -.011 | .443 |
| | Coach & Develop | -.340[a] | -1.355 | .183 | -.205 | .325 |
| | Champion Change | -.038[a] | -.156 | .877 | -.024 | .350 |

a. Predictors in the Model: (Constant), Influence Others

b. Dependent Variable: Direct Report Difference

## Regression for Men: Leadership Dimensions and Salary Change

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Motivate Others | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Salary Change

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .323[a] | .104 | .081 | .21468 | .104 | 4.422 | 1 | 38 | .042 |

a. Predictors: (Constant), Motivate Others

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .204 | 1 | .204 | 4.422 | .042[a] |
| | Residual | 1.751 | 38 | .046 | | |
| | Total | 1.955 | 39 | | | |

a. Predictors: (Constant), Motivate Others

b. Dependent Variable: Salary Change

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .929 | .282 | | 3.292 | .002 |
| | Motivate Others | -.165 | .078 | -.323 | -2.103 | .042 |

a. Dependent Variable: Salary Change

**Excluded Variables[b]**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
|---|---|---|---|---|---|---|
| | | | | | | Tolerance |
| 1 | Provide Direction | .366[a] | 1.338 | .189 | .215 | .310 |
| | Lead Courageously | .296[a] | 1.656 | .106 | .263 | .705 |
| | Influence Others | .346[a] | 1.652 | .107 | .262 | .515 |
| | Foster Teamwork | .607[a] | 1.886 | .067 | .296 | .213 |
| | Coach & Develop | .635[a] | 1.469 | .150 | .235 | .122 |
| | Champion Change | .519[a] | 1.858 | .071 | .292 | .283 |

a. Predictors in the Model: (Constant), Motivate Others

b. Dependent Variable: Salary Change

## Regression for Men: Leadership Dimensions and Indirect Report Difference

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Lead Courageously | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 2 | Motivate Others | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Indirect Report Difference

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .373[a] | .139 | .116 | 102.52373 | .139 | 6.141 | 1 | 38 | .018 |
| 2 | .648[b] | .419 | .388 | 85.31917 | .280 | 17.871 | 1 | 37 | .000 |

a. Predictors: (Constant), Lead Couraegously

b. Predictors: (Constant), Lead Couraegously, Motivate Others

**ANOVA[c]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 64547.363 | 1 | 64547.363 | 6.141 | .018[a] |
| | Residual | 399422.412 | 38 | 10511.116 | | |
| | Total | 463969.775 | 39 | | | |
| 2 | Regression | 194633.446 | 2 | 97316.723 | 13.369 | .000[b] |
| | Residual | 269336.329 | 37 | 7279.360 | | |
| | Total | 463969.775 | 39 | | | |

a. Predictors: (Constant), Lead Couraegously

b. Predictors: (Constant), Lead Couraegously, Motivate Others

c. Dependent Variable: Indirect Report Difference

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -353.933 | 154.242 | | -2.295 | .027 |
| | Lead Couraegously | 105.286 | 42.487 | .373 | 2.478 | .018 |
| 2 | (Constant) | -142.358 | 137.771 | | -1.033 | .308 |
| | Lead Couraegously | 202.020 | 42.116 | .716 | 4.797 | .000 |
| | Motivate Others | -157.045 | 37.150 | -.631 | -4.227 | .000 |

a. Dependent Variable: Indirect Report Difference

**Excluded Variables[c]**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics Tolerance |
|---|---|---|---|---|---|---|
| 1 | Provide Direction | -.622[a] | -3.191 | .003 | -.465 | .481 |
| | Influence Others | -.793[a] | -3.045 | .004 | -.448 | .275 |
| | Foster Teamwork | -.566[a] | -3.755 | .001 | -.525 | .743 |
| | Motivate Others | -.631[a] | -4.227 | .000 | -.571 | .705 |
| | Coach & Develop | -.657[a] | -3.579 | .001 | -.507 | .512 |
| | Champion Change | -.785[a] | -3.535 | .001 | -.502 | .353 |
| 2 | Provide Direction | -.105[b] | -.377 | .708 | -.063 | .207 |
| | Influence Others | -.356[b] | -1.273 | .211 | -.207 | .197 |
| | Foster Teamwork | -.162[b] | -.592 | .558 | -.098 | .212 |
| | Coach & Develop | .208[b] | .439 | .663 | .073 | 7.135E-02 |
| | Champion Change | -.163[b] | -.437 | .665 | -.073 | .115 |

