AN ABSTRACT OF THE THESIS OF

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Title: Comparison of Self-Perceived Leadership Styles of Women in Higher Education and Non-Education Management Positions

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Abstract approved _____
M. Edward Bryan

The purpose of this study was to compare the self-perceived leadership styles, range and adaptability of women managers in higher education and non-education management positions. Specifically, the study sought to investigate the: (1) self-perceived leadership styles and adaptability of women managers in higher education and non-education, (2) self-perceived leadership styles and adaptability of entry, middle, and upper level managers in higher education and non-education, (3) relationshp between background and self-perceived leadership style and adaptability, and (4) self-perceived leadership style and adaptability of the sample compared to the normed group of managers.

The sample consisted of a systematically selected population of 185 women managers in higher education and

185 women managers in non-education positions. Each was mailed two questionnaires asking for biographical data and self-perceived leadership behavior data. The Leader Effectiveness and Adaptability Description developed by Hersey and Blanchard (1973) and Demographic Questionnaire developed by the researcher were used. Usable participant responses were obtained from 69 percent of the sample population.

Analysis of variance was used to assess the difference between self-perceived leadership style and adaptability of groups using occupational background and using management level as independent variables. Chi-square cross-tabulations were used to assess differences between groups in the sample and develop a profile of the woman manager in Oregon. Pearson Product-Moment Coefficient of Correlation was used to correlate styles and adaptability with age and years of experience.

Analysis revealed a significant difference at the .05 level between managers in higher education and non-education in Style 4 (low relationship, low task; delegating). Pearson Product Moment formula showed a correlation with age and style and with years of experience and adaptability. Cross-tabulations indicated leadership training had an effect on management level for managers in higher education. There were no significant differences in the sample of women managers and managers in the normed group.

Occupational background and leadership training significantly affected the self-perceived leadership styles of women managers. Managers in higher education indicated more formal education, formal leadership training and had more job responsibilities. Managers in non-education were generally younger, more likely to be in an entry level position, and had more responsibility for teaching. The sample population fell within the "average" range for self-perceived leadership style and adaptability with an overall style profile similar to managers in the normed group.

Comparison of Self-Perceived Leadership Styles of Women in Higher Education and Non-Education Management Positions

by

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CHAPTER I

INTRODUCTION

A number of social factors are providing new challenges to colleges and universities. Among these factors are the changing patterns of race relations, a new awareness of student backgrounds, and major changes in the roles of women (Wolotkiewicz, 1980). Universities are being charged with inefficiency and ineffectiveness in their efforts to cope with societal demands. As a result, entire institutions are seeking to increase effectiveness and efficiency, while reducing or maintaining costs. The challenge is to find ways to develop more effective and efficient operating procedures. Human productivity, as an essential resource, must be increased to meet the challenge (Leslie et al., 1974).

One way to develop untapped resources of human potential is to continue to investigate factors in the changing patterns that challenge higher education. The increasing number of women employed in higher education is part of the changing pattern that has not been fully explored. Once ignored in research, women and women's issues have become two of the fastest growing areas of research in the social sciences (Daniels, 1975). In particular, the increase in

the number of women entering graduate school and being trained as researchers, the establishment of women's studies programs, and increased funding commitments by agencies are plausible reasons for increased research on women (Shakeshaft, 1979). Moore and Wollitzer (1979, p. 2) state that far from being a mere "flash in the scholars' pan," the quality and quantity of research on women will continue to flourish. Research on women in higher education, especially, is growing but, to date, only a few studies have been done on women administrators (Curby, 1980). Women now hold nearly one-third of the nation's total management jobs and have significantly raised their representation in many other occupations ("Women Gain in Male Jobs," 1984). The numbers in higher education management indicate that approximately 20 percent of college and university administrators are women (Moore, 1982). While this is definitely an increase over the last decade, women continue to remain underrepresented in higher education management when compared to non-education management.

Business and public school administration have provided the lead in generating research on women as a separate group; however, research on women in higher education administration

> is remarkably sparse, undoubtedly owing to both the relative scarcity of such women and the short span of time since research awareness has turned to this sector of academe (Moore and Wollitzer, 1979, p. 65).

The majority of studies focus on the characteristics of the administrator and characteristics of the workplace. Research on female administrators has "not gone beyond describing her, who she is, what she thinks, and what barriers stand in her way" (Shakeshaft, 1979, p. 212). Some of these research studies focus on issues of male/female equality, such as sex discrimination among administrators (Kaufman, 1970; Magarrell, 1975; Mattfield, 1972; Schetlin, 1975; Van Alstyne et al., 1977). Others focus on the role and characteristics of women administrators (Arter, 1972; Tyler, 1979; McGee, 1979; Woods, 1979). Leadership development studies focus on survival dynamics (Gordon and Vall, 1977), or current attitudes and conditions under which women administrators function (Haines and Penney, 1973). A listing of training programs preparing women for leadership in business and higher education was compiled by Kaye and Schelle (1975). Moore and Wollitzer (1979) include a bibliography of women in management in their bibliography of women in higher education administration

> because the constructs that have been applied in studying women as leaders in business may well transfer to the context of higher education, where a conceptual base for such research is conspicuously lacking (p. 65).

It must be acknowledged that the number of women holding positions of academic leadership has been relatively few in comparison to the number of institutions of higher education. Moore (1983) found in a sample of 1600 four-year degree granting institutions, 8.8 percent of the

presidents and 13.6 percent of the provosts were women. Some figures are available on vice presidencies, college deanships and other central management positions, but it seems clear that the movement of women into top administrative positions does not occur in higher education with any regularity (Pillinger, 1979). Moore (AAHE, 1983) confirms this by suggesting that "women and minorities have made some gains; however, they were confined to a narrow range of positions and institutions" (p. 6). The research concepts and questions being used focus on the specific traits of the women or problems they encounter when doing their job, while very little has been done to analyze the structure within which higher education leadership arises or operates (Moore and Wollitzer, 1979).

Few research studies have concentrated on the specific behaviors of female administrators and managers in performing their jobs. Little is known about women's leadership styles and how they respond to specific institutional backgrounds and management levels. Moore (AAHE, 1983) suggests we "may have overemphasized the role of individual choices and attributes and underemphasized the role institutions play in shaping careers" (p. 6). New attributes and attitudes are currently valued and certain characteristics, such as masculine gender, are no longer necessary for effective administration.

Statement of the Problem

While women's issues are assuming a higher profile in local and national political arenas, the same cannot be said for the higher education arena (Tinsley, Secor, Kaplan, 1984). A need exists for systematic research based on general leadership theory and conducted in actual managerial or administrative positions. Longitudinal studies of women in leadership positions which trace patterns of emerging and maturing female leadership from a life-span perspective, are also needed (Friesen, 1983). Investigating the leadership style and behavior of female administrators will produce practical data on which theories and practices of female leadership can be developed and from which positive educational and business results can be obtained (Cox, 1982). Such research can be dedicated to improving women's ability to perform effectively as leaders. It will contribute toward the ideal that highly qualified women candidates for management positions will be able to use those skills and behaviors in jobs suited to their capabilities. Working Woman (November 1983) defines these bottom-line responsibilities as making decisions, developing expertise, bringing out the best in people and sometimes taking risks.

Higher education and non-education organizations will benefit from the comparison of leadership behaviors of women administrators at different management levels.

Institutions will be able to identify, select and place individuals who have leadership potential. The primary purpose of the present study is to provide such comparisons.

Women who are in executive positions can share their experiences to help prepare other women to enter a male-dominated, administrative ladder. Since 50-52 percent of all students enrolled in higher education are women, those women in top positions must share what they know and who they are in order to actively encourage young women who seek administrative positions. Positive encouragement, such as the article by Brady (Working Women, 1983), describes the college presidency by women recently appointed to the position. Educators, both male and female, should encourage highly motivated women to participate in shaping the policies of future institutions and organizations in our society. Tinsley, Secor, and Kaplan (1984) recently edited a sourcebook discussing career paths that women follow, the barriers that women face as their careers develop, and how institutions can benefit once women hold senior positions in proportion to their numbers in the profession.

Objectives of the Study

The purpose of this study was to develop a profile of self-perceived leadership behaviors of women leaders in higher education and in non-education organizations within

Oregon. More specifically, this study (1) compared the differences and/or similarities of the self-perceived leadership behaviors of a sample of women managers in higher education with a sample of women managers in non-education organizations; (2) analyzed a sample of women managers from both groups in order to note the self-perceived leadership styles of upper-level management, middle-level management, and entry-level management; (3) gathered pertinent demographic data about these groups of women; (4) compared these results with those found in the literature; and (5) developed a profile of the woman manager in Oregon.

Hypotheses

Considering the lack of emphasis on leadership behavior research among women managers, this study investigated the following hypotheses:

Ho 1. There will be no differences in self-perceived leadership style of women in higher education management and women in non-education management.

Ho 2. There will be no differences in style range of women in higher education management and women in non-education management.

Ho 3. There will be no differences in self-perceived style adaptability of women in higher education management and women in non-education management.

Ho 4. There will be no differences by management level in self-perceived leadership style of women in higher education management and non-education management.

Ho 5. There will be no differences by management level in self-perceived style adaptability of women in higher education management and non-education management.

Ho 6. There will be no differences by demographic data in self-perceived leadership style of women in higher education management and non-education management.

Ho 7. There will be no differences by demographic data in self-perceived style adaptability of women in higher education management and non-education management.

Ho 8. There will be no differences in self-perceived leadership style and adaptability of women managers in the sample and managers in the normative group.

Definition of Terms

Due to the specialized nature of the fields of leadership, educational administration, and management, the following definitions of terms used are necessary for a more complete understanding of this study.

1. Leadership is a broader concept than management. Leadership occurs any time one attempts to influence the behavior of an individual or group.
2. Management is working with and through individuals and groups to accomplish organizational goals. This definition applies to organizations, whether they are businesses, educational institutions, government services, or volunteer organizations.
3. Leadership style, when used in specific instances, is the self-perception of leader behavior which will be measured by the LEAD-Self, Leader Effectiveness and Adaptability Description (Hersey and Blanchard, 1973) and consists of the following aspects:
   a. Style is defined as the behavior pattern used most often when attempting to influence the activities of others. According to the LEAD-Self, the person has a primary and a secondary style out of four basic styles in Situational Leadership.
   b. Style range is the extent to which that person is able to vary style in different situations. Style range is illustrated in terms of task and relationship behavior.
   c. Style adaptability or effectiveness is the degree to which that person is able to vary style appropriately to meet the demands of a given situation according to the Situational Leadership Model.

4. Situational leadership is a management concept developed by Hersey and Blanchard (1982) that focuses upon the behavior of leaders and the maturity of their respective group members in various situations. Leaders may adapt their style of leader behavior to enhance effectiveness as situations and environments change. A person's leadership style involves some combination of either task behavior or relationship behavior.
   a. Task behavior is the extent to which leaders are likely to organize and define the roles of followers; to explain what activities each is to do and when, where and how tasks are to be accomplished.
   b. Relationship behavior is the extent to which leaders are likely to maintain personal relationships between themselves and their followers by opening up channels of communication and providing socioemotional support.
5. Women managers in higher education refers to women who hold positions in management in higher education institutions. This includes public and private institutions, two-year and four-year colleges and universities.
6. Women managers in non-education positions refers to women who hold positions in management in publicly or privately owned organizations whose primary purpose is to produce a product or service other than education.

7. Upper-level managers focus on policy-making decisions and are responsible for carrying out the overall objective of the organization. They are oriented to the present and distant future, integrate the various functions of mid-level managers, and allocate authority. They include presidents, chief executive officers, vice-presidents, deans, and others who occupy top positions in the organization.
8. Middle-level managers focus on personnel-related skills and are responsible to a department or division within an organization. They are oriented to the present and immediate future, implement policy, represent the organization to employees, and coordinate operations. They include department managers, some directors, assistant and/or associate deans, and personnel managers.
9. First-line or entry-level managers focus on acting as a liaison between workers and management. They give directions to others, set standards, carry out policies and procedures, and can replace absent workers. They frequently have the supervisory responsibilities in addition to worker duties. They include foremen, supervisors, department chairs, and assistant directors.

Limitations of the Study

One limitation of this study which should be noted in the interpretation and generalization of the results is that the subjects were drawn from Oregon, a specific geographic location. Generalization of the results of this study to women managers in differing geographic locations may be inappropriate. Another limitation is the use of self-perception of leadership, which may or may not be in agreement with supervisors' or subordinates' observations.

Certain limitations apply to any study using mailed surveys -- that the original intent of the questions is understood and that the designated individual completes the questionnaire.

Assumptions of the Study

An important assumption made was that women managers answered seriously and to the best of their ability the questions posed in the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter focuses on the leadership behaviors utilized by women in higher education management and in non-education management. A review of the literature was conducted in three inter-related areas: (1) leadership theories, (2) leadership behavior of women managers in higher education, and (3) leadership behavior of women managers in non-education positions.

The review on leadership theories was conducted from a developmental and chronological perspective. The development of the traits, behavioral, and situational approach to leadership behavior are examined in an effort to offer a better understanding and appreciation of this very complex social phenomenon.

An examination of the intrinsic and extrinsic barriers to women in management, or those aspiring to management, sets the stage for the second section of the literature review. Major concentration is then given to leadership behavior of women managers employed in higher education and in non-education positions. The current status of these women and the personal, educational and professional characteristics of each group are reviewed. Finally, woman managers in higher education and non-education organizations are viewed in terms of current leadership behavior research and theory.

Leadership Theories

The literature on leadership theory is vast. There are a variety of leadership theories on the selection of administrators for positions at all levels. And yet, leadership itself is a hazy and perplexing phenomenon (Bennis, 1959). This is shown by the number of definitions of "leadership." It is illuminating to look at the way that "leadership" has been defined by those who have worked in this area:

> Leadership is the process of influencing group activities toward goal-setting and goal achievement (Stodgill, 1948, p. 35).
>
> Leadership is the process of influencing thoughts, behaviors and feelings of others in pursuit of common goals (Cummings, 1971, p. 184)
>
> Leadership is the process of influencing the activities of an individual or group in efforts toward goal achievement in a given situation (Hersey and Blanchard, 1982, p. 83).
>
> Leadership is the process or act of influencing (Josefowitz, 1983, p. 199)

Two important threads run through all of these definitions. The first is that leadership is a relationship between people in which influence and power are unevenly distributed on a legitimate basis. Power may be given to the leader by the consent of the group members, by a contractual work agreement, or by law, but it is his or hers to exercise. The second important thread is that there can be no leadership in isolation. Leadership implies that

followers must explicitly consent to their part in this influence relationship.

It is also important to note that these definitions make no mention of any particular type of organization. In any situation in which someone is trying to influence the behavior of another individual or group, leadership is occurring. Thus, everyone attempts leadership at one time or another, "whether his or her activities are centered on business, educational institution, hospital, political organization, or family" (Hersey and Blanchard, 1982, p. 83).

It has always been a problem, when trying to select, place, or train a person for a leadership position, to determine what constitutes a leader (Cox, 1982). There is little conclusive support for any one process of selecting administrators. Any time an individual is attempting to influence the behavior of someone else, that individual is the "potential leader" and the person he or she is attempting to influence is the "potential follower," no matter whether the person is the boss, a colleague, a subordinate, a friend, or a relative (Hersey and Blanchard, 1982, p. 83).

The Traits Approach

For many years, the most common approach to the study of leadership concentrated on certain characteristics that were "essential" for effective leadership. These inherent

personal qualities were felt to be transferable from one situation to another, and only those who had them would be considered potential leaders. This approach seemed to question the value of training individuals who did not have these characteristics for leadership positions. This approach also implied that if we could discover how to isolate, modify and test these personal qualities or traits, then selection of a leader would be a relatively easy process. Instruments were developed to assess those persons who were thought to have the necessary characteristics and those persons were placed in positions of leadership.

This approach, however, did not produce equally effective leaders. Lippitt (1955), Jenkins (1947) and Stodgill (1948) all found that no single trait could be found that would distinguish a leader from any of the followers. Stodgill (1948) sums up the evidence when he states:

> A person does not become a leader by virtue of the possession of some combination of traits, but the pattern of personal characteristics of the leader must bear some relevant relationship to the characteristics, activities and goals of the followers (p. 64).

The flaw in the trait theory is that it views leadership as a one-dimensional process. Leaders do not function in a vacuum, and focusing on individual traits does not show how the individual behaves in a leadership situation.

The Behavioral Approach

The dissatisfaction with the one-dimensional characteristic approach to leadership led behavioral scientists to focus their attention on actual leader behavior, namely, what the leader does and how he or she does it. The foundation for the behavioral approach was the belief that effective leaders utilized a particular style to lead individuals and groups to achieving certain goals, resulting in high productivity and morale. Unlike the trait approach theories, the behavior approach focuses on leader effectiveness, not the emergence of an individual as a leader.

A number of definitions of leadership style were developed from various behavioral theorists. Although many terms were assigned to the different leadership styles, each approach stressed the factor of task orientation and the factor of employee orientation. Therefore, a leader must be concerned about tasks or the relationships of the group. Several major research efforts were directed toward investigating this approach to leadership. One of the most widely known was conducted by Ohio State University investigators. The overall objective of the Ohio State studies was to investigate the determinants of leader behavior and to determine the effects of leadership style on work-group performance and satisfaction (Fleishman, 1957). This investigation resulted in a two-dimensional theory of leadership. Two independent leadership factors referred to as

"Initiating Structure" and "Consideration" were isolated. Initiating Structure refers to the leader's behavior in delineating the relationship between herself and members of the work group, and in endeavoring to establish well-defined patterns of organization, channels of communication and methods of procedure. The second dimension of Consideration refers to "behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and members of his (or her) staff" (Halpin, 1959, p. 4).

The behavior of the leader can be described as any mix of both dimensions and still be effective, depending on the situation. It was during these studies that leader behavior was first plotted on two separate axes, rather than on a simple continuum. Fifteen items pertaining to Consideration and an equal number for Initiating Structure resulted in two separate and distinct dimensions. A high score on one dimension does not necessarily generate a low score on the other.

Two theoretical concepts, one emphasizing task and the other emphasizing the development of personal relationships, have been identified to this point. Blake and Mouton (1964, 1981) popularized these concepts in their Managerial Grid and Academic Administrator Grid. They have used this concept extensively in organization and management development programs. In the Managerial and Academic Administrator Grids, there are five identifiable types of

leadership based on concern for production and concern for people (see Appendix A).

The Situational Approach

The Managerial Grid and Academic Administrator Grid have given popular terminology to five points within the four quadrants of the Ohio State studies. The Grid approach is an attitudinal model that measures the values and feelings of a manager. The Ohio State studies investigate leader behavior and effect on work group performance. Models developed by Paul Hersey and Kenneth H. Blanchard combine these two major areas and suggest that any combination of the dimensions may occur. They, as well as a number of other theorists and practitioners, have realized that no one style of leadership is most effective in all situations. This led to a tri-dimensional leader effectiveness model or the situational approach. Hersey and Blanchard used the four basic styles depicted by the Managerial Grid (Appendix B) to show how the leadership style of an individual is the behavior pattern that a person exhibits when attempting to influence the activities of others. "A person's leadership style involves some combination of either task behavior or relationship behavior" (Hersey and Blanchard, 1982, p. 96).