a. Predictors in the Model: (Constant), Lead Couraegously

b. Predictors in the Model: (Constant), Lead Couraegously, Motivate Others

c. Dependent Variable: Indirect Report Difference

# APPENDIX H

# DEMOGRAPHIC CHOICE DESCRIPTORS

**Time in Current Position:**

1= Less than 1 year
2= 1 to 2 years
3= 3 to 5 years
4= 6 to 10 years
5= More than 10 years

**Education**:

1= Some high school
2= High school graduate/G.E.D.
3= Some college or technical training
4= Bachelor's degree
5= Some graduate work
6= Master's degree
7= Professional degree (Ph.D., J.D., M.D.)
8= Other (specify)

**Age:**

*Enter actual years*

**Time in Management**:

1= Have never been a manager
2= Less than 1 year
3= 1 to 2 years
4= 3 to 5 years
5= 6 to 10 years
6= 11 to 20 years
7= More than 20 years

REFERENCES

Applebaum, S., & Shapiro, B. (1993). Why can't men lead like women? Leadership & Organizational Development Journal, 14 (7), 28-34.

Baack, J., Carr-Ruffino, N., & Pelletier, M. (1993). Making it to the top: Specific leadership skills. Women in Management Review, 8 (2), 17-23.

Bass, B. (1985). Leadership and Performance Beyond Expectations. New York: Free Press.

Bass, B. (1990). Bass & Stogdill's handbook of leadership: Theory, research, and managerial application (3rd ed.). New York: The Free Press.

Bennis, W. & Nanus, B. (1985). Leaders: The strategies for taking charge. New York: Harper & Row.

Bentz, V. (1990). Contextual issues in predicting high-level leadership performance: Contextual richness as a criterion consideration in personality research with executives. In K. E. Clark & M. B. Clark (Eds.), Measures of Leadership (pp. 131-143). West Orange, NJ: Leadership Library of America.

Blake, R. & Mouton, J. (1964). The managerial grid. Houston, TX: Gulf Publishing.

Blake, R. & Mouton, J. (1981). Management by grid principles or situationalism: Which? Group & Organization Studies, 6, 439-455. Blum, T., Fields, D., & Goodman, J. (1994). Organization- level determinants of women in management. Academy of

Management Journal, 37, 241-268.

Bowers, D. (1975). Hierarchy, function, and the generalizability of leadership practices. In J. Hunt & L. Larson (Eds.), Leadership frontiers (pp.167-180). Kent OH: Kent State University Press.

Brett, J., Stroh, L., & Reilly, A. (1992). All the right stuff: A comparison of female and male managers' career progression. Journal of Applied Psychology, 77, 251-260.

Burns, J. (1978). Leadership. New York: Harper & Row.

Conger, J., & Kanungo, R. (1987). Toward a behavioral theory of charismatic leadership in organizational settings. Academy of Management Review, 12, 637-647.

Corsini, R. (Ed.).(1994). Encyclopedia of psychology (2nd ed., Vol. 2). New York: Wiley.

Denmark, F. (1993). Women, leadership, and empowerment. Psychology of Women Quarterly, 17, 343-356.

Dreher, G., & Ash, R. (1990). A comparative study of mentoring among men and women in managerial positions. Journal of Applied Psychology, 75, 539-546.

Eagly, A., & Johnson, B. (1990). Gender and leadership style: A meta-analysis. Psychologial Bulletin, 108, 233-256.

Eagly, A., Karau, S., & Makhijani, M. (1995). Gender and the effectiveness of leaders: A meta-analysis. Psychological Bulletin, 117, 125-145.

Eagly, A., Makhijani, M., & Klonsky, B. (1992). Gender and the evaluation of leaders: A meta-analysis. Psychological Bulletin, 111, 3-22.

Fiedler, F. (1964). A contingency model of leadership effectiveness. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (pp.149-190). New York: Academic Press.

Fiedler, F. (1967). A theory of leadership effectiveness. New York: McGraw-Hill.

Fiedler, F. (1971). Validation and extension of the contingency model of leadership effectiveness: A review of empirical findings. Psychological Bulletin, 76, 128-148.

Field, R. (1982). A test of the Vroom-Yetton normative model of leadership. Journal of Applied Psychology, 67, 523-532.

Fleishman, E. (1953). The description of supervisory behavior. Journal of Applied Psychology, 37, 1-6.

Fok, L., Crow, S., Hartman, S., & Moore, A. (1994). Management style as an element of management development programs: Is it worth the trouble? Journal of Management Development, 13 (9), 25-33.

Gaskill, L. (1991). Women's career success: A factor analytic study of contributing factors. Journal of Career Development, 17 (3), 167-178.

Gattiker, U., & Larwood, L. (1989). Career success, mobility and extrinsic satisfaction of corporate managers. Social Science Journal, 26, 75-92.

Gavin, J., Ashworth, D., & Giacalone, R. (1992). Development issues in the management hierarchy: Dealing with the gender gap. Organizational Development Journal, 10, 17-22.

Gold, U., & Pringle, J. (1988). Gender-specific factors in management promotion.

Journal of Managerial Psychology, 3 (4), 17-22.

Hackman, M., Furniss, A., Hills, M., & Paterson, T. (1992). Perceptions of gender-role characteristics and transformational and transactional leadership behaviors. Perceptual and Motor Skills, 75, 311-319.

Harris, M., & Schaubroeck, J. (1988). A meta-analysis of self-supervisor, self-peer, and peer-supervisor ratings. Personnel Psychology, 41, 43-62.

Helgesen, S. (1990). The female advantage: Women's ways of leadership. New York: Doubleday.

Herriot, P., Gibson, G., Pemberton, C., & Pinder, R. (1993). Dashed hopes: Organizational determinants and personal perceptions of managerial careers. Journal of Occupational and Organizational Psychology, 66, 115-123.

Hersey, P., & Blanchard, K. (1969). Life cycle theory of leadership. Training & Development Journal, 23 (2), 26-34.

Hezlett, S., Ronnkvist, A., Holt, K., & Hazucha, J. (1996). The PROFILOR technical summary (2nd ed.). Minneapolis, MN: Personnel Decisions International.

Hogan, R., Curphy, G., & Hogan, J. (1994). What we know about leadership. American Psychologist, 49, 493-504.

Holt, K., & Hazucha, J. (1991). The PROFILOR technical summary. Minneapolis, MN: Personnel Decisions, Inc.

Hothersall, D. (1995). History of psychology (3rd ed.). New York: McGraw-Hill.

Howard, A., & Bray, D. (1988). Managerial lives in transition: Advancing age and changing times. New York: Guilford Press.

House, R. (1971). A path goal theory of leader effectiveness. Administrative Science Quarterly, 16, 321-339.

House, R. (1977). A 1976 theory of charismatic leadership. In J. Hunt & L. Larson (Eds.), Leadership: The cutting edge (pp. 189-207). Carbondale, IL: Southern Illinois University Press.

Hughes, R., Ginnett, R., & Curphy, G. (1999). Leadership: Enhancing the lessons of experience (3rd ed.). Chicago, IL: Irwin.

Jacobs, R., & McClelland, D. (1994). Moving up the corporate ladder: A longitudinal study of the leadership motive pattern and managerial success in women and men. Consulting Psychology Journal, 46, 32-41.

Judge, T., Cable, D., Boudreau, J., & Bretz, R. (1995). An empirical investigation of the predictors of executive career success. Personnel Psychology, 48, 485-519.

Klenke, K. (1996). Women and leadership: A contextual perspective. New York: Springer.

Korabik, K., Baril, G., & Watson, C. (1993). Managers' conflict management style and leadership effectiveness. Sex Roles, 29, 405-420.

Lawrence, B. (1984). Age grading: The implicit organizational timetable. Journal of Occupational Behavior, 5, 23-35.

Lee, C. (1994). The feminization of management. Training, 31 (11), 25-31.

Lewin, K., Lippitt, R., & White, R. (1939). Patterns of aggressive behavior in experimentally created "social climates". Journal of Social Psychology, 10, 271-299.

Likert, R. (1961). New patterns of management. New York: McGraw-Hill.