Hersey and Blanchard (1982) also recognized that the effectiveness of leaders depended on how their leadership style interrelated with the situation in which they

operated. Thus, an effectiveness dimension, first suggested by Reddin (1967), was incorporated into the concepts of leadership style with the situational demand of a specific environment taken into account. When the style of a leader is appropriate to a given situation, it is termed effective; when the style is inappropriate to a given situation, it is termed ineffective. Therefore, environment and interaction of the basic style result in the degree of effectiveness or ineffectiveness. Effectiveness as the third dimension in the tri-dimensional model appears to be an either/or situation, but in reality should be represented as a continuum (see Appendix C).

The three major views of leadership have included an examination of the traits of leaders, the behavior or style used by leaders and managers, and the situations in which leaders find themselves. These three elements of leadership indicate the importance of interaction between the leader and followers who are trying to accomplish some goal. How well that relationship develops will be influenced to some extent by the characteristics or traits of the leader. More important is that the relationship will be affected by the interaction between the leader's personality, the leader's style and the characteristics of the followers. The way in which the leader interacts with his or her followers is specifically called his or her management style (Jenks, 1983).

In reviewing the three different theoretical approaches of leadership -- trait, behavioral, and situational -- it should be noted that there is no universally accepted approach to the study and practice of leadership in organizations. The most current approach uses an integrated model composed of aspects of each of the theories just reviewed. The research on leadership theory continues as attempts are made to be more definite and accurate about selecting, placing and training leaders.

Leadership Behavior of Women in Management

The major thrust of this section of the review of literature is aimed at women administrators in higher education and non-education management positions. The current status of women executives and the personal, educational, and professional characteristics of each group are examined. Today's female administrator in higher education and non-education is viewed in terms of existing leadership behavior, research and theory.

Women in our society are entering the job market at unprecedented rates. They are beginning to move upward in organizations and they have discovered a different world. The farther they move up, the more visible they become to the organization. The more exposed they are, the more they discover themselves in the spotlight (Fenn, 1980). A series of intrinsic and extrinsic barriers to women in administration have begun to show up as women continue to

move into management and up the executive ladder. Females account for 60 percent of the net growth of the labor force in the past ten years. (National Organization for Women, 1981). The reasons for this growth include the changes in our society, such as work becoming more service-oriented, colleges having open enrollment, increases in the cost of living, and changes in role expectation of women. However, close examination of employment trends shows that female entrance into administration has not increased proportionately (Diamond, 1977). Women are still concentrated near the bottom of the occupational ladder in lower-paying jobs when compared to the total numbers in the labor force.

In 1970, 38 percent of women were employed outside the home; in 1980, 42.6 percent were employed, and now hold nearly one-third of the nation's management jobs. However, the wage gap has widened between men and women over the last 25 years. In 1979, the gap had widened so that full-time, year-round women employees were paid 59 cents for every dollar paid to men, compared to approximately 65 cents to the dollar in 1955 (National Organization for Women, 1981). Hennig and Jardim (1977) estimated that some 500,000 people in 1977 earned more than $25,000 annually in the United States, with only 12,500 or 2.3 percent of these women. Yet, it is not only the wage discrepancy that is noticeable; by 1990, slightly more than one out of every two women 16 years of age and over will be in the work-force, with most growth in the 25 to 54 age group (U.S.

Department of Labor, 1982). At the same time, women will comprise a growing number of the consumers of higher education. It is evident that more intervention strategies need to be crafted to increase the number and pay equity of women administrators and managers (Tinsley, Secor, Kaplan, 1984).

The absence of women in management has been considered normal. Both men and women in administrative positions have combined to keep women from pursuing careers in administration or, when they have selected such careers, from advancing in them (Friesen, 1983). While it is not the primary intent of this study to examine the barriers that impede the success of women in administration, a brief look at the research in this area seems appropriate to a better understanding of why women are found in fewer numbers in top executive positions.

Many research studies have concentrated on identifying constraints to women in administration. Shakeshaft (1980) examines research on women in educational administration and Greenwald (1980) reviews literature on women in non-educational management. Each of these literature reviews highlights the intrinsic and extrinsic barriers to women in administration. Intrinsic barriers include: socialization, personality, fear of success, aspiration level, motivation, and self-image. Extrinsic barriers which are found include: sex-role stereotyping, sex discrimination,

inadequate professional preparation, family responsibilities, and structural determinants.

Each of these barriers has been studied and proven or disproven in terms of their original constraints upon women. One in particular, structural determinants, is of particular importance to this study and the implications of women in leadership positions.

Kanter (1977) isolated three variables within the structural determinants of behavior in a corporation. These are "the structure of opportunity, the structure of power, and the proportional distribution of people of different kinds" (p. 245). Kanter and Fassel (1977) observed all-female groups and organizations in order to compare the effects of sex on leadership. They concluded that "structure shaped behavior" (p. 3). In other words, the position one occupies within the organization shapes the leadership behavior exhibited by the occupant of that position.

Rivers (1983) reports that Hennig and Jardim, two pioneers in the comprehensive study of managerial women, believe that it is now time to focus on the environment of the corporation and not on the corporate women to answer the question of why there are so few women in top management. They suggest that senior managers would be shocked to think that they were discriminating against women, but see discrimination in terms of an "established set of patterns in the environment" (p. 137). As women move into middle-management in considerable numbers, resistance to

them (by senior male-dominated management) becomes more subtle and more difficult to combat. Additionally, the "new management style" has a very familiar ring to it. Jardim says,

> the kind of management style now being discussed by Robert Reich in The Next American Frontier, the examples being cited in In Search of Excellence (Peters and Waterman, Jr.) -- that style of management -- is far more a woman's style than a man's" (Rivers 1983, p. 138).

Hennig and Jardim believe that careful, long-term studies would unearth differences.

The previously mentioned barriers to achievement appear to be realistic, as well as very probable. In most of the instances, the issue is still unresolved, but the fact remains that women are underrepresented in the administration of our institutions of higher education and most facets of non-education industries.

Leadership Behavior of Women in Higher Education Management

Higher education administration can be both challenging and rewarding, and yet it is an area where bright, capable women continue to be underemployed (Delworth and Jones, 1979). Sandler (1979) found that women college presidents constituted only 6.8 percent of all college presidents in the United States. In 1984, approximately 9 percent of all college presidents were women (Women in Education, p. 13). While this record of progress is important, at this rate, by the year 2000, only 16 percent of

the total colleges will have women presidents ("Looking for Leadership," 1984). Brady (1983) points out that according to a current survey by the American Council on Education, "the number of women college and university presidents has almost doubled since 1975." Although women presidents still number only 254, or approximately nine percent of the total number of male and female Chief Executive Officers, they now oversee not only women's colleges, but every kind of institution of higher learning.

Sandler (1979) confirmed that presidencies are not the only top-level administrative positions in higher education held in such disproportionate numbers by males. In most colleges and universities, the top four administrative positions -- president, provost, chief fiscal officer, and dean -- are held by men. Even in student services, where women have made the most gains, "we are still represented in fairly small numbers in the administrative ranks" (Delworth and Jones, 1979, p. 1). A recent study by Moore (1983) of 4,000 top administrators indicates that 8.8 percent of the presidents, 13.6 percent of the provosts, and 13.6 percent of the deans were women.

Van Alstyne and Withers (1977) found that 52 percent of the identified 18,000 women administrators held positions at women's colleges, and Gardner's study (1977) found 97 percent of the community college administrators in North Carolina were male and 100 percent of the presidents were male. Ten years ago, Noll (1973) found that no two-year

public colleges on the national level had a female president. While Fisher-Thompson and Hall (1981) report that 16 percent of higher education administrators are women, it has been a slow and uphill challenge.

Besides having lower management status, women administrators also received lower salaries than their male colleagues. Rubin (1984) reports data indicating that women administrators' salaries are lower than male administrators' salaries. Women chief executive officers receive an average of $10,000 less than men. A woman Director of Student Financial Aid, Director of Admissions, or Director of Human Resources may find $6,000 - $9,000 irregularity in salary. In addition to the lower salaries, "women who have `made it' say the battle for acceptance in the male-dominated academic structure is far from over" (Perry, 1983, p. 30). Lower salaries are one indignity that can undermine productivity, commitment, and ambition (Schwartz, 1983).

Conditions in colleges and universities may jeopardize recent gains for women. Traditionally, faculty women have provided a pool from which to draw administrators. Stringer (1977) reports this pool is shrinking; in 1975-76 faculty women composed 21.7 percent of college faculties, down from a high of 27 percent in 1930 and 1940. This is due to many reasons, including the current financial conditions and problems of declining enrollment faced by colleges and universities. Institutions of higher education are not

hiring new administrators as rapidly as they did during the 1960's and 1970's, and mobility across institutions has been reduced. Scott (1979) suggests that for women, only a few highly technical types of positions show evidence of growth in size and importance. Delworth and Jones (1979) say it is the same women who appear to be moving either within the same institution or to another college or university in a "musical chairs" pattern. In current conditions, it is difficult for colleges and universities to make up for past inadequate representation of women in administrative staffs, simply because openings are not available to hire new people or to advance women to higher positions.

Curby (1979) concluded that women administrators who demonstrate a propensity toward geographic mobility are generally willing to make geographic changes to accept jobs for economic reasons, such as higher salary, as well as for opportunities for upward professional mobility. The conditions that are generally essential or important enough to justify a change in location for women administrators are "job-related rather than based on personal or social preferences" (p. 23). If positions were available, there are individuals who would move to fill those positions. Brady (1983) profiles highly qualified women who did take the challenge of moving into the president's position for professional upward mobility.

Lester and Chu (1980) found that women administrators in higher education are not necessarily less feminine than other women; rather, they seem to have incorporated additional "masculine" traits, such as self-reliance, achievement, motivation, and assertiveness into their pattern of behavior in order to succeed in their non-traditional roles. Women administrators do differ from women teachers and students in that they scored higher on masculinity, self-concept, socially desirable traits, and some dimensions of achievement motivation, such as work and mastery, but not on other dimensions, such as competitiveness and personal unconcern.

Women have been criticized for not aspiring to administrative positions or higher levels of administration. Nadeau (1977) found that many women administrators who are promoted have, for the most part, been chosen rather than applied for their position. Brady (1983) confirms this finding in her profiles of five women college presidents. Nadeau (1977), as well as Cochran (1978b), found that fewer than one-third of their samples of women administrators wanted any job other than their present position. One possible explanation proposed by Stein and Bailey (1973) suggests that women do not have a lower need for achievement than men, but have redirected their achievement drives in more socially acceptable ways. This is supported by Horner (1972) when discussing the fear of success that women have and how they resolve achievement-related

conflicts. Miner (1974) studied both female and male business managers and educational administrators, and determined motivation is related to managerial success among females.

The educational preparation of women administrators is improving as the number of women entering graduate schools increases and as the number of degree completions increases. Women in a study conducted by Jean Stokes (Perry, 1983, p. 27) were asked to name those areas in which they still needed more training. Their responses were similar to those given by male administrators. These included the budget process, current legal issues, problem solving, conflict resolution, computer use, and grantsmanship. So it does appear that some women are not obtaining the necessary skills and information they feel they need to enter educational administration.

Still, while female graduate students are increasing, their most appropriate role models in schools of education are not increasing in administration. Mattes (1973) found that 95 percent of deans, 93 percent of assistant deans, and 96 percent of department heads are men. In schools of educational administration where women learn to become practitioners, only two percent of the faculty are women (Clement et al., 1977).

Several studies have investigated the professional characteristics of women administrators in higher education. Reeves (1975) investigated job satisfaction and

found that women administrators with Master's degrees had a higher satisfaction rate than those women with Bachelor's degrees. Those who also considered themselves upwardly mobile and had selected administration as a career expressed greater satisfaction. Cochran (1978a) found a high degree of job satisfaction with 87 percent viewing their employers and colleagues as supportive. Their strongest asset was reported to be in relating well to people and their greatest reward was self-fulfillment in their position. The number of women in higher education administration may be small, but those in the field perceive their status as positive and express overall satisfaction with themselves.

One study that examines the leadership styles of females in higher education (Schlack, 1979) compares upper- and middle-management student personnel administrators for differences. There were no significant differences between management levels. However, women who were the oldest female in the family or first-born child did score higher on the structure dimension.

Women in Non-education Management

Women executives in U.S. companies have made some significant career gains in recent years, but their levels of compensation and responsibility still do not approach those of most of their male counterparts (Allen, 1980). Josefowitz (1980) reports that women represent only six

percent of middle-management positions and one percent of upper-management. The traditional jobs for females in business has been in the area of clerical and secretarial support. "The typing pool has traditionally been the female ghetto in business and industry" (Shakeshaft, 1979, p. 36). The literature on women in management mushroomed during the late 1970's and early 1980's. And the various numbers and percentages of women in middle- and top-level positions varies with each new survey.

Newsweek (September 14, 1981) reports that women now occupy one-fourth of the managerial and administrative jobs in private industry. There are 477 women executive officers in the largest 1300 companies within the United States, with over 300 of them as directors. The proportion of women officers who have reached this level of vice-president or above continues to increase. Allen (1980) reports that in 1980, there were 28 percent of women executive officers compared with 25.5 percent in 1970 and 25.2 percent in 1967. A recent newspaper article ("Women Gain in Male Jobs," 1984) shows that there has been a significant growth of representation of women in some areas. In 1970, there were 6.1 percent women judges; in 1980, there were 17.1 percent. The largest growth appears to be in public administration. In 1970, there were no chief executive officers in public service, while in 1980 there were 25.6 percent women in top executive positions.

Female executives may be increasing in number, but their salary is still behind that of their male counterpart. As reported in Newsweek (September 14, 1981), women earn approximately $9,334 less than men as entry-level M.B.A. graduates. According to the Columbia Business School's Center for Research in Career Development, this discrepancy may be attributed to their organizational positions, which tend to lack the same profit-and-loss responsibility when compared to male counterparts. Savvy (December, 1983) also says, "Women MBA's are often paid less than men, with the same degree at precisely the same level" (p. 41).

A study of women officers employed by the nation's 1,000 largest industrial companies and 50 leading financial and retailing concerns shows that the typical female business executive earns less than $50,000 a year in cash compensation (Scott, 1978). However, her salary in the corporate structure does appear to be greater than those salaries earned by female administrators in higher education. Company presidents average $111,000 a year in base salary and $40,000 more in incentives. This is more than four times as much as many college and university presidents earn. Mid-level corporate managers probably earn between two and five times as much as mid-level collegiate administrators. Mid-level women administrators earn between $13,000 and $40,000 (Scott, 1978).

Salaries for college and university presidents have increased some since that time, but, according to the College and University Personnel Association's 1982-1983 Administrative Compensation Survey, the median salary for men in positions of leadership at the various levels is still higher than for women (Working Woman, January, 1984).

The personal characteristics of women managers have been of great interest to the researcher. An extensive study of women executives in business organizations found them to be either an only child or the eldest of two or three girls who had developed early supportive relationships with their fathers. All had chosen a career over early marriage, with almost half marrying between the ages of 35 and 40 years of age. They all believed they were aided in their jobs by a father-daughter relationship with their bosses and identified with other women as the norm. Additionally, all had either stayed with the same company or made a move within the first two years and then stayed with that company. A typical response summarizes the findings:

> It was my decision then and there to stick to the company and my boss because I'd never have any better place to prove whether I had it or not. I decided that if I stayed in one place, I'd be able to learn this company -- its business and its bosses -- inside and out and this would be very important for me to master if I was going to have time to really excel at my work and get the kind of support I needed from my bosses (Hennig and Jardim, 1977, p. 124).

Morrison and Seband (1974) compared 39 pairs of women, matched on age, years of employment and type of organization. They found executive women are significantly higher in the self-esteem component of need for achievement, need for power and mental ability when compared with non-executive women. This adds to Hennig and Jardim's (1977) information on the difference in women executives. They suggest that there are differences between the patterns of managerial women. These patterns include questions asked and decisions that have been made regarding achievement, taking risks, taking the initiative, dealing with the unknown and dealing with criticism.

Horner (1972) points out that the qualities associated with top-level administrators and executives are sometimes thought to be associated with masculinity, and, therefore, inconsistent with femininity. These qualities include: competition, independence, competence, intellectual achievement, and leadership. Woods (1975) interviewed nearly 100 women in various levels of management. The ten common characteristics reported that were important to their management success were: competence, education, realism, aggressiveness, self-confidence, career mindedness, femininity, strategy, support of an influential male, and uniqueness. These characteristics and qualities all add to the picture that Bennis (1980) developed in a study of 1,800 successful women managers that profiled the effective female manager as a social initiator, anticipator of

problems and solutions, and builder of alliances and networks.

"Regardless of how effective female business executives may be, this professional characteristic is many times ignored because of her sex" (Cox, 1982, p. 49). Studies by Day and Stodgill (1972) and Garland and Price (1977) confirm that a bias against women in management may not only operate against a female at the beginning of her career, in the absence of clear performance data, but also when she is well into her career and may have established a superior performance record.

It just may be when the individual continues to perform excellently in her position that a decision is made to maintain the middle-management path and branch out in other areas. The thought is summed up by one middle-manager who stated,

> "... time had crept up on me and I worried about things like not being able to have children much longer. Life wasn't exciting at work and life outside of work was virtually non-existent" (Hennig and Jardim, 1977).

This does indicate that women may or may not consciously slow their pace to reach the upper-executive levels based on their overall goals. However, sex difference is not the barrier to advancement. Zeitz (Working Woman, September, 1983) indicates that management women are not very different from management men in training, tenacity or ambition; but they are paid less which may affect behavior.

> "The women who make it past entry-level to middle-management are similar in psycological and behavioral characteristics to their male counterparts; they won't hold themselves back" (p. 136).

Zeitz also believes that as increased numbers of women enter the management ladder, prejudice will appear less and cultural barriers will be broken down to allow those who want to push for top management jobs the opportunity to do so. She sums this up by stating,

> the resistance that sets in as women enter higher levels of management in greater numbers will give way eventually, as that fresh pool of talent proves itself -- and is present in large enough numbers to constitute a critical mass (p. 136).

Summary

There is no universally accepted approach to the practice of leadership which involves a relationship between the leader, the followers, and the situation. A particular style tends to fluctuate between the dimensions of task and relationship orientation.

> On all sides there is a continual search for persons who have the necessary ability to lead effectively. This shortage of effective leadership is not confined to business, but is evident in the lack of able administrators in government, education, foundations, churches, and every other form of organization (Hersey and Blanchard, 1982, p. 82).

An increasing number of women enter the labor force, enter graduate school and learn to overcome the barriers. Some will enter the administrative arena, in higher education or non-education management. Training in the skills and behaviors of leadership can aid the young women aspiring to

be leaders. Cronin and Pancrazio (1979) suggest women learn the skills associated with teamwork, coalition building and open communication for effective humanitarian leadership. Knudson (1982) suggests that women today should be assertive and develop the skill cluster associated with effective managerial style.

Much of the literature on effective leadership compares men and women, their salaries and styles. This literature review found only two major studies that compared women in administration in higher education and non-education management. Benedetti (1975) investigated these women administrators to determine if there were similarities or differences in their leadership style. Cox (1982) compared leadership styles and personal characteristics of middle- and upper-level women administrators in higher education and corporate business. Both found that occupational background and level of management significantly affected leadership style. Each used the Leadership Opinion Questionnaire that measured Consideration (concern for people) and Initiation of Structure (concern for production), but does not add the dimension of effectiveness.

This study will provide additional information to determine if there is a difference in self-perceived leadership style, leadership range and effectiveness of women in management positions in higher education and non-education.

CHAPTER III

METHODOLOGY

This study examined the differences in self-perceived leadership style, leadership range and effectiveness of women in management positions in higher education and non-education organizations. This chapter describes the population, the sample of the study, the research instruments, the method and collection of data and the statistical treatment of the data.

Population

The population consisted of women in higher education administration and women in non-education management employed in the state of Oregon.

Women in higher education management were selected from a current list of the Oregon Identification Program for the Advancement of Women in Higher Education. The list identified women administrators in varied post-secondary institutions. These included public, private, two-year and four-year colleges and universities. The decision to include the total college and university population was based upon the fact that organizational leadership within the various institutions is similar. Wolotkiewicz (1980) explains:

> Collegial administrative structures may range from rather simple organizations to ones that are part of the complexity of an organization, similarities

> may be found in many of the relationships, duties, and functions expected of and assumed by deans and other administrative personnel within a collegial organization (p. 15).

The list of women in higher education identified 437 individuals considered to be in administrative positions in Oregon. After eliminating known individuals in extension services or those who had moved or changed positions, 370 professionals within the population parameter were identified. These represented 13 community colleges, 8 public institutions and 14 private institutions, for a total of 35 colleges or universities.

Women in non-education management were chosen from the current lists of selected management organizations. These were: The Administrative Management Society, American Society for Personnel Administration, and Professional Management Institute. Since there is no central organization of women in non-education management in Oregon, names listed by these organizations also included male peers. Obvious male names were eliminated from the population. Every effort to include women from various parts of the state was made. Since the members of The Administrative Management Society and Professional Management Institute were all from Oregon, this task was relatively simple. Who's Who in Northwest Personnel is the northwest publication of members of the American Society for Personnel Administration. Each Chapter within the various northwest states, along with names and addresses of Chapter officers,

is listed. This resource again provided names that could be utilized. A total of 370 professionals were identified from over 50 organizations for this study. These represented major geographic areas and both public and private industry, as well as city, county and state government in Oregon.

Sample

A systematic selection of the population was chosen from the list of women in higher education management and the list of women in non-education management. Best (1970) indicates that if a population has been accurately listed, a type of systematic selection will provide what approximates a random sample. The initial name in each list was randomly selected, and every second name became part of the sample.

The sampling procedure was selected for several reasons. First of all, systematically selecting approximately one-half of the population would ensure a high degree of variability among the managers while making it possible to draw conclusions about the characteristics that they may have in common. Secondly, this size of sample gave the opportunity to have many geographic areas and different organizations represented. It is important to note that a good sample is not necessarily an identical representation of the population. Successive samples drawn from the same population will differ, but it is possible to estimate

their variations from the population and from each other (Best, 1970). Half the population, or 185 in each group, were selected to eliminate these variations as much as possible.

Research Instruments

Two surveys were mailed to each participant: the Leadership Effectiveness and Adaptability Description (LEAD-Self) developed by Hersey and Blanchard (1973) (Appendix D) and the Demographic Questionnaire developed by the investigator (Appendix E).

LEAD-Self

The LEAD-Self was developed by Paul Hersey and Kenneth H. Blanchard at the Center for Leadership Studies to determine how the leader perceives his or her own behavior. An analysis of various leadership surveys indicated that this was the only survey that was expressly designed to measure self-perception of leadership behaviors. This may be very different from leadership behavior as perceived by others. Hersey and Blanchard (1982) state:

> The leadership style of an individual is the behavior pattern that person exhibits when attempting to influence the activities of others -- as perceived by those others. This may be very different from the leader's perception of his or her own behavior, which we will define as self-perception rather than style (p. 233).

The LEAD-Self measures self-perception of how an individual behaves as a leader.

Another factor for selecting the LEAD-Self is that it measures specified aspects of leader behavior in terms of the Situational Leadership Theoretical model. This model is based upon the interaction of task behavior and relationship behavior with the maturity level of the follower for each specific job objective. Leaders may adapt their style of behavior to enhance effectiveness as situations and environments change.

Task behavior and relationship behavior represent two aspects of leader behavior. Task behavior is the extent to which a leader employs one-way communication to promote task attainment by followers. Relationship behavior is the extent to which a leader engages in two-way communication by providing socioemotional support and facilitating behaviors to achieve task completion.

Self-perception of (1) style, (2) style range, and (3) style adaptability are measured by the LEAD-Self. There are twelve leadership situations in which respondents were asked to select from four alternative actions. Each alternate response represents the style they felt would most closely describe their own behavior in that type of situation.

As stated before, task behavior and relationship behavior are used to describe the participant as having a dominant leadership style based on her degree of orientation toward accomplishing the task or maintaining personal relationships. Four maturity states and the corresponding basic

style of leader behavior for maximum effectiveness are presented below:

MATURITY STATE		STYLE OF LEADER	
M1	Followers are not willing and not able to take responsibility (low on both psychological and job maturity)	S1	High task, low relationship: telling
M2	Followers are willing but not able to take responsiability (high psychological but low job maturity	S2	High task, high relationship: selling
M3	Followers are able but not willing to take responsiability (high job maturity but low psychological maturity)	S3	High relationship, low task: participating
M4	Followers are willing and able to take responsibility (high on both psychological and job maturity)	S4	Low relationship, low task: delegating

Appendix B provides a graphic illustration of the Basic Leader Behavior Styles.

In addition to the dimensions of task and relationship behavior, an effectiveness dimension integrates the concepts of leader style with situational demands of a specific environment. When the style of the leader is appropriate to a given situation, it is termed effective; when the style is inappropriate to a given situation, it is termed ineffective. This added dimension is called effectiveness because in most organizational settings various criteria are used to measure the degree of effectiveness as a manager or a leader. It is important to remember that

this third dimension is the environment in which the leader is operating (Hersey and Blanchard, 1982, p. 97). Appendix C illustrates the Tri-dimensional leadership model for scoring the LEAD-Self.

Standardization Procedures and Normative Information

Greene (1980) developed a manual for researchers that presents technical information about the characteristics of the LEAD-Self scale. The LEAD-Self yields four ipsative style scores and one normative adaptability (effectiveness) score. A score is defined as ipsative if the sum of scores across the measured attributes for each respondent is constant.

> Each score for an individual is dependent upon the individual's score on other variables and may be independent of scores of other individuals in the population. Normative scores are independent of other scores of the individual, and statistically dependent on the scores of other individuals in the population. Ipsative measures are designed for intra-individual comparisons, while normative measures provide for inter-individual comparisons (Greene, 1980, p. 8).

Standardization procedures, item derivation and selection, estimates of reliability, logical validity, empirical validity, types of scores and normative information are also given.

The LEAD-Self provides three types of scores for each style and adaptability measure: raw score, percentile ranks, and normal curve equivalent. Raw scores are computed by simply summing the response values across the

items and may be used to create local or company norms. In this study, raw scores provide normative data for women managers in Oregon. Moreover, the raw scores for adaptability may be used to reflect changes in self-perceived leadership style across time and to reflect differences in self-perceived leadership between groups in measurable terms. For example, adaptability scores in this study are compared between women in higher education management and non-education management positions to reflect measurable differences in adaptability.

Percentile scores represent the percentage of managers below a specific raw score based on the standardization sample. Thus, the relative position of an individual manager's responses with respect to the standardization sample is revealed. These scores may also be used to interpret group responses in relation to the standardization reference group by using a group average. As an example, the total raw score of 13 attained on adaptability corresponds to the 73 percentile. Therefore, 73 percent of managers in the standardization had an adaptability score of 13 or less (Greene, 1980, p. 32).

The normal curve equivalent (NCE) scores are deviation standard scores derived from the cumulative frequency distribution of raw scores. The NCE may be used to interpret manager responses in relation to the standardization reference group. In addition, the NCE scores have the added property of normality. This allows researchers to apply

parametric statistics for analysis purposes. According to Best (1970), parametric tests are the most powerful type of tests and should be used if their basic assumptions can be met (p. 266). The reason parametric tests are so powerful include: (1) the observations are independent of each other, (2) population values are normally distributed, (3) population values have equal variances, and (4) variables measured are expressed in interval or ratio scales. This means it is possible to apply mathematical processes of addition and division in order to compute the mean.

Item Derivation and Item Selection

The original pool of items was derived from structured interviews and discussions with managers and expert managerial consultants. These were conducted by two organizational development experts. The interviews and discussions generated 48 possible items. The 48-item pool was then analyzed by a committee consisting of professors, experts, trainers of management and organizational behavior, as well as managers and practitioners. Items were eliminated or revised based upon the content and the extent to which the item represented the corresponding aspect of the Situational Leadership Model. The final result was a 12-item instrument that crossed the four maturity states.

Reliability

The reliability of a test is the extent that it measures accurately and consistently, from one time to another. Reliability is commonly expressed as a correlation coefficient. For scales such as the LEAD-Self, the stability of the scale across a time interval represents the most important aspect of reliability. The stability of the LEAD-Self is moderately strong. In two administrations across a six-week interval, 75 percent of the managers maintained their dominant style and 71 percent maintained their alternate style. Hersey and Blanchard (1982) indicate that the LEAD-Self remains relatively stable across time, and the user may rely on the results as consistent measures (p. 105).

Validity

The validity of an instrument indicates the extent to which the results are accurate. Greene (1980) suggests that "several types of validity have been considered in the literature, but validity may best be analyzed by considering two distinct classification categories: logical and empirical" (p. 17). Briefly, logical validity means that the test actually measures or is specifically related to the trait(s) for which it was designed. Logical validity includes face and content validity. Empirical validity incorporates the domains of construct and criterion related

validity. Empirical validity is concerned with the usefulness of a test in predicting successful performance, or how well it enables us to forecast performance within the specified sphere of behavior. Overall the validity of a test is its forecasting proficiency in connection with any measurable aspect.

The logical validity was established by directly reviewing the items. The face validity of the LEAD-Self is best established by directly reviewing the items. In each item the description accurately depicts one of four maturity states and requires the respondent to select the alternative action which most closely describes her behavior. The action is then analyzed and scored with respect to the self-perceived style type and effectiveness. The content validity of the LEAD-Self comes from the procedure which was employed to create the original pool of items. Structured interviews and discussions with expert managerial consultants provided item content and extent to which the item fit into the Situational Leadership Model.

Items and adaptability scores were both analyzed. The item set met necessary conditions for a sound instrument. The twelve-item validities for the adaptability ranged from .11 to .52, and ten of the twelve coefficients (83 percent) were .25 or higher. Eleven coefficients were significant beyond the .01 level and one was significant at the .05 level (Greene, 1980, p. 13). In view of the item analysis

results, the twelve situations met necessary conditions for a sound instrument.

Demographic Questionnaire

The Demographic Questionnaire was developed specifically to be used in this study. It was designed to obtain information in the areas of educational and professional characteristics, job responsibilities, mobility and personal opinions and characteristics. Comparisons of these characteristics are made within this study, as well as with other appropriate studies.

Initial Draft of the Instrument

The Demographic Questionnaire was based, in part, on items suggested by similar questionnaires. Cox (1982) compared leadership styles and personal characteristics of women administrators in higher education and corporate business. Many of the same items were used and additional items on mobility and personal characteristics were added after analyses of other biographical questionnaires. Questions were evaluated by several persons, including the doctoral committee members, peers, and managers not part of the sample. This pretesting was designed to have any defects or inadequacies changed before going out to respondents. Hoinville and Jowell (1978) suggest using five to ten interviews to reveal wording and layout problems (p. 51). Dillman (1978) points out that pretesting to

identify construction defects is especially important for mail questionnaires, because there are no interviewers to report defects and inadequacies to the researcher conducting the study. The Survey Research Center at Oregon State University was also consulted for questionnaire format. As a result of these evaluations, some items were reconstructed and several were eliminated. The procedures used to pretest the questionnaire were designed after Dillman's (1978) Total Design Method for mail and telephone surveys.

Collection of Data

Each subject in the sample was sent a cover letter (Appendix F) outlining the purpose of the study, the Demographic Questionnaire (Appendix E), the Leader Effectiveness and Adaptability Description (Appendix D), and a postage paid, addressed envelope (Survey Research Center). All participants were guaranteed confidentiality. A post card sent one week later (Appendix G) thanked those who had already returned questionnaires and reminded those who had not returned questionnaires that their participation was very important. A follow-up mailing consisting of another complete set of questionnaires, an envelope and a second cover letter (Appendix H) with a personal note was sent to all nonrespondents six weeks after the initial mailing. This approximates Dillman's (1978) Total Design Method. The final step of sending instruments and postage paid

envelope by registered mail was not taken due to high costs.

The total number of subjects responding were divided into the two separate categories of women in higher education management and women in non-education management. The procedure for calculating response rate outlined by the Total Design Method is:

$$\text{Response rate} = \frac{\text{number returned}}{\text{number in sample} - (\text{noneligible} + \text{nonreachable})} \times 100$$

The Total Design Method response rate averages 77 percent for those who follow it in complete detail, and 71 percent for those who use it in part. This survey used the method in part and obtained two different averages for each section of the sample. It must be noted that a 50 percent response rate was a level once considered quite acceptable for mail surveys (Dillman, 1978, p. 21). The response rates for each section and total were:

Women in Higher Education Management

$$\text{Response rate} = \frac{127}{185 - 16} \times 100 = 75.1 \text{ percent}$$

Women in Non-Education Management

$$\text{Response rate} = \frac{90}{184 - 41} \times 100 = 62.5 \text{ percent}$$

Total Sample: Women in Management

$$\text{Response rate} = \frac{217}{370 - 57} \times 100 = 69.3 \text{ percent}$$

The sample size was 370 subjects, 185 in each section of management. Of these, 16 in the higher education section were noneligible or nonreachable and 41 in the non-education section were noneligible or nonreachable, for a total of 57 disqualified from the original sample. Percentages were rounded off to the nearest whole number. A total of 69 percent of the sample was used.

Statistical Treatment of the Data

The analyses of data and testing of the research hypotheses involved the use of analysis of variance, chi-square, Pearson Product-Moment correlation and Tukey Multiple Test of Comparison. The .05 confidence limit determined the level of significance for the analyses.

Descriptive statistical analyses were used to describe the nature of the sample and develop a profile of women managers in Oregon. These included use of the mean, standard deviation, percentile rank and range.

Analysis of Variance

The analysis of variance (ANOVA) was used to determine whether the sample of women in higher education management differed from the sample of women in non-education

management. The testing of the hypotheses required a comparison of self-perceived leadership behaviors as measured by the LEAD-Self on style, style range, and style adaptability. The additional variables gathered by the Demographic Questionnaire were also analyzed using ANOVA. These included level of management, years of experience, highest degree received, types of training and size of organization.

Tukey Multiple Test of Comparison

The analysis of variance determined if differences between the means of the two sections of the sample existed. If the ANOVA revealed a significant difference, the Tukey Multiple Test of Comparison was administered. This test helped determine explained variance and make inferential statements about population relationships.

Pearson Product-Moment Correlation

The Pearson Product-Moment Correlation is a technique used for determining the degree of linear relationship which exists between two measures. Correlations were conducted on the two groups to analyze the relationship with: years of experience, years in present position, numbers of children in each age range, and style and adaptability scores.

Chi-square

Chi-square (X^2) applies only to discrete data, not to continuous variables. Chi-square analyses were conducted to examine the discrete data collected by the Demographic Survey.

Descriptive Data Analysis

Descriptive statistical analysis concerns numerical description of one particular group. The mean of a distribution is commonly understood as the arithmetic average of the data distribution. The standard deviation illustrates the variation from the mean. The percentile rank describes a score in relation to the position of other scores, and the range is the difference between the highest score and lowest score in a sample.

Descriptive statistics provided valuable information about the nature of the sample and was used to develop a profile of the woman manager in Oregon.

CHAPTER IV

RESULTS

This chapter discusses the results of the data collection and statistical analyses of the study. The first section discusses the results of the eight research hypotheses with respect to the three dimensions of self-perceived leadership style, style range, and style adaptability between women in higher education management and non-education management. Cross-tabulations with independent variables collected using the Demographic Questionnaire provided additional information and were compared with the normed sample. The .05 confidence limit determined the level of significance for all data analyses.

The second section presents a profile of the women manager in higher education and non-education positions in Oregon.

Hypotheses

Ho 1. There will be no differences in self-perceived leadership style of women in higher education management and women in non-education management.

The Leadership Effectiveness and Adaptability Description (LEAD-Self) was used to gather data concerning the self-perceived leadership styles of women in higher education management and non-education management. Perception

of leadership style was determined by the frequency the alternative action was selected. The alternative action choices for each situation are not distributed alphabetically, but according to what style quadrant a particular action represents. Table 4.1 (Greene, 1980, p. 28) shows which alternatives fall in each style quadrant.

TABLE 4.1

Scoring Matrix for Style Scores

Situation	Style 1	Style 2	Style 3	Style 4
1	A	C	B	D
2	D	A	C	B
3	C	A	D	B
4	B	D	A	C
5	C	B	D	A
6	B	D	A	C
7	A	C	B	D
8	C	B	D	A
9	C	B	D	A
10	B	D	A	C
11	A	C	B	D
12	C	A	D	B
--	-	-	-	-
Totals	( )	( )	( )	( )

Appendix J shows the frequency distribution of the sample. From this frequency distribution, the mean, standard deviation, and standard error were computed for each group. A one-way analysis of variance was computed between groups comparing style scores. Table 4.2, page 58, summarizes the style comparisons.

TABLE 4.2

Statistics for Style and Adaptability Scores*

Score	No. of Cases	Mean	Standard Deviation	Standard Error	F Ratio	F Prob
Style 1	217	1.3440	1.0844	.0734		
Grp 1	127	1.256	1.0757	.0951	>1.626	.2037
Grp 2	90	1.4556	1.0930	.1152		
Style 2	217	5.4862	2.1407	.1450		
Grp 1	127	5.6406	2.1175	.1872	>1.617	.2049
Grp 2	90	5.2667	2.1661	.2283		
Style 3	217	3.8853	1.8443	.1249		
Grp 1	127	3.9297	1.8328	.1620	> .179	.6729
Grp 2	90	3.8222	1.8698	.1971		
Style 4	217	.7294	1.0092	.0684		
Grp 1	127	.6016	.9165	.0810	>5.064	.0254**
Grp 2	90	.9111	1.1081	.1168		
Adapt-ability	217	11.1594	4.0684	.2828		
Grp 1	127	11.0984	3.9110	.3541	> .067	.7966
Grp 2	90	11.2471	4.3064	.4671		

*P < .05
**Signifcant difference
Grp 1 = Women in Higher Education Management
Grp 2 = Women in Non-Education Management

There were no significant differences in the F Probability of Style 1 (high task, low relationship), Style 2 (high task, high relationship), and Style 3 (high relationship, low task). Therefore the null hypothesis is retained for these three styles. There was a significant difference

in the F Probability of Style 4 (low relationship, low task). Therefore the null hypothesis is rejected for Style 4.