Likert, R. (1967). The human organization: Its management and value. New York: McGraw-Hill.

Lindzey, G. (Ed.). (1954). Handbook of social psychology (Vol. 2). Cambridge, MA: Addison-Wesley.

Locke, E. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), Handbook of Industrial and Organizational Psychology (pp. 1297-1343). Chicago: Rand McNally.

Manz, C. & Sims, H. (1989). Super-leadership: Leading others to lead themselves. New York: Prentice Hall Press.

McCauslan, J., & Kleiner, B. (1992). Women and organizational leadership. Equal Opportunities International, 11 (6), 12-15.

McEvoy, G., & Beatty, R. (1989). Assessment centers and subordinate appraisals of managers: A seven-year examination of predictive validity. Personnel Psychology, 42, 37-52.

Morrison, A., & Von Glinow, M. (1990). Women and minorities in management. American Psychologist, 45, 200-208.

Northouse, P. (1997). Leadership: Theory and practice. Thousand Oaks, CA: SAGE Publications.

Offerman, L., & Beil, C. (1992). Achievement styles of women leaders and their peers: Toward an understanding of women and leadership. Psychology of Women Quarterly, 16, 37-56.

Peters, L., Hartke, D., & Pohlmann, J. (1985). Fiedler's contingency theory of leadership: An application of the meta-analysis procedures of Schmidt and Hunter. Psychological Bulletin, 97, 274-285.

Rojahn, K., & Willemsen, T. (1994). The evaluation of effectiveness and likability of gender-role congruent and gender-role incongruent leaders. Sex Roles, 30, 109-119.

Rosenberg, S., & Maupin, R. (1987). Something in common: The best of both sexes. Management World, 16 (6), 17-18.

Rosener, J. (1990). Ways women lead. Harvard Business Review, 68 (6), 119-125.

Schreiber, C., Price, K., & Morrison, A. (1993). Workplace diversity and the glass ceiling: Practices, barriers, possibilities. Human Resource Planning, 16 (2), 51-69.

Snyder, R. (1993). The glass ceiling for women: Things that don't cause it and things that won't break it. Human Resource Development Quarterly, 4, 97-106.

Stanford, J., Oates, B., & Flores, D. (1995). Women's leadership styles: A heuristic analysis. Women in Management Review, 10 (2), 9-16.

Stogdill, R. (1948). Personal factors associated with leadership: A survey of the literature. The Journal of Psychology, 25, 35-71.

Still, L. (1992). Breaking the glass ceiling: Another perspective. Women in Management Review, 7 (5), 3-8.

Strube, M., & Garcia, J. (1981). A meta-analytic investigation of Fiedler's contingency model of leadership effectiveness. Psychological Bulletin, 90, 307-321.

Tannenbaum, R., & Schmidt, W. (1958). How to choose a leadership pattern. Harvard Business Review, 36 (2), 95-101.

Terman, L. (1904). A preliminary study in the psychology and pedagogy of leadership. Pedagogical Seminary, 11, 413-451.

Tharenou, P. (1997). Explanations of managerial career advancement. Australian Psychologist, 32, 19-28.

Tharenou, P., & Conroy, D. (1994). Men and women managers' advancement: Personal or situational determinants? Applied Psychology: An International Review, 43, 5-31.

Tharenou, P., Latimer, S., & Conroy, D. (1994). How do you make it to the top? An examination of influences on women's and men's managerial advancement. Academy of Management Journal, 37, 899-931.

Tsui, L. (1998). The effects of gender, education, and personal skills self-confidence on income in business management. Sex Roles, 38, 363-373.

Vecchio, R. (1983). Assessing the validity of Fiedler's contingency model of leadership effectiveness: A closer look at Strube and Garcia. Psychological Bulletin, 93, 404-408.

Vroom, V. & Jago, A. (1978). On the validity of the Vroom-Yetton model. Journal of Applied Psychology, 63, 151-162.

Vroom, V. & Yetton, P. (1973). Leadership and decision-making. University of Pittsburg Press.

Weber, M. (1947). The theory of social and economic organization. New York:

Oxford University Press.

Yukl, G. (1989). Leadership in organizations (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Yukl, G. (1989). Managerial Leadership: A review of theory and research. Journal of Management, 15, 251-289.