The Tukey-HSD procedure was used to compare the means of Group 1 (.6016) and Group 2 (.9111) with the tabular values. Results indicated that both Group 1 and Group 2 were homogenous subsets. Group 2, women in non-higher education management, had a higher mean score in Style 4.

Ho 2. There will be no differences in style range of women in higher education management and women in non-education management.

Style range was determined by using the four self-perceived leadership style scores. Style range or flexibility was the extent to which the individual manager could vary her self-perceived style of leadership in different situations. The style range of each group was shown by the minimum and maximum scores for each style.

Table 4.3, page 60, illustrates the style range for each group.

In all four styles, the mean for each group fell within the 95 percent confidence interval. This indicates that there was no difference in style range between groups. Therefore, the null hypothesis is retained.

Ho 3. There will be no differences in self-perceived style adaptability of women in higher education management and women in non-education management.

TABLE 4.3

Style Range

Score	Mean	Min	Max	95% Conf Int for Mean
Style 1				
Grp 1	1.2656	0	5	1.0775 to 1.4538
Grp 2	1.4556	0	5	1.2266 to 1.6845
Style 2				
Grp 1	5.6406	0	10	5.2703 to 6.0110
Grp 2	5.2667	0	10	4.8130 to 5.7204
Style 3				
Grp 1	3.9297	0	9	3.6092 to 4.2502
Grp 2	3.8222	0	8	3.4306 to 4.2138
Style 4				
Grp 1	.6016	0	4	.4413 to .7319
Grp 2	.9111	0	4	.6790 to 1.1432

Leadership style adaptability is the degree to which managers are able to vary their style appropriately to the demands of a given situation according to Situational Leadership. The Adaptability score generated by the LEAD-Self may be obtained by calculating the total numerical score. The alternatives offered are weighted +2, +1, -1, or -2, based on probability of success. Appendix K graphically demonstrates the scoring for adaptability scores.

Adaptability scores were compared between groups. The mean, standard deviation, and standard error were calculated. A one-way analysis of variance was computed between

groups comparing adaptability scores. Table 4.2, page 58, summarizes the comparison.

There was no significant difference between leadership adaptability scores of women in higher education management and women in non-education management. Therefore, the null hypothesis is retained.

Ho 4. There will be no differences by management level in self-perceived leadership style of women in higher education management and non-education management.

Respondents were asked to indicate which management level they considered their present job level to be. There were three possible levels: upper, middle or entry level. Analysis of variance was used to determine if significant differences existed between categories. Table 4.4, page 62, summarizes the style comparisons between groups by management level. Appendix L shows the complete computer print out for the four Styles by management level.

No significant differences were noted between groups by management level. Therefore, the null hypothesis is retained.

Ho 5. There will be no differences by management level in self-perceived leadership style adaptability of women in higher education management and non-education management.

A two-way analysis of variance was computed to determine if there was a significant difference in leadership

style adaptability by reported management level. Table 4.4 summarizes the results. No significant difference was noted. Therefore, the null hypothesis is retained.

TABLE 4.4

Style and Adaptability Scores*
by Management Level

Score	No. of Cases	Mean	F Ratio	F Prob
Style 1	217	1.3502		
Grp 1	45	1.3502		
Grp 2	137	1.3942	.931	.3959
Grp 3	35	1.4286		
Style 2	217	5.4839		
Grp 1	45	5.6889		
Grp 2	137	5.4891	.510	.6013
Grp 3	35	5.2000		
Style 3	217	3.8756		
Grp 1	45	4.0222		
Grp 2	137	3.7153	1.662	.1922
Grp 3	35	4.3143		
Style 4	217	.7327		
Grp 1	45	.6000		
Grp 2	137	.7810	.548	.5787
Grp 3	35	.7143		
Adapt-ability	217	11.1408		
Grp 1	45	11.1628		
Grp 2	137	11.3566	.917	.4013
Grp 3	35	10.2941		

*P < .05
Grp 1 = Upper Level Management
Grp 2 = Middle Level Management
Grp 3 = Entry Level Management

Ho 6. There will be no differences by demographic data in self-perceived leadership style between women in higher education management and non-education management.

Subjects were asked to complete the Demographic Questionnaire. Analysis of variance compared leadership style scores to size of organization, salary, highest degree completed, and types of leadership training. Table 4.5 summarizes the F values for style scores

TABLE 4.5

F Values for Style and Adaptability Scores

Source	Size of Organ.	Salary	Highest Degree	Types of Leader Training		
				On Job	Wkshp	Form Prog
Style 1	.577	.725	.510	.087	.852	.951
Style 2	.328	1.577	.763	.007*	.535	2.120
Style 3	.281	.830	1.332	1.878	.329	.169
Style 4	1.370	1.003	.586	.194	1.099	.045*
Adapt-ability	.271	.656	1.052	.887	1.409	1.55

*P < .05

The data analysis indicated no significant differences between style and size of organization, salary, highest degree or workshop leadership training. Therefore, the null hypothesis is retained for these demographic variables.

There was a significant difference between Style 2 and on-the-job leadership training; and a significant difference between Style 4 and formal program leadership training. The Tukey Multiple Range Test failed to locate the source of difference between the groups due to variance among each cluster. However, this does indicate that leadership training has some effect on self-perceived leadership styles. The complete ANOVA computations are in Appendix M.

Ho 7. There will be no differences by demographic data in self-perceived leadership style adaptability of women in higher education management and non-education management.

Analysis of variance compared leadership adaptability scores to size of organization, salary, highest degree completed, and types of leadership training. Table 4.5, page 64, summarizes the F scores. The data analyses indicated no significant differences in the F value. Therefore, the null hypothesis is retained. These demographic variables do not have an effect on leadership adaptability.

Additional findings using information collected by the Demographic Questionnaire were computed. The Pearson Product-Moment Coefficient was employed to determine the degree of linear relationship between leadership styles and adaptability with age and years of experience. Table 4.6, page 65, indicates the coefficients of correlation.

TABLE 4.6

Pearson Product-Moment Coefficients

	Age	Yrs. Exp.
Style 1 (high task, low relationship)	-.1690 (217) P = .006	-.0803 (217) P = .119
Style 2 (high task, high relationship)	-.0322 (217) P = .318	.0825 (217) P = .113
Style 3 (high relationship, low task)	.0169 (217) P = .402	-.0973 (217) P = .076
Style 4 (low relationship, low task)	-.0574 (217) P = .200	-.0645 (217) P = .172
Adaptability	-.-55- (206) P = .216	-.0245 (206) P = .363

According to Best (1970, p. 257) the general criterion for the evaluation of the significance of coefficients range from negligible (00 to ±.20) to very high (±.80 to 1.00). Using this evaluation system, age correlates to a low relationship with Style 2, Style 3, Style 4, and Adaptability. Years of experience correlates to a low relationship with Adaptability. The remaining correlations are negligible. No consistent measure of the relationship of age and years of experience with style and adaptability was found.

Analysis of variance between years of experience and salary did not provide any significant difference (Appendix N). However, it was interesting to note that those with more years of experience did not necessarily fall into the highest salary range.

Chi-square was used to determine if there was a correlation of management level and selected independent variables identified by the Demographic Questionnaire. These were cross-tabulated separately by group (women in higher education management and women in non-education management). Cross-tabulations appear in Appendix O. Variables included management level by salary; by type of leadership training (on-the-job, formal degree program, seminar or workshop); by marital status; and by age. Table 4.7, page 67, summarizes chi-square significance of management level.

The results indicate that formal program leadership training is correlated with management level for women in higher education management. There is no correlation in the variables of salary, on the job training, seminar or workshop training, marital status, and age for either group, or formal program leadership training for women in non-education management. This indicates that these variables are independent in the sample.

Chi-square was also used to determine if there was a correlation of salary by highest degree obtained. Significance for women in higher education management was .0001. This shows that salary and highest degree obtained are not

TABLE 4.7

Chi-square Significance of Management Level

	Higher Educ.	Non-Higher Educ.
Salary	.0598	.3230
On Job Training	.3756	.1669
Formal Program	.0237*	.4266
Sem/Wkshp	.3160	.1760
Marital Status	.7590	.5527
Age	.7548	.3753

*P > .05

independent of each other in this sample. This indicates that an advanced degree may be one factor for an increased salary in higher education management. For women in non-education management, the significance was .3619. This indicates that salary and highest degree are independent for women in non-education management (Appendix P).

Chi-square was also used to determine if there was a correlation between managers in higher education and non-education by additional variables collected with the Demographic Questionnaire. The complete cross-tabulations are in Appendix Q. Table 4.8, page 68, summarizes the chi-square values of significance.

This indicates that there is a significant difference between the sample of women in higher education management

TABLE 4.8

Chi-square Significance of Managers in Higher Education and Non-Education by Demographic Variable

Variable	Significance	Variable	Significance
Percent Hired	1.000	Mgt Level	.0489*
Other Pos in Org	1.000	Salary	.0576
Size of Org	.1275	Ldrshp Trng	
Resp Long Range	.0012*	On-the-Job	.3262
Short Term	.1903	Sem/Wkshp	.3031
Coord Per	.0119*	Formal Program	.0183*
Suprvsing	.0001*	Other Training	.8002
Teaching	.0003*	Move	.7323
Budgeting	.0001*	Marital	.4555
Pub Rel	.0025*	Ethnic	.1144
Labor Rel	.3595	Age	.0000*
Highest Degree	.0000*	Analysis	
Work Degree	.9828	Return	.5362

*P > .05

and women in non-education management in the job responsibilities of long range planning, coordinating personnel, supervising, teaching, budgeting and public relations. There is also a significant difference in highest degree obtained, management level, formal leadership training and age.

Managers in higher education generally had more responsibility for long range planning, coordinating personnel, supervising, budgeting and public relations. While managers in non-education had more job responsibility for teaching and training and were more frequently found in entry level management. Higher education managers also had

higher degrees, more formal program leadership training and were older.

Ho 8. There will be no difference in self-perceived leadership style and adaptability of women managers in the sample and managers in the normative group.

Participants were asked to complete the LEAD-Self. Three types of scores for each style and adaptability measure were obtained: raw scores, percentile rank, and normal curve-equivalent (NCE). Table 4.9, page 70, summarizes the raw scores for style and adaptability for the normed group (N) and women in management sample (S).

The raw scores were converted to percentiles by comparison with the normative information for LEAD-Self styles and adaptability scores (Appendix R). Percentiles are intended to aid in interpretation by providing a frame of reference based upon the standardization sample. Percentile ranks are not normally distributed. Table 4.10, page 71, summarizes style percentile and normal curve equivalents of the sample.

The normal curve equivalent represents deviation standard scores derived from the cumulative frequency distribution of raw scores. The normal curve equivalents are

TABLE 4.9

Descriptive Statistics for Style and Adaptability - Raw Scores

Score	Mean	Standard Deviation	Median	Min Score	Max Score	Range
Style 1 (High Task, Low Relationship; Telling)						
N	1.79	1.39	1.67	0	6	6
S	1.34	1.08	1.23	0	5	5
Style 2 (High Task, High Relationship; Selling)						
N	5.58	1.96	5.64	1	11	10
S	5.49	2.14	5.53	0	10	10
Style 3 (High Relationship, Low Task; Participating)						
N	3.92	1.87	3.83	0	11	11
S	3.89	1.84	3.90	0	9	9
Style 4 (Low Relationship, Low Task; Delegating)						
N	.72	1.11	.36	0	6	6
S	.73	1.01	.42	0	4	4
Adaptability						
N	9.08	5.0	9.21	-3	21	24
S	11.15	4.07	11.24	-6	20	26

N = Normed Group
S = Sample Group

TABLE 4.10

Style Percentile and Normal Curve Equivalent

Source	Mean	Percentile	NCE
Style 1	1.34	27	37
Style 2	5.49	37	43
Style 3	3.89	41	45
Style 4	.73	41	45
Adaptability	11.15	61	50

normally distributed and further meaning was obtained by considering the following ranges and classifications:

Classification	NCE Range
High	94-99
Above Average	72-93
Average	29-71
Below Average	7-28
Low	0-6

Style 1 (high task, low relationship) had a mean raw score of 1.34. This is converted to a percentile (27) and normal curve equivalent (37) based on the standardization sample. The score of 37 falls with the "average" classification (Greene, 1980, p. 34). Scores for Style 2 (high task, high relationship), Style 3 (high relationship, low task, Style 4 (low relationship, low task) and Adaptability all fall within the average range when compared to the

normed group. Appendix S is a profile chart for the LEAD-Self which provides manager results in terms of the normed group using a graphic illustration.

Profile - Women in Management in Oregon

In addition to comparison of self-perceived leadership styles and adaptability, a picture of the "average" woman in management in Oregon was developed by information collected using the Demographic Survey. This was done by frequency distributions and cross-tabulations of each group (Appendix Q).

There was a distinct similarity of the two groups in: being promoted rather than hired into their present position; holding other positions within the organization; working on a degree or advanced standing; other types of leadership training; and, those who wanted an analysis of their leadership style.

Table 4.11, pages 73-74, summarizes the variables based on 127 women in higher education management and 90 women in non-education management. Percentages are reported for each group and for the total.

Continuous variables for years of management experience, years in present position, and number of children in each age group are reported in Table 4.12, page 75.

A profile of the "average" woman manager in Oregon has emerged. She has almost ten years of management experience and has been in her present position for a little less than

TABLE 4.11

Mean Demographic Variables
for Sample Women in Management in Oregon*

Variable		Higher Ed %	Non Hi-Ed %	Average %
Prom to pres pos		69.3	70.0	69.6
Hired to pres pos		30.7	30.0	30.4
Other positions		74.0	73.3	73.7
No other positions		26.0	26.7	26.3
No of Emp	Under 250	33.1	23.3	29.0
	250 - 499	27.6	20.0	24.4
	500 - 999	9.4	15.6	12.0
	1000-2499	10.2	17.8	13.4
	2500 or more	19.7	23.3	21.2
Job Resp	Long-range plan	93.7	77.8	87.1
	Short-term plan	99.2	95.6	97.7
	Coord personnel	96.1	85.6	91.7
	Supervising	95.3	75.6	87.1
	Teach/Train	80.3	97.8	87.6
	Budgeting	87.4	64.4	77.9
	Public Relations	92.9	77.8	86.6
	Labor Relations	36.2	43.3	39.2
Mgt Level	Upper level	22.8	17.8	20.7
	Middle level	66.1	58.9	63.1
	Entry level	11.0	23.3	16.1
Salary	Under $14,999	1.6	4.4	2.8
	$15,000-$19,999	3.1	12.2	6.9
	$20,000-$29,999	47.2	33.3	41.5
	$30,000-$39,999	11.0	13.3	12.0
	$40,000-$49,999	11.0	13.3	12.0
	$50,000 or more	3.1	2.2	2.8
Level of Educ	High School	0	7.8	3.2
	Tech/Voc	1.6	2.2	1.8
	Some college	9.4	35.6	20.3
	College grad	17.3	25.6	20.7
	Master/MBA	52.0	26.7	41.5
	Doctoral	18.9	1.1	11.5
	Other	.8	1.1	1.0

TABLE 4.11 (Cont.)

Variable		Higher Ed %	Non Hi-Ed %	Average %
Work deg/ Adv stand		75.6	76.7	76.0
Types of Leader Train	On-the-job	89.8	94.4	91.7
	Seminar/workshop	88.2	93.3	90.3
	Formal degree	45.7	28.9	38.7
	Other	13.4	15.6	14.3
Move Res	Increased salary	13.4	12.2	12.9
	Inc responsib	3.1	1.1	2.3
	Inc salary and responsib	49.6	54.4	51.6
	Would not move	33.9	32.2	33.2
Marital Status	Married	54.3	63.3	58.1
	Single, never married	13.4	8.9	11.5
	Sep, divorced, widowed	31.5	27.8	30.0
	Other	.8	0	.4
Ethnic Bkgrd	Black	0	2.2	.9
	Hispanic	.8	4.4	2.3
	Oriental	.8	0	.5
	Amer Indian	0	1.1	.5
	White	97.6	92.2	95.4
	Other	.8	0	.5
Age	Under 30	2.4	16.7	8.3
	31-40	36.2	48.9	41.5
	41-50	26.8	26.7	26.7
	51-60	27.6	7.8	19.4
	61 or over	7.1	0	4.1
Analysis		85.0	88.9	86.6

*Based on sample 127 in Higher Ed and 90 in Non-Hi Ed.

TABLE 4.12

Means of Continuous Variables
for Sample Women in Management

Variable	Higher Ed	Non Hi-Ed	Total Average
Years experience in Management	11.0	7.6	9.6
Years in present position	5.4	3.6	4.7
No. of children	1.5	1.5	1.5

five years. There is about a 70 percent chance that she was promoted to her current position and has held previous positions in the organization. Job responsibilities will probably include long-range planning, short-term planning, coordinating personnel, supervising, teaching or training, public relations, and to a lesser degree, budgeting. She may have these responsibilities regardless of management level.

A little more than half of the women managers work in organizations that have less then 500 employees and about 30 percent have less than 250 employees. Three-fourths of the sample make between $20,000-$40,000. Over 90 percent have had leadership training, either on the job or through seminars or workshops. Eighty-six percent of the participants requested an analysis of their leadership style. Approximately 74 percent are college graduates and over half have either a master's or doctoral degree. There are

76 percent continuing their education for a degree or advanced standing. Two-thirds indicated they were willing to move for increased salary, responsibility, or both.

On a personal basis, 58 percent are currently married and may have one or two children. Ninety-five percent are white and almost 70 percent are between the ages of 30 and 50.

Summary

The objectives of this study were to compare self-perceived style and adaptability of women managers in different managerial levels and different occupational settings. More specifically, the purpose was to determine if women in higher education management behave differently with regard to leadership than do women in non-education management positions, and to determine if style and adaptability varies with management levels. The only significant difference in self-perceived leadership was in Style 4 (low relationship, low task). Women in non-higher education management scored higher than women in higher education. Demographic variables also affected self-perceived leadership style. Style 2 (high task, high relationship) was affected by on-the-job training and Style 4 (low relationship, low task) was affected by formal program training.

Women managers in the sample fell within the average range for the four self-perceived leadership styles and

adaptability when compared to managers the Leader Effectiveness and Adaptability Description was normed against.

Additional chi-square analysis using information collected on the Demographic Questionnaire also found that formal program leadership training affected management level in higher education. Cross-tabulations by group showed significant difference in the job responsibilities of long range planning, coordination of personnel, teaching, budgeting and public relations. There were also differences in highest degree obtained, management level, and age.

Although there was much similarity among women in management, a high relationship was found in being promoted into their current position after holding other positions in the organization. Emphasis on continued education or other types of leadership training and interest in receiving an analysis of leadership style was common among the women in both groups.

CHAPTER V

SUMMARY AND DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the findings of the study. Discussion is in areas of related literature reviewed, design of the study, and analysis of data among groups compared in the study.

Conclusions drawn by the investigator after completion of the study are given. Finally, implications of the results and conclusions with regard to contributions to the existing body of knowledge, implications to applied practice, and recommendations for future study and research are presented.

Summary of the Study

The primary purpose of this study was to compare the self-perception of leadership style, style range, and adaptability of women managers in higher education and in non-education positions. A secondary goal was to compare the two groups' self-perception of leadership style and adaptability at the upper, middle, and entry levels of management. Demographic information was used to compare selected characteristics of each group and develop a profile of the Oregon woman in management. Comparisons of style and adaptability were also made with managers on which the data collection instrument was standardized.

To accomplish this purpose, the following four steps were taken. First, leadership studies and research on women leaders were reviewed to detect major trends in these areas. Second, 370 women managers in each group were identified and systematically sampled from 35 higher education institutions and more than 50 non-education organizations in Oregon. Of the 185 in each group, 127 managers in higher education and 90 managers in non-education responded with complete surveys. Third, pertinent demographic data and leadership behavior data of women managers in higher education and non-education were gathered. Fourth, a comparison by statistical methods was made between the two groups of women to see whether there were differences in their backgrounds and self-perceived leadership behavior. Leadership behaviors were compared to the normative group of managers. A profile of women managers in higher education and non-education in Oregon was developed.

The Leader Effectiveness and Adaptability Description (LEAD-Self) was selected because of its ability to measure specified aspects of leader behavior as perceived by the leader in terms of the Situational Leadership theoretical model. Situational leadership was examined because this approach recognizes that different styles of leadership will be called for as the relationship between the leader and her followers changes in different situations. The LEAD-Self contains 12 work situations. Four alternative actions are presented for each situation. The alternative

actions represent the four basic styles of leader behavior. Responses are weighted +2 to -2, based upon the probability of success using the Situational Leadership Model. The adaptability score determines how effective a manager is in choosing the management style that best meets the situation.

The Demographic Questionnaire developed by the investigator was used to collect pertinent biographical data which might influence the self-perceived leadership behavior.

Discussion

The study revealed significant difference by group and Style 4 (low relationship, low task). The Tukey Multiple Range test identified the source as a difference in the means of the two groups, where women in non-education management had a significantly higher mean score. This significant relationship may be due to the length of time in current job position or management level of the average women manager in non-education. On the average, the woman manager in non-higher education management has spent fewer years in management and is more likely to be in an entry level position. Blake and Mouton (1978) and Blake, Mouton and Williams (1981) describe this as "impoverished management" with respect to non-education managers and "caretaker administration" with respect to higher education managers. This orientation occurs when there is a passive attitude,

yet the manager is motivated to stay in the system. The manager may also believe that by being visible, yet inconspicuous, she escapes being controversial. Yet managers in non-education have more of a chance of being in entry level positions and are on an average younger and have less formal education. Hersey and Blanchard (1982) indicated that Style 4 leaders may lack developmental skills in leadership or may be used to another leader providing the direction and support.

There was no significant difference between groups by management level in this study. However, management level did correlate with formal program training for women in higher education. Cox (1982) found that when looking at styles of female administrators, the level of management affected the leadership behavior of women in corporate business and higher education administration. The view that management level may affect leader style depending on the situation is also supported by Jenks (1983). She suggests that a leader's style will reflect the leader's basic beliefs about other people's motivation, as well as the degree of confidence that the leader has in the knowledge and ability of her followers. Hersey and Blanchard (1982) suggest different style needs for different levels of management based on the management hierarchy (p. 256).

Demographic variables were also considered to find out if they had a relevant bearing on self-perceived management style and adaptability. There was a low correlation with

Style 2 (high task, high relationship), Style 3 (high relationship, low task), Style 4 (low relationship, low task) and Adaptability with age. There was also a correlation with Adaptability and years of experience. While not conclusive, this does show that style is correlated to some degree with age and years of experience. Greene (1980) also used Pearson Product Moment to correlate sex, age, years of experience, and management level. The relationship between LEAD-Self scores and these demographic variables was also low. This indicates the relative independence of the scales with respect to these variables.

There was definitely a relationship between the type of leadership training received and self-perceived leadership style. Those who had on-the-job training had higher scores on Style 2 (high task, high relationship). Those who had not received on-the-job training scored higher on Style 4 (low relationship, low task). No significant relationship existed with Style 3 (high relationship, low task) or adaptability and on-the-job training. Style 4 (low relationship, low task) was related to participating in leadership training through a formal degree program. Those who had leadership training in a formal degree program had a lower score in Style 4.

Cross-tabulation did reveal the variable of formal program to be significantly interrelated with management level of women in higher education. There was no correlation with women in non-education management positions.

Cross-tabulations between the two groups revealed significant similarity in whether the manager had been hired or promoted into her position and if she had held other positions within the organization. Results indicated that managers in each group in the study had approximately the same proportion of people promoted into their current positions.

Chi-square was used to determine differences in the sample by group. Significant differences were noted in certain areas of job responsibility. These included long range planning, coordination of personnel, supervising, teaching, budgeting and public relations responsibility. As shown by analysis in this study, highest degree, management level, formal program leadership training and age were significantly different between the two groups.

Conclusions

As Norma Paulus, Secretary of State for Oregon, said on May 1, 1984, "There are too few women administrators in higher education." In the last five years, research on women in administration has grown immensely. However, there continues to be too few studies that offer a systematic analysis of research findings within the framework of leadership theory. Studies have not concentrated on the specific behaviors of women administrators and managers in performing their jobs. Investigators should determine if a feminine style of leadership does exist by comparing women

to other women (Shakeshaft, 1979). Much of the groundwork has been laid by the study of women managers in non-education leadership positions. Moore and Wollitzer (1979) believe that the constructs that have been applied to women leaders in business may transfer to the context of higher education.

It has been documented ("Women Gain in Male Jobs," 1984) that women now hold nearly one-third of the nation's management jobs and have significantly raised their representation in many other occupations. Nowhere is that more dramatic than in public administration. In 1970, there were no chief executive officers that were women; however, women composed 21.7 percent of the public workforce. In 1980, the workforce had grown to 25.6 percent women, with 33.6 percent of the top positions held by women.

Other agencies and professional occupations have also increased the number of women in chief executive positions. However, health and medically related fields have decreased from 60.6 percent in 1970 to 50.8 percent in 1980. Higher education has slowly increased the number of women in administration, but very slowly. Rubin (1984) indicates there are 36.2 percent women in college and university administration, but a comprehensive study by Moore (1982) indicates that only 9.4 percent hold the position of chief executive officer.

Since it appears that women leaders in other organizations are making greater strides in achieving top

positions, this investigation elected to study the comparison of women leaders in higher education and women leaders in non-education positions to determine if there were any significant differences between the two groups. This was done using demographic variables and the Leader Effectiveness and Adaptability Description that is based on the Situational Leadership Model. Not only were the groups compared to each other, but they were compared to the managers the LEAD-Self was standardized against. This group of managers was composed of 87.6 percent men and 12.4 percent women. Additionally, a profile of the woman manager in higher education and non-education in Oregon was developed.

Significant differences were noted between the two groups on self-perceived leadership style. This confirms the evidence by Cox (1982) and Benedetti (1975) that leadership styles of women in higher education differ from those in corporate business. These findings contradict the suggestion by Moore and Wollitzer (1979) that the constructs that apply to studying women leaders in business also apply to studying women leaders in higher education. Millet (1976) points out that there are indeed many differences between business and higher education. Included are their different social purposes, different social contributions, and different management processes. This also applies to the study by DiMarco and Whitsitt (1975) who found differences in leader behavior in female supervisors in

business and government organizations. Schlack (1974) in her comparisons of women in higher education student personnel administration did not find any significant difference in leadership dimensions. Conclusions based on this instrument may be premature, but it appears that organizations may favor particular styles of leadership or that a leader with a particular style is drawn toward a specific organizational structure. The organization may also shape self-perceived leadership style. More investigation in this area is needed to produce conclusive results.

Style may be affected by management level. There was only a low correlation to formal program leadership training in this study and in the standardized group by management level. Hersey and Blanchard (1982, p. 256) found effective managers at each level of management require different leadership profiles. The reason seems to be that as managers move up in an organizational hierarchy, the greater the probability that subordinates will have a high task orientation. Women in upper management scored lowest on Style 2 (high task, high relationship) and women in entry level positions scored highest. Overall, the two highest scores were in Style 2 (high task, high relationship) and in Style 3 (high relationship, low task). Hersey and Blanchard (1982) conclude that those who use predominantly Style 2 and Style 3 tend to do well working with people of average levels of maturity, but find it difficult

to handle discipline problems and immature work groups. This study confirms the findings that this profile is the most frequently identified in populations that have a high level of education and extensive industrial experience (Hersey and Blanchard, 1982).

The 217 women managers in this study were comparable to each other in much of their demographic data. They indicated that they enjoyed their work and were happy for the most part with the multiple roles of wife, mother and career-woman. One of the most interesting significant relationships was in being promoted to their present position and holding previous positions in the organization. Moore (1982) found that men were more likely to hold new positions than women. It may be likely that both groups in this study are upwardly motivated, yet lack the geographic mobility that is affected by such factors as sex, marital status, and family (Curby, 1980). Two-thirds of each group indicated they would move for increased salary, increased responsibility, or both. Moore (1982) also reports that a higher percentage of women than men hold previous positions from institutions where they are currently employed.

Most of the women in both groups were still working on an advanced degree, unlike the findings of Cox (1982). However, as expected there was the noticeable difference of higher education management requiring more formal education than non-education management. Upper management in higher education usually requiring a doctorate for entrance can be

attributed to the situational requirements of the job. It was very interesting to note, however, that this study found that five percent more women in Oregon held doctoral degrees in higher education management and that more than 10 percent were married than the comprehensive study done by Moore (1982).

Most women managers in this study were trained in leadership through formal degree programs and less formal, on-the-job or workshop training. This would not be unusual since leadership skills are highly valued and in demand in every occupation (Hersey and Blanchard, 1982).

No great difference was found in the size of organization each group worked for. This may have been due to the fact that there are a number of smaller higher education institutions in the state of Oregon and that many of the non-education managers worked in statewide or multi-unit organizations. Cox (1982) found that corporate business administrators worked in larger organizations; however, she was dealing with women managers only employed by Fortune 500 companies. Generally, upper management level women worked longer, received a higher salary, and assumed more organizational responsibility than middle or entry level management. The perceived differences among the two groups in terms of their personal, educational, and professional characteristics were generally attributed to the situational factors of occupational background and level of management. Overall, women in higher education management

have a higher degree of formal education, have had more management experience, have been in their present position longer, and will stay in their field longer. Women in non-education management are more likely to be married, to be younger, to have less formal education, and have more informal leadership training. Job responsibilities, while fairly consistent, show that higher education managers have more responsibility for long-range planning, supervising, budgeting, and public relations. Non-education managers, surprisingly, have more responsibility for teaching and training. It does appear that higher education management requires a broader range of job responsibilities, but generally in Oregon, the pay level is about the same. In fact, a larger percentage of non-education managers make less than $20,000, however, they are more likely to have less formal leadership training and more likely to be found in entry level management positions. Job responsibility, salary, formal education and number of years experience are important factors for managers.

As was noted by previous studies (Benedetti, 1975; DiMarco and Whitsitt, 1975; Cox, 1982) leadership styles of women are different in different occupational settings and in different managerial levels. However, the influence of managerial level is low and occupational setting provides a stronger influence. This study indicated women in higher education were higher overall in high relationship, high task (Style 2, selling) and high relationship, low task

(Style 3, participating). Women managers in non-education were higher overall in low relationship, low task (Style 4, delegating) and high task, low relationship (Style 1, telling). However, it must be remembered that Style profile 2-3 was dominant overall. This is the most common pattern in the United States for leaders working with followers who are mature and who themselves have a high level of education and industrial experience. One interesting phenomena that Hersey and Blanchard (1982, p. 255) found was that women recently promoted into significant middle management positions often have a Style profile of 3-4 (high relationship, low task, and low relationship, low task). It was noted that prior to their promotion, top management had not given them opportunities to engage in much telling (Style 1) or selling (Style 2) leader behavior. They had very little experience in initiating structure within the organizational setting. The study indicated that the sample group did have the experience and exposure to training and reacted within the normal curve equivalent of the normed group. Both groups had high adaptability scores and are therefore, by definition, effective in their management styles.

This study did not attempt to place value on the different leadership styles exhibited by women in higher education and women in non-education. No attempt was made to determine which style was most effective or which group were the more effective leaders. The purpose of

determining if differences in the leadership styles of women managers between different occupational backgrounds and levels of management has been achieved. The managers in this study exhibited flexible leadership styles which were similar to the normed group. In addition, a composite of the characteristics of the "average" woman manager in Oregon evolved.

Recommendations

The results of this investigation are preliminary to the study of leadership styles of women in management. The existing body of knowledge is limited, but currently growing at a rapid pace. This study may serve as a foundation upon which future knowledge about the women manager and her self-perceived leadership behavior may be derived. It will also add to the current body of knowledge using contemporary leadership theory.

The results and conclusions do leave important messages for applied practice. The first is directed toward educators responsible for training women managers for the future. Leadership training either through formal degree programs, on the job, or through workshops and seminars, offers young managers the opportunity to develop and enhance their own leadership style. There is no proof through this study that a female-model of leadership style exists, but there is proof in this study that training is a significant factor in style. This is confirmed by other

recent investigations (Tinsley, Secor, and Kaplin, 1984; Comment, 1984; Touchton and Shavlik, 1978; Higher Education and National Affairs, 1984). The differences in women performing as leaders must be discovered and promulgated by those who train the leaders of tomorrow. This is especially important in higher education where there continue to be low numbers of women managers in top executive positions.

A second message is directed toward those who are responsible for identifying, selecting, and promoting women as managers in our organizations and institutions. Women deserve the opportunity to pursue careers of their choice and society is deprived of the benefits of highly qualified leaders if a male-preference practice is continued. A more compatible match between leader and job must be made if our resource of female leaders is to be fully realized.

The last message is directed toward women who are leaders or who are aspiring to be leaders. They must not tolerate the external barriers that impede their present progress and must continue to shed the internal barriers that have hampered women's progress for centuries. Most importantly, they must recognize and develop their own leadership styles. This style must be carefully matched to situational variables within the job to provide for optimum effective leadership.

Future Study

1. Further identify leadership behaviors and styles. This needs to be in varied occupations and management levels.
2. Investigate the long-term or longitudinal patterns of leadership style based on current leadership models or theories.
3. Replicate the study in different geographic regions using the same data collection instruments.
4. Observe women managers performing by using a case study or field study approach.
5. Examine leadership changes by training for skills required or requested by women entering or changing management levels.
6. Research the effects of organizational size on leadership behavior.
7. Investigate how action steps are taken to reach individual goals for desired management level.

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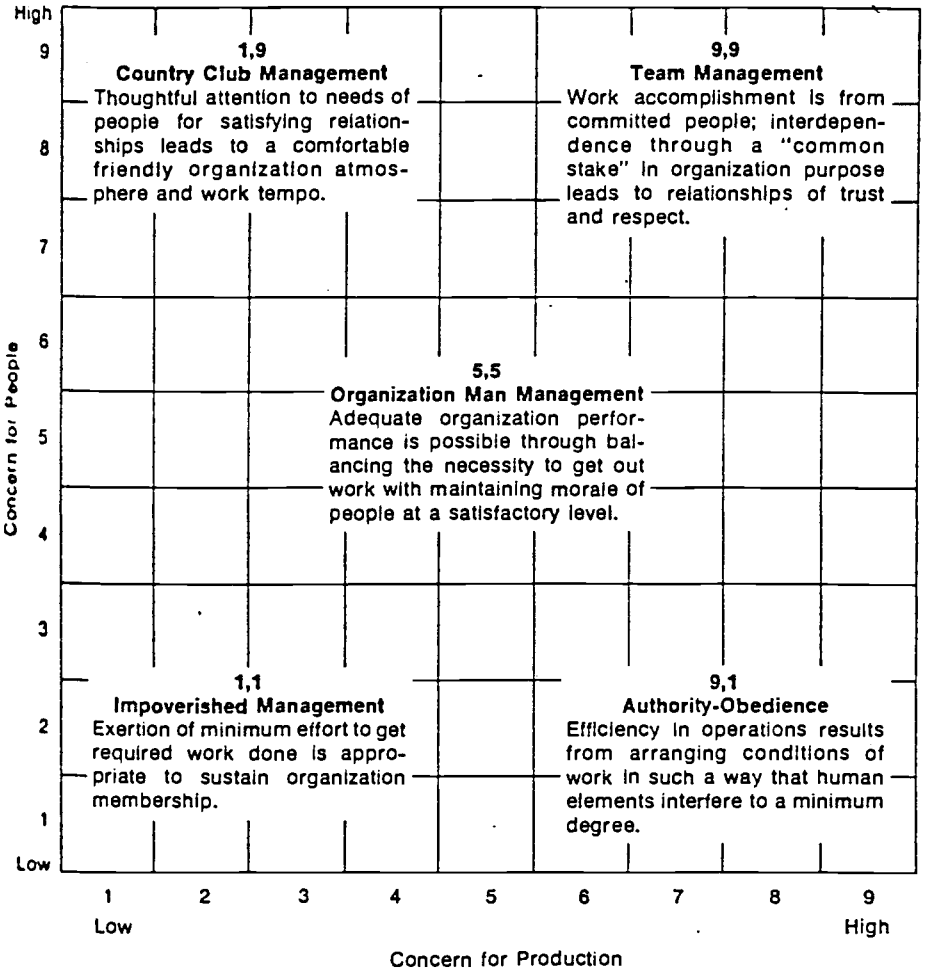
APPENDICES

APPENDIX A

The Managerial Grid

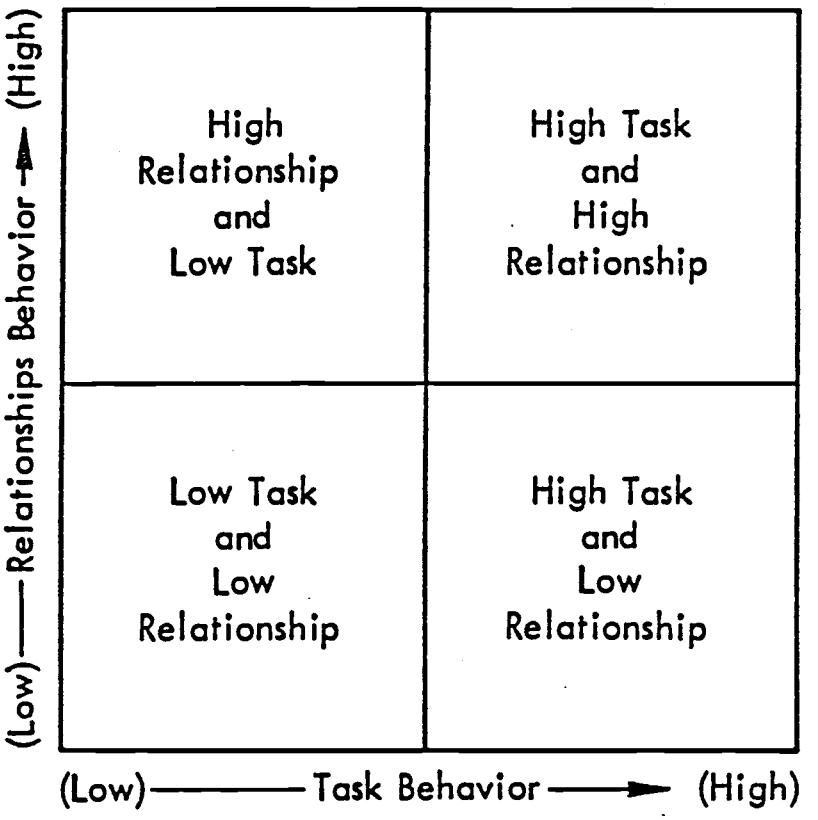


THE MANAGERIAL GRID

Source: Blake and Mouton, 1981, p.11.

APPENDIX B

Basic Leader Behavior Styles

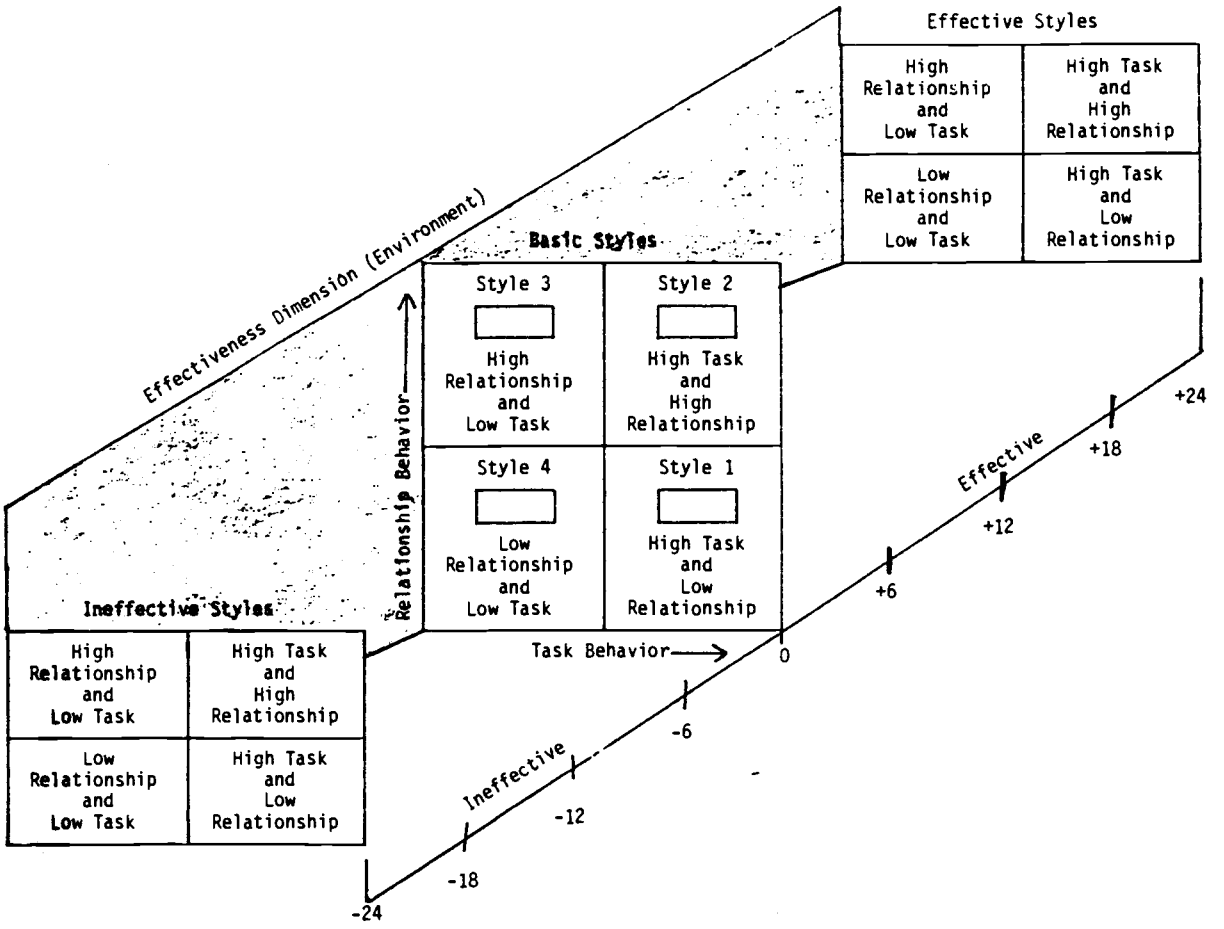


BASIC LEADER BEHAVIOR STYLES

Source: Hersey and Blanchard, 1982, p. 96.

APPENDIX C

Tri-Dimensional Leader Effectiveness Model



Tri-dimensional leader effectiveness model for self-scoring LEAD.

Source: Hersey and Blanchard, 1982, p. 98.

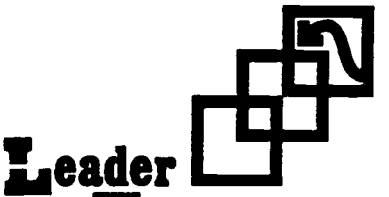
APPENDIX D

LEAD-Self

LEAD Self

Developed by Paul Hersey and Kenneth H. Blanchard

Directions:
Assume YOU are involved in each of the following twelve situations. Each situation has four alternative actions you might initiate. READ each item carefully. THINK about what YOU would do in each circumstance. Then CIRCLE the letter of the alternative action choice which you think would most closely desctibe YOUR behavior in the situation presented. Circle only *one choice*.



Leader Effectiveness & Adaptability Description

Leader Effectiveness & Adaptability Description

	SITUATION	ALTERNATIVE ACTIONS
1	Your subordinates are not responding lately to your friendly conversation and obvious concern for their welfare. Their performance is declining rapidly.	A. Emphasize the use of uniform procedures and the necessity for task accomplishment. B. Make yourself available for discussion but don't push your involvement. C. Talk with subordinates and then set goals. D. Intentionally do not intervene.
2	The observable performance of your group is increasing. You have been making sure that all members were aware of their responsibilities and expected standards of performance.	A. Engage in friendly interaction, but continue to make sure that all members are aware of their responsibilities and expected standards of performance. B. Take no definite action. C. Do what you can to make the group feel important and involved. D. Emphasize the importance of deadlines and tasks.
3	Members of your group are unable to solve a problem themselves. You have normally left them alone. Group performance and interpersonal relations have been good.	A. Work with the group and together engage in problem-solving. B. Let the group work it out. C. Act quickly and firmly to correct and redirect. D. Encourage group to work on problem and be supportive of their efforts.
4	You are considering a change. Your subordinates have a fine record of accomplishment. They respect the need for change.	A. Allow group involvement in developing the change, but don't be too directive. B. Announce changes and then implement with close supervision. C. Allow group to formulate its own direction. D. Incorporate group recommendations, but you direct the change.
5	The performance of your group has been dropping during the last few months. Members have been unconcerned with meeting objectives. Redefining roles and responsibilities has helped in the past. They have continually needed reminding to have their tasks done on time.	A. Allow group to formulate its own direction. B. Incorporate group recommendations, but see that objectives are met. C. Redefine roles and responsibilities and supervise carefully. D. Allow group involvement in determining roles and responsibilities but don't be too directive.
6	You stepped into an efficiently run organization. The previous administrator tightly controlled the situation. You want to maintain a productive situation, but would like to begin humanizing the environment.	A. Do what you can to make group feel important and involved. B. Emphasize the importance of deadlines and tasks. C. Intentionally do not intervene. D. Get group involved in decision-making, but see that objectives are met.

7

SITUATION

You are considering changing to a structure that will be new to your group. Members of the group have made suggestions about needed change. The group has been productive and demonstrated flexibility in its operations.

ALTERNATIVE ACTIONS

A. Define the change and supervise carefully.
B. Participate with the group in developing the change but allow members to organize the implementation.
C. Be willing to make changes as recommended, but maintain control of implementation.
D. Avoid confrontation; leave things alone.

8

SITUATION

Group performance and interpersonal relations are good. You feel somewhat unsure about your lack of direction of the group.

ALTERNATIVE ACTIONS

A. Leave the group alone.
B. Discuss the situation with the group and then you initiate necessary changes.
C. Take steps to direct subordinates toward working in a well-defined manner.
D. Be supportive in discussing the situation with the group but not too directive.

9

SITUATION

Your superior has appointed you to head a task force that is far overdue in making requested recommendations for change. The group is not clear on its goals. Attendance at sessions has been poor. Their meetings have turned into social gatherings. Potentially they have the talent necessary to help.

ALTERNATIVE ACTIONS

A. Let the group work out its problems.
B. Incorporate group recommendations, but see that objectives are met.
C. Redefine goals and supervise carefully.
D. Allow group involvement in setting goals, but don't push.

10

SITUATION

Your subordinates, usually able to take responsibility, are not responding to your recent redefining of standards.

ALTERNATIVE ACTIONS

A. Allow group involvement in redefining standards, but don't take control.
B. Redefine standards and supervise carefully.
C. Avoid confrontation by not applying pressure; leave situation alone.
D. Incorporate group recommendations, but see that new standards are met.

11

SITUATION

You have been promoted to a new position. The previous supervisor was uninvolved in the affairs of the group. The group has adequately handled its tasks and direction. Group inter-relations are good.

ALTERNATIVE ACTIONS

A. Take steps to direct subordinates toward working in a well-defined manner.
B. Involve subordinates in decision-making and reinforce good contributions.
C. Discuss past performance with group and then you examine the need for new practices.
D. Continue to leave group alone.

12

SITUATION

Recent information indicates some internal difficulties among subordinates. The group has a remarkable record of accomplishment. Members have effectively maintained long-range goals. They have worked in harmony for the past year. All are well qualified for the task.

ALTERNATIVE ACTIONS

A. Try out your solution with subordinates and examine the need for new practices.
B Allow group members to work it out themselves.
C. Act quickly and firmly to correct and redirect.
D. Participate in problem discussion while providing support for subordinates.

APPENDIX E

Demographic Questionnaire

DEMOGRAPHIC QUESTIONNAIRE

1. How many years, altogether, have your been employed in an administrative or management position?

_____ YEARS

2. How many years have you been in your present position?

_____ YEARS

3. What is your complete title?

_____TITLE

4. Were you promoted or hired to your present position in this organization? (please circle one number)

1 PROMOTED
2 HIRED

5. Have you held other positions within this organization?

1 NO
2 YES

→ 5a. What position(s) did you previously hold?

_____POSITIONS

6. What do you consider to be the most influential factors for your being in your current position? Please list as many as apply to you.

7. What is the complete name of your employing organization?

_____ ORGANIZATION

8. Approximately, what is the number of employees in your organization? (circle one)

1 UNDER 250
2 250 to 499
3 500 to 999
4 1,000 to 2,499
5 2,500 or MORE

(PLEASE TURN THE PAGE)

9. The administrator/manager position is diverse, and each job has varied responsibilities. Please indicate whether or not each of the following is part of your job. (please circle one number for each activity)

ACTIVITY	JOB RESPONSIBILITY	
	Yes	No
a. long-range planning	1	2
b. short-term planning	1	2
c. coordinating personnel	1	2
d. supervising	1	2
e. teaching/training	1	2
f. budgeting	1	2
g. public relations	1	2
h. labor relations	1	2
i. other (please specify) _____		
_____	1	2

10. Do you consider your present managerial level to be upper, middle, or entry level? (circle one)

1 UPPER LEVEL
2 MIDDLE LEVEL
3 ENTRY LEVEL

11. What is <u>your</u> approximate gross salary for 1984 going to be in your current position? (please circle one)

1 UNDER $14,999
2 $15,000 to $19,999
3 $20,000 to $29,999
4 $30,000 to $39,999
5 $40,000 to $49,999
6 $50,000 or MORE

12. Briefly, describe your next career goal, if any, or position you would like to achieve.

13. Is this your ultimate professional goal?

1. YES
2. NO → 13a. What is your final career goal?

_____ GOAL

(PLEASE CONTINUE ON NEXT PAGE)

14. What is the highest level of education you have completed? (please circle one)

1 HIGH SCHOOL GRADUATE OR EQUIVALENT
2 TECHNICAL OR VOCATIONAL SCHOOL
3 SOME COLLEGE
4 COLLEGE OR UNIVERSITY GRADUATE
5 MASTER'S DEGREE OR MBA
6 DOCTORAL DEGREE
7 OTHER (please specify and/or include major areas of study)

_____

15. Are you now working on a degree or advanced standing?

1 NO
2 YES → 15a. What is your major area of study?

_____ MAJOR

16. Please indicate whether or not you have had each of the following types of leadership training.

TRAINING	YES	NO
a. on the job.....	1	2
b. seminar, workshop,etc.....	1	2
c. formal degree program.....	1	2
d. other (please specify)		

_____

17. Would you be willing to move your place of residence to accept a job with another organization if they offered you an increased salary , or if they offered a position with more responsibility? (circle one)

1 Yes, for an increased salary
2 Yes, for more responsibility
3 Only if both salary and responsibility were increased
4 No, would not move residence

18. What have you experienced to be your most significant problems, if any, as a female administrator?

(PLEASE TURN THE PAGE)

19. Are you presently: (circle one)

1 MARRIED
2 SINGLE, NEVER MARRIED
3 SEPARATED, DIVORCED OR WIDOWED
4 OTHER (please specify) _____

20. Please indicate how many children, if any, you have in each of the following age groups. (if none, write 0)

_____ AGE 5 or UNDER

_____ AGE 6 to 11

_____ AGE 12 to 17

_____ AGE 18 or OLDER

21. What is your ethnic background? (circle one)

1 BLACK
2 HISPANIC
3 ORIENTAL
4 AMERICAN INDIAN
5 WHITE
6 OTHER (please specify) _____

22. What is your age range? (please circle one)

1 UNDER 30 YEARS of AGE
2 31 to 40 YEARS
3 41 to 50 YEARS
4 51 to 60 YEARS
5 61 or OVER

23. Would you like a copy of the analysis of your leadership style? (please circle one)

1 NO
2 YES

→ 23a. If yes, please write the address you would like it sent to on the enclosed envelope.

24. Is there anything else you would like to add about your experiences as a manager or administrator?

(THANK YOU VERY MUCH FOR YOUR TIME AND INPUT)

APPENDIX F

Cover Letter

Office of
Student Services

Oregon State University

Corvallis, Oregon 97331-2133 (503) 754-3661

July 19, 1984

Dear

As a doctoral candidate in the College Student Services Administration program at Oregon State University, I am interested in the leadership styles and characteristics of women managers in the state of Oregon. You have been identified as one of the individuals who is considered a leader among your peers and selected to receive this questionnaire.

It will be most helpful if you will take a few minutes and respond to the statements on the two short questionnaires that are enclosed. Neither you, nor the organization you are employed by, will appear in any report, nor will individual identifying information be made available to anyone. The results of this investigation will be reported on a group basis as part of my doctoral dissertation.

You may see that your questionnaires are numbered. This is to provide a way by which reminders may be sent, if necessary, without further imposing upon those who have completed and returned their questionnaires.

Your response is important to the completeness of this study. The Survey Research Center will be responsible for the collection of data from this survey. Please return your completed questionnaires to their office in the enclosed postage-paid envelope as soon as possible. If you have any questions about the study, please feel free to call me at 364-5900.

Thank you for your courtesy and help.

Sincerely,

Diana L. Dean
Administrative Intern

APPENDIX G

Follow-up Post Card

Last week we mailed you two questionnaires asking about your leadership style. If you have returned your questionnaires, thank you. If not, please do so today.

Since only a select group participated in this study, your response is vital if I am to understand how differences in work environment affect leadership style. There is no way I can substitute for the information you can provide.

Please take a few minutes to complete the questionnaires and return them to the Survey Research Center. All information is kept strictly confidential.

Thank you for your help.

Sincerely,

Diana L. Dean
Administrative Intern, OSU

APPENDIX H

Follow-up Letter

Office of
Student Services

Oregon State University

Corvallis, Oregon 97331-2133 (503) 754-3661

September 1984

Dear Ms.

Several weeks age you were mailed two questionnaires requesting information about your leadership style. The information received from both of these instruments will help me to understand how differences in work environment affects leadership style, and to develop a profile of women leaders in management positions within Oregon. Your response to these two instruments is vital. All responses will remain confidential and only an analysis of data will be reported as part of my doctoral dissertation.

Your questionnaires have not been received. For your convenience, I have enclosed a second set of questionnaires and postage paid envelope addressed to the Survey Research Center.

Please, take a few minutes to fill out the questionaires and send both of them back. If you have any questions, please call me at 364-5900.

Thank you very much for your consideration and help.

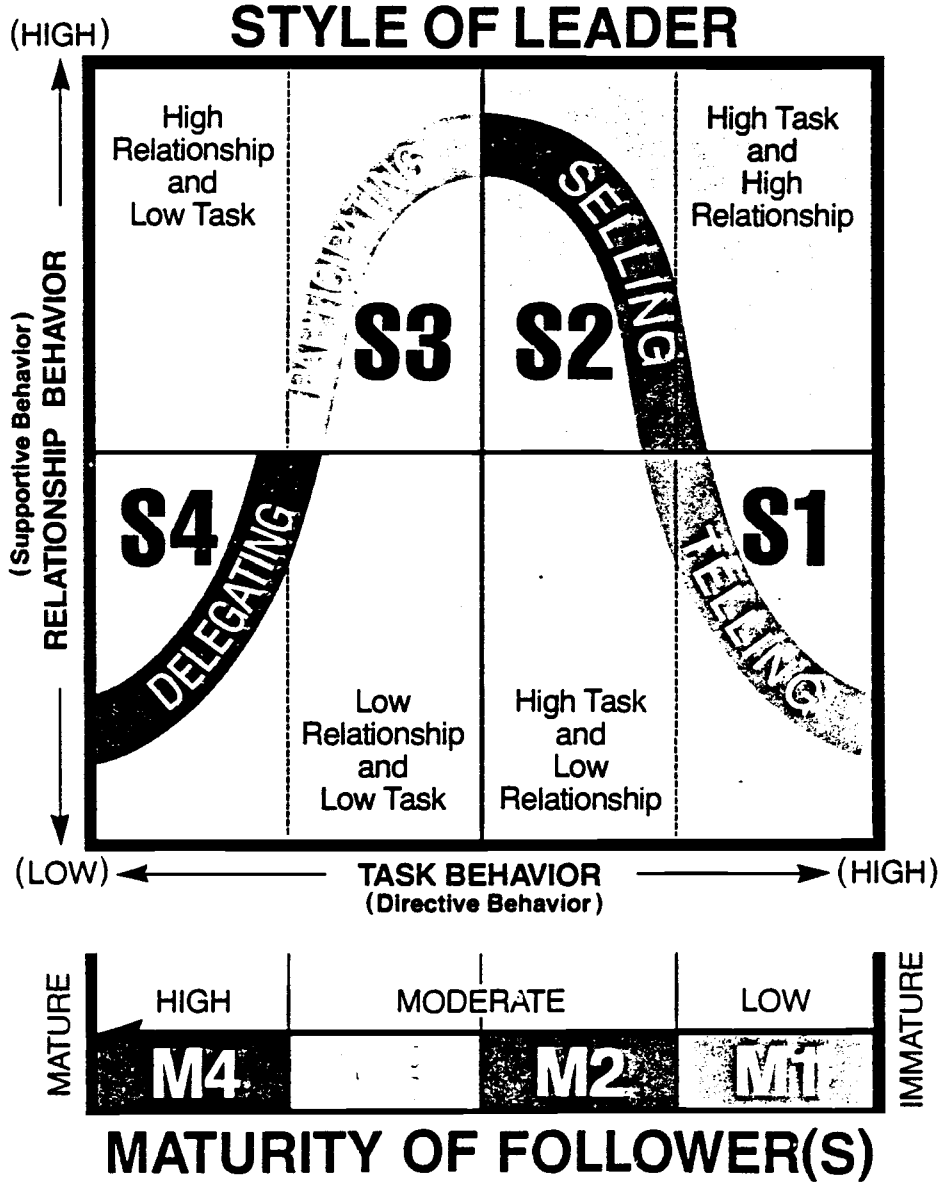
Sincerely,

Diana L. Dean
Administrative Intern

APPENDIX I

Situational Leadership Model

SITUATIONAL LEADERSHIP



Developed by Paul Hersey and Kenneth H. Blanchard

APPENDIX J

Frequency Response Distribution of Sample

Total Frequency Response Distribution of Sample*

Sit.	Style 1			Style 2			Style 3			Style 4		
	Alt.	Freq.	%	Alt.	Freq.	%	Alt.	Freq.	%	Alt.	Freq.	%
1	A	8	3.7	C	185	85.3	B	24	11.1	D	0	0
2	D	0	0	A	59	27.2	C	146	67.3	B	12	5.5
3	C	6	2.8	A	172	79.3	D	35	16.1	B	4	1.8
4	B	2	.9	D	136	62.7	A	69	31.8	C	10	4.6
5	C	73	33.6	B	117	53.9	D	25	11.5	A	2	.9
6	B	0	0	D	141	65.0	A	75	34.6	C	1	.5
7	A	8	3.7	C	76	35.0	B	133	61.3	D	0	0
8	C	29	13.4	B	59	27.2	D	50	23.0	A	79	36.4
9	C	151	69.6	B	60	27.6	D	4	1.8	A	.2	.9
10	B	16	7.4	D	170	78.3	A	30	13.8	C	1	.5
11	A	5	2.3	C	56	25.8	B	134	61.8	D	22	10.1
12	C	9	4.1	A	8	3.7	D	161	74.2	B	39	18.0

*Based on sample size of 217 participants. Total percentage may vary slightly due to rounding-off of numbers.

APPENDIX K

Scoring Matrix for Adaptability Score

Scoring Matrix for Adaptability Score

Situation	A	B	C	D
1	+2	-1	+1	-2
2	+2	-2	+1	-1
3	+1	-1	-2	+2
4	+1	-2	+1	-1
5	-2	+1	+2	-1
6	-1	+1	-2	+2
7	-2	+2	-1	+1
8	+2	-1	-2	+1
9	-2	+1	+2	-1
10	+1	-2	-1	+2
11	-2	+2	-1	+1
12	-1	+2	-2	+1

APPENDIX L

ANOVA-Group by Management Level

VARIABLE STYLE1
BY MGTLEVEL

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	2.1846	1.0923	.931	.3959
WITHIN GROUPS	214	251.1979	1.1738		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	45	1.1556	.9760	.1455	0	3.0000	.8623 TO 1.4488
GRP 2	137	1.3942	1.1138	.0952	0	5.0000	1.2060 TO 1.5823
GRP 3	35	1.4286	1.0924	.1846	0	4.0000	1.0533 TO 1.8039
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY MGTLEVEL

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	4.7155	2.3578	.510	.6013
WITHIN GROUPS	214	989.4780	4.6237		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	45	5.6889	2.0430	.3045	0	9.0000	5.0751 TO 6.3027
GRP 2	137	5.4891	2.1527	.1839	0	10.0000	5.1253 TO 5.8529
GRP 3	35	5.2000	2.2726	.3841	0	10.0000	4.4193 TO 5.9807
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY MGTLEVEL

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	11.2221	5.6111	1.662	.1922
WITHIN GROUPS	214	722.4184	3.3758		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	45	4.0222	1.7900	.2668	0	8.0000	3.4845 TO 4.5600
GRP 2	137	3.7153	1.8349	.1568	0	9.0000	3.4053 TO 4.0253
GRP 3	35	4.3143	1.9062	.3222	0	8.0000	3.6595 TO 4.9691
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY MGTLEVEL

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	2	1.1242	.5621	.548	.5787
WITHIN GROUPS	214	219.3735	1.0251		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	45	.6200	.8393	.1326	0	4.0000	.3328 TO .8672
GRP 2	137	.7310	1.0482	.0896	0	4.0000	.6039 TO .9581
GRP 3	35	.7143	1.0167	.1719	0	4.0000	.3650 TO 1.0635
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

APPENDIX M

ANOVA-Group by Demographic Variable

VARIABLE STYLE1
BY SIZOFORG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	2.7307	.6827	.577	.6793
WITHIN GROUPS	212	250.6518	1.1828		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	63	1.3175	1.0750	.1354	0	5.0000	1.0467 TO 1.5882
GRP 2	53	1.3962	1.1979	.1508	0	5.0000	1.1936 TO 1.6988
GRP 3	26	1.3846	1.0612	.2081	0	4.0000	.9560 TO 1.8132
GRP 4	29	1.1034	1.1131	.2767	0	4.0000	.6401 TO 1.5268
GRP 5	46	1.4783	1.0901	.1607	0	4.0000	1.1545 TO 1.8020
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY SIZOFORG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	6.1102	1.5276	.328	.8591
WITHIN GROUPS	212	988.0833	4.6608		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	63	5.6190	2.0746	.2614	0	10.0000	5.0966 TO 6.1415
GRP 2	53	5.2830	2.1247	.2919	0	10.0000	4.6974 TO 5.8687
GRP 3	26	5.2308	2.4217	.4749	0	10.0000	4.2526 TO 6.2089
GRP 4	29	5.6552	2.4094	.4474	1.0000	9.0000	4.7387 TO 6.5717
GRP 5	46	5.5652	1.9850	.2927	1.0000	9.0000	4.9758 TO 6.1547
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY SIZOFORG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	3.8679	.9670	.281	.8901
WITHIN GROUPS	212	729.7726	3.4423		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	63	3.7302	1.6579	.2089	0	8.0000	3.3126 TO 4.1477
GRP 2	53	4.0139	1.3562	.2687	[illegible]	8.[illegible]00	3.4797 TO 4.5581
GRP 3	26	3.6923	1.8060	.3542	[illegible]	6.0000	2.9629 TO 4.4218
GRP 4	29	3.9310	2.2667	.4209	0	9.0000	3.0688 TO 4.7932
GRP 5	46	3.9783	1.7319	.2554	0	7.0000	3.4639 TO 4.4926
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY SIZOFORG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	5.5549	1.3887	1.370	.2455
WITHIN GROUPS	212	214.9428	1.0139		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	63	.7619	1.1460	.1444	0	4.0000	.4733 TO 1.0505
GRP 2	53	.6038	.7927	.1089	0	3.0000	.3853 TO .8223
GRP 3	26	.7692	.8629	.1692	0	3.0000	.4207 TO 1.1178
GRP 4	29	.4828	.6877	.1277	0	3.0000	.2212 TO .7443
GRP 5	46	.9783	1.2381	.1825	0	4.0000	.6106 TO 1.3459
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

VARIABLE STYLE1
BY SALARY

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	4.2799	.8560	.725	.6053
WITHIN GROUPS	211	249.1026	1.1806		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	6	1.3333	1.2111	.4944	0	3.0000	.0624 TO 2.6042
GRP 2	15	1.7333	1.1629	.3003	0	4.0000	1.0893 TO 2.3773
GRP 3	90	1.4000	1.0034	.1058	0	4.0000	1.1898 TO 1.6102
GRP 4	74	1.3108	1.1695	.1360	0	5.0000	1.0399 TO 1.5918
GRP 5	26	1.1538	1.1466	.2553	0	3.0000	.7311 TO 1.5766
GRP 6	6	1.0000	1.1954	.4472	0	3.0000	-.1496 TO 2.1496
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY SALARY

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	35.8233	7.1647	1.577	.1677
WITHIN GROUPS	211	958.3702	4.5420		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	6	7.0000	2.7568	1.1255	4.0000	10.0000	4.1069 TO 9.8931
GRP 2	15	5.0667	2.0517	.5297	3	8.0000	3.9305 TO 6.2029
GRP 3	90	5.3222	2.2276	.2348	2	10.0000	4.8557 TO 5.7888
GRP 4	74	5.4865	2.0593	.2405	0	9.0000	5.0071 TO 5.9658
GRP 5	26	5.5345	1.3643	.3852	0	8.0000	4.7451 TO 6.3319
GRP 6	6	7.1667	1.4720	.6009	5.0000	9.0000	5.6220 TO 8.7114
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY SALARY

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	14.1472	2.8294	.830	.5298
WITHIN GROUPS	211	719.4934	3.4099		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	6	3.6667	1.6330	.6667	2.0000	6.0000	1.9530 TO 5.3804
GRP 2	15	3.7333	1.8310	.4727	0	7.0000	2.7194 TO 4.7473
GRP 3	90	3.7778	1.9875	.2095	0	9.0000	3.3615 TO 4.1940
GRP 4	74	4.0946	1.7696	.2056	0	8.0000	3.6848 TO 4.5043
GRP 5	26	4.0000	1.7205	.3374	0	7.0000	3.3051 TO 4.6949
GRP 6	6	2.6667	1.0328	.4216	1.0000	4.0000	1.5828 TO 3.7505
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY SALARY

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	5.1170	1.0234	1.003	.4172
WITHIN GROUPS	211	215.3807	1.0208		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	6	0	0	0	0	0	0 TO 0
GRP 2	15	.6667	.7237	.1869	0	2.0000	.2659 TO 1.0675
GRP 3	90	.6889	1.0562	.1113	0	4.0000	.4677 TO .9101
GRP 4	74	.7838	1.0105	.1175	0	4.0000	.5497 TO 1.0179
GRP 5	26	.8462	1.0842	.2126	0	4.0000	.4083 TO 1.2841
GRP 6	6	1.1667	.9832	.4014	0	3.0000	.1349 TO 2.1984
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

VARIABLE STYLE1
BY HIDEGREE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	6	3.6366	.6061	.510	.8307
WITHIN GROUPS	210	249.7459	1.1893		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	7	.8571	1.0690	.4041	0	2.0000	-.1316 TO 1.8458
GRP 2	4	1.5000	1.7321	.8660	0	3.0000	-1.2560 TO 4.2560
GRP 3	44	1.4318	.9376	.1504	0	4.0000	1.1285 TO 1.7351
GRP 4	45	1.3111	1.0834	.1615	0	4.0000	.9856 TO 1.6366
GRP 5	90	1.3111	1.0773	.1136	0	5.0000	1.0855 TO 1.5367
GRP 6	25	1.5600	1.2275	.2455	0	5.0000	1.0533 TO 2.0667
GRP 7	2	1.0000	0	0	1.0000	1.0000	1.0000 TO 1.0000
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY HIDEGREE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	6	21.2326	3.5338	.763	.6000
WITHIN GROUPS	210	972.9910	4.6333		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	7	6.4286	2.6992	1.0202	2.0000	10.0000	3.9322 TO 8.9249
GRP 2	4	4.5001	3.1391	1.5546	0	7.0000	-.4472 TO 9.4472
GRP 3	44	5.2500	2.1145	.3188	0	10.0000	4.6071 TO 5.8929
GRP 4	45	5.2889	2.4920	.3715	0	9.0000	4.5402 TO 6.0376
GRP 5	90	5.6444	1.9848	.2092	0	10.0000	5.2287 TO 6.0602
GRP 6	25	5.4400	1.8532	.3700	2.0000	9.0000	4.6763 TO 6.2037
GRP 7	2	7.0000	1.4142	1.0000	6.0000	8.0000	-5.7062 TO 19.7062
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY HIDEGREE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	6	26.8966	4.4828	1.332	.2442
WITHIN GROUPS	210	706.7440	3.3654		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	7	4.4286	1.9881	.7514	2.0000	7.0000	2.5893 TO 6.2672
GRP 2	4	2.7500	2.0616	1.0308	0	5.0000	-.5303 TO 6.0303
GRP 3	44	4.1591	1.8293	.2758	0	8.0000	3.6029 TO 4.7152
GRP 4	45	3.3556	1.8359	.2737	0	7.0000	2.8040 TO 3.9071
GRP 5	90	3.9444	1.9042	.2007	0	9.0000	3.5456 TO 4.3433
GRP 6	25	4.1600	1.4911	.2982	1.0000	7.0000	3.5445 TO 4.7755
GRP 7	2	3.0000	1.4142	1.0000	2.0000	4.0000	-9.7062 TO 15.7062
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY HIDEGREE

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	6	3.6329	.6055	.586	.7411
WITHIN GROUPS	210	216.8648	1.0327		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	7	.2857	.4880	.1844	0	1.0000	-.1656 TO .7370
GRP 2	4	.2500	.5000	.2500	0	1.0000	-.5456 TO 1.0456
GRP 3	44	.8636	1.0021	.1511	0	3.0000	.5590 TO 1.1683
GRP 4	45	.7111	1.0792	.1609	0	4.0000	.3869 TO 1.0353
GRP 5	90	.7000	1.0106	.1065	0	4.0000	.4883 TO .9117
GRP 6	25	.8400	1.1060	.2212	0	4.0000	.3834 TO 1.2966
GRP 7	2	1.0000	0	0	1.0000	1.0000	1.0000 TO 1.0000
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

VARIABLE STYLE1
BY ONJOBTRN

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.1030	.1030	.087	.7677
WITHIN GROUPS	215	253.2795	1.1780		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	199	1.3568	1.0770	.0763	0	5.0000	1.2062 TO 1.5073
GRP 2	18	1.2778	1.1785	.2778	0	4.0000	.6917 TO 1.8638
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY ONJOBTRN

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.0305	.0305	.007	.9353
WITHIN GROUPS	215	994.1630	4.6240		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	199	5.4874	2.1924	.1554	0	10.0000	5.1813 TO 5.7939
GRP 2	18	5.4444	1.5301	.3724	3.0000	8.0000	4.6587 TO 6.2302
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY ONJOBTRN

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	6.3519	6.3519	1.878	.1720
WITHIN GROUPS	215	727.2887	3.3827		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	199	3.8241	1.8434	.1307	0	8.0000	3.5664 TO 4.0818
GRP 2	18	4.4444	1.7896	.4218	2.0000	9.0000	3.5545 TO 5.3344
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY ONJOBTRN

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.1987	.1987	.194	.6601
WITHIN GROUPS	215	220.2990	1.0246		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	199	.7236	.9944	.0705	0	4.0000	.5846 TO .8626
GRP 2	18	.8333	1.2005	.2830	0	4.0000	.2363 TO 1.4303
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

VARIABLE STYLE1
BY SEMWKSHP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.9998	.9998	.852	.3571
WITHIN GROUPS	215	252.3827	1.1739		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	196	1.3724	1.1903	.0773	0	5.0000	1.2189 TO 1.5260
GRP 2	21	1.1429	1.3142	.2213	0	3.0000	.6812 TO 1.6045
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY SEMWKSHP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	2.4657	2.4657	.535	.4655
WITHIN GROUPS	215	991.7279	4.6127		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	196	5.4490	2.1868	.1562	0	10.0000	5.1409 TO 5.7570
GRP 2	21	5.8095	1.7210	.3756	2.0000	8.0000	5.0261 TO 6.5929
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY SEMWKSHP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	1.1218	1.1218	.329	.5667
WITHIN GROUPS	215	732.5187	3.4071		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	196	3.8520	1.8375	.1348	0	9.0000	3.5861 TO 4.1179
GRP 2	21	4.0952	1.3749	.3000	2.0000	7.0000	3.4694 TO 4.7211
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY SEMWKSHP

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	1.1218	1.1218	1.099	.2956
WITHIN GROUPS	215	219.3759	1.0204		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	196	.7092	.9778	.0698	0	4.0000	.5714 TO .8469
GRP 2	21	.9524	1.2836	.2801	0	4.0000	.3681 TO 1.5367
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

VARIABLE STYLE1
BY FORMPROG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	1.1162	1.1162	.951	.3305
WITHIN GROUPS	215	252.2663	1.1733		
TOTAL	216	253.3825			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	84	1.4405	1.1444	.1249	0	5.0000	1.1921 TO 1.6888
GRP 2	133	1.2932	1.1429	.0991	0	5.0000	1.1144 TO 1.4721
TOTAL	217	1.3502			0	5.0000	
	UNGROUPED DATA		1.0831	.0735			1.2053 TO 1.4951

VARIABLE STYLE2
BY FORMPROG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	9.7067	9.7067	2.120	.1469
WITHIN GROUPS	215	984.4868	4.5790		
TOTAL	216	994.1935			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	84	5.7500	1.3064	.2073	0	10.0000	5.3376 TO 6.1624
GRP 2	133	5.3158	2.2776	.1975	0	10.0000	4.9251 TO 5.7064
TOTAL	217	5.4839			0	10.0000	
	UNGROUPED DATA		2.1454	.1456			5.1968 TO 5.7709

VARIABLE STYLE3
BY FORMPROG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.5773	.5773	.169	.6811
WITHIN GROUPS	215	733.0633	3.4096		
TOTAL	216	733.6406			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	84	3.9405	1.8907	.2063	0	9.0000	3.5302 TO 4.3508
GRP 2	133	3.8346	1.8182	.1577	0	8.0000	3.5227 TO 4.1464
TOTAL	217	3.8756			0	9.0000	
	UNGROUPED DATA		1.8430	.1251			3.6290 TO 4.1222

VARIABLE STYLE4
BY FORMPROG

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	1	.0466	.0466	.045	.8314
WITHIN GROUPS	215	220.4511	1.0254		
TOTAL	216	220.4977			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	84	.7143	.9641	.1052	0	4.0000	.5051 TO .9235
GRP 2	133	.7444	1.0420	.0903	0	4.0000	.5656 TO .9231
TOTAL	217	.7327			0	4.0000	
	UNGROUPED DATA		1.0104	.0686			.5975 TO .8679

APPENDIX N

ANOVA-Years of Experience by Salary

VARIABLE YRSEXP
BY SALARY

ANALYSIS OF VARIANCE

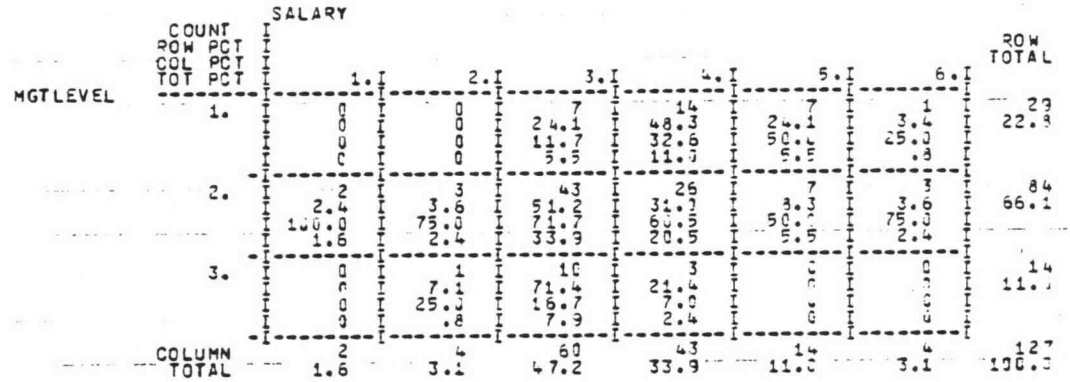
SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	338.2788	67.6558	2.066	.0709
WITHIN GROUPS	211	6908.7166	32.7427		
TOTAL	216	7246.9954			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	MINIMUM	MAXIMUM	95 PCT CONF INT FOR MEAN
GRP 1	6	6.8333	4.2151	1.7208	2.0000	14.0000	2.4100 TO 11.2567
GRP 2	15	6.1333	3.3778	.9721	2.0000	15.0000	4.2628 TO 8.0039
GRP 3	91	9.3556	4.9271	.5194	1.0000	26.0000	8.3236 TO 10.3875
GRP 4	74	10.2162	6.2555	.7272	1.0000	34.0000	8.7669 TO 11.6655
GRP 5	26	10.3846	6.8357	1.3406	1.0000	27.0000	7.6236 TO 13.1456
GRP 6	6	12.8333	9.7451	3.9784	2.0000	29.0000	2.6067 TO 23.0600
TOTAL	217	9.5760			1.0000	34.0000	
	UNGROUPED DATA		5.7923	.3932			8.8010 TO 10.3511

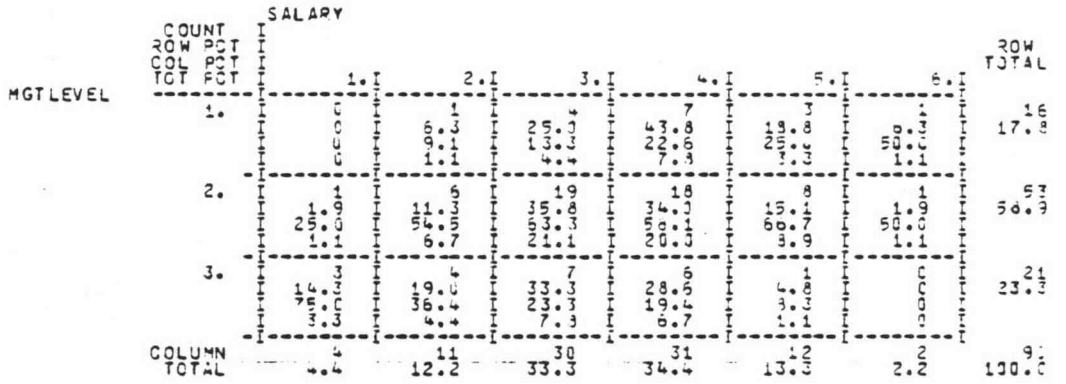
APPENDIX O

Cross-tabulations of Mgt. Level by Variable

Crosstabulation of Management Level with Salary



MGTLEVEL	SALARY 1.	2.	3.	4.	5.	6.	ROW TOTAL
1.	0	0	7	14	7	1	29
	0.0	0.0	24.1	48.3	24.1	3.4	22.8
	0.0	0.0	11.7	32.6	50.0	25.0	
	0.0	0.0	5.5	11.0	5.5	.8	
2.	2	3	43	26	7	3	84
	2.4	3.6	51.2	31.0	8.3	3.6	66.1
	100.0	75.0	71.7	60.5	50.0	75.0	
	1.6	2.4	33.9	20.5	5.5	2.4	
3.	0	1	10	3	0	0	14
	0.0	7.1	71.4	21.4	0.0	0.0	11.1
	0.0	25.0	16.7	7.0	0.0	0.0	
	0.0	.8	7.9	2.4	0.0	0.0	
COLUMN TOTAL	2	4	60	43	14	4	127
	1.6	3.1	47.2	33.9	11.0	3.1	100.0



MGTLEVEL	SALARY 1.	2.	3.	4.	5.	6.	ROW TOTAL
1.	0	1	4	7	3	1	16
	0.0	6.3	25.0	43.8	18.8	6.3	17.8
	0.0	9.1	13.3	22.6	25.0	50.0	
	0.0	1.1	4.4	7.8	3.3	1.1	
2.	1	6	19	18	8	1	53
	1.9	11.3	35.8	34.0	15.1	1.9	58.9
	25.0	54.5	63.3	58.1	66.7	50.0	
	1.1	6.7	21.1	20.0	8.9	1.1	
3.	3	4	7	6	1	0	21
	14.3	19.0	33.3	28.6	4.8	0.0	23.3
	75.0	36.4	23.3	19.4	8.3	0.0	
	3.3	4.4	7.8	6.7	1.1	0.0	
COLUMN TOTAL	4	11	30	31	12	2	90
	4.4	12.2	33.3	34.4	13.3	2.2	100.0

Crosstabulation of Management Level with On the Job Training

ONJOBTRN

COUNT / ROW PCT / COL PCT / TOT PCT	1.	2.	ROW TOTAL
MGTLEVEL			
1.	28	1	29
	96.6	3.4	22.8
	24.6	7.7	
	22.0	.8	
2.	74	10	84
	88.1	11.9	66.1
	64.9	76.9	
	58.3	7.9	
3.	12	2	14
	85.7	14.3	11.0
	10.5	15.4	
	9.4	1.6	
COLUMN TOTAL	114	13	127
	89.8	10.2	100.0

ONJOBTRN

COUNT / ROW PCT / COL PCT / TOT PCT	1.	2.	ROW TOTAL
MGTLEVEL			
1.	16	0	16
	100.0	0	17.8
	18.8	0	
	17.8	0	
2.	50	3	53
	94.3	5.7	58.9
	58.8	60.0	
	55.6	3.3	
3.	19	2	21
	90.5	9.5	23.3
	22.4	40.0	
	21.1	2.2	
COLUMN TOTAL	85	5	90
	94.4	5.6	100.0

Crosstabulation of Management Level with Formal Program Training

MGTLEVEL	FORMPROG 1.	FORMPROG 2.	ROW TOTAL
1.	COUNT 16	13	29
	ROW PCT 55.2	44.8	22.8
	COL PCT 27.6	18.8	
	TOT PCT 12.6	10.2	
2.	COUNT 37	47	84
	ROW PCT 44.0	56.0	66.1
	COL PCT 63.8	68.1	
	TOT PCT 29.1	37.0	
3.	COUNT 5	9	14
	ROW PCT 35.7	64.3	11.0
	COL PCT 8.6	13.0	
	TOT PCT 3.9	7.1	
COLUMN TOTAL	58	69	127
	45.7	54.3	100.0

MGTLEVEL	FORMPROG 1.	FORMPROG 2.	ROW TOTAL
1.	COUNT 9	7	16
	ROW PCT 56.3	43.8	17.8
	COL PCT 34.6	10.9	
	TOT PCT 10.0	7.8	
2.	COUNT 14	39	53
	ROW PCT 26.4	73.6	58.9
	COL PCT 53.8	60.9	
	TOT PCT 15.6	43.3	
3.	COUNT 3	18	21
	ROW PCT 14.3	85.7	23.3
	COL PCT 11.5	28.1	
	TOT PCT 3.3	20.0	
COLUMN TOTAL	26	64	90
	28.9	71.1	100.0

Crosstabulation of Management Level with Seminars or Workshops

MGTLEVEL	SEMWKSHP 1.	SEMWKSHP 2.	ROW TOTAL
1.	COUNT 25	4	29
	ROW PCT 86.2	13.8	22.8
	COL PCT 22.3	26.7	
	TOT PCT 19.7	3.1	
2.	COUNT 74	10	84
	ROW PCT 88.1	11.9	66.1
	COL PCT 66.1	66.7	
	TOT PCT 58.3	7.9	
3.	COUNT 13	1	14
	ROW PCT 92.9	7.1	11.0
	COL PCT 11.6	6.7	
	TOT PCT 10.2	.8	
COLUMN TOTAL	112	15	127
	88.2	11.8	100.0

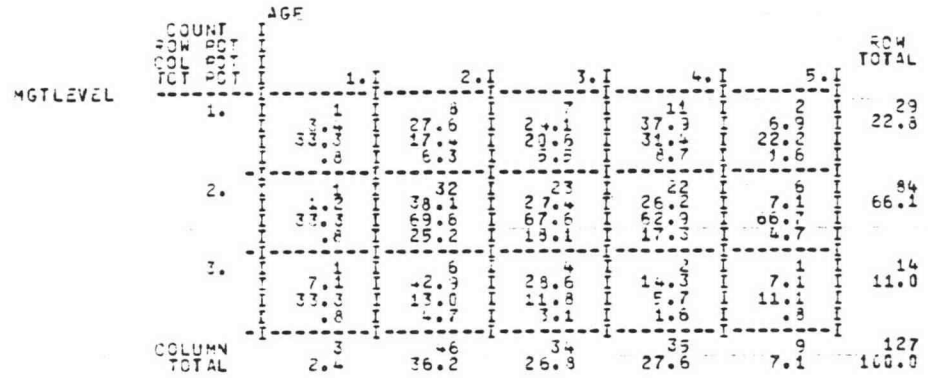
MGTLEVEL	SEMWKSHP 1.	SEMWKSHP 2.	ROW TOTAL
1.	COUNT 15	1	16
	ROW PCT 93.8	6.3	17.8
	COL PCT 17.9	16.7	
	TOT PCT 16.7	1.1	
2.	COUNT 50	3	53
	ROW PCT 94.3	5.7	58.9
	COL PCT 59.5	50.0	
	TOT PCT 55.6	3.3	
3.	COUNT 19	2	21
	ROW PCT 90.5	9.5	23.3
	COL PCT 22.6	33.3	
	TOT PCT 21.1	2.2	
COLUMN TOTAL	84	6	90
	93.3	6.7	100.0

Crosstabulation of Management Level with Marital Status

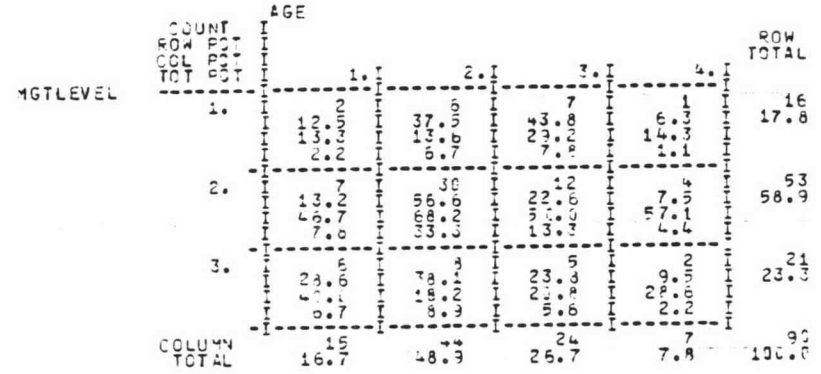
MGTLEVEL	COUNT / ROW PCT / COL PCT / TOT PCT	MARITAL 1.	2.	3.	4.	ROW TOTAL
1.		18	5	6	0	29
		62.1	17.2	20.7	0	22.8
		26.1	29.4	15.0	0	
		14.2	3.9	4.7	0	
2.		45	10	28	1	84
		53.6	11.9	33.3	1.2	66.1
		65.2	58.8	70.0	100.0	
		35.4	7.9	22.0	.8	
3.		6	2	6	0	14
		42.9	14.3	42.9	0	11.0
		8.7	11.8	15.0	0	
		4.7	1.6	4.7	0	
COLUMN TOTAL		69	17	40	1	127
		54.3	13.4	31.5	.8	100.0

MGTLEVEL	COUNT / ROW PCT / COL PCT / TOT PCT	MARITAL 1.	2.	3.	ROW TOTAL
1.		8	1	7	16
		50.0	6.3	43.8	17.8
		14.0	12.5	28.0	
		8.9	1.1	7.8	
2.		36	4	13	53
		67.9	7.5	24.5	58.9
		63.2	50.0	52.0	
		40.0	4.4	14.4	
3.		13	3	5	21
		61.9	14.3	23.8	23.3
		22.8	37.5	20.0	
		14.4	3.3	5.6	
COLUMN TOTAL		57	8	25	90
		63.3	8.9	27.8	100.0

Crosstabulation of Management Level with Age



MGTLEVEL	AGE 1.	2.	3.	4.	5.	ROW TOTAL
1.	1	8	7	11	2	29
	.8	6.3	5.5	8.7	1.6	22.8
	33.3	27.6	24.1	37.9	6.9	
	.8	6.3	5.5	8.7	1.6	
2.	1	32	23	22	6	84
	.8	25.2	18.1	17.3	4.7	66.1
	33.3	69.6	67.6	62.9	66.7	
	.8	25.2	18.1	17.3	4.7	
3.	1	6	4	2	1	14
	.8	4.7	3.1	1.6	.8	11.0
	7.1	42.9	28.6	14.3	7.1	
	33.3	13.0	11.8	5.7	11.1	
COLUMN TOTAL	3	46	34	35	9	127
	2.4	36.2	26.8	27.6	7.1	100.0

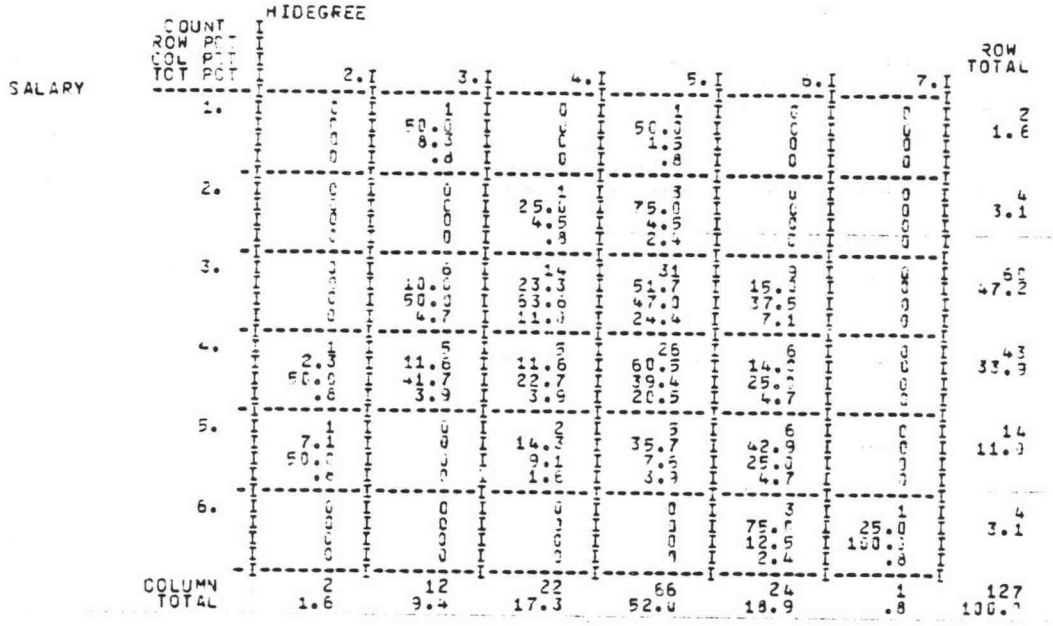


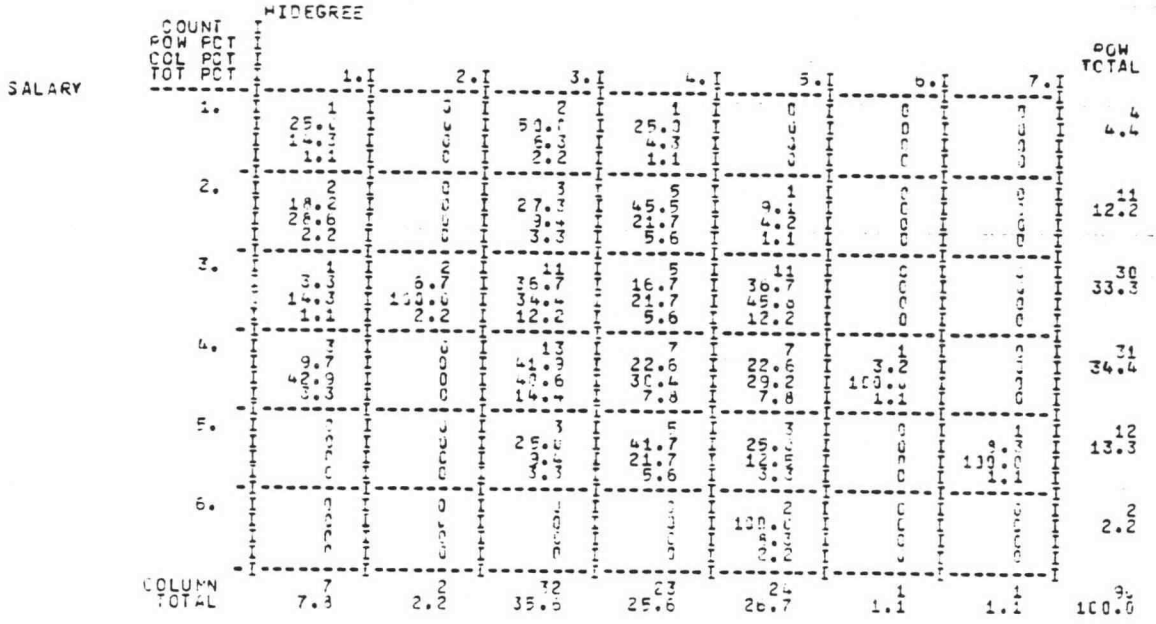
MGTLEVEL	AGE 1.	2.	3.	4.	ROW TOTAL
1.	2	9	7	1	16
	1.1	5.0	3.9	.6	8.8
	12.5	37.5	43.8	6.3	
	13.3	13.6	29.2	14.3	
	2.2	6.7	7.8	1.1	
2.	7	38	12	4	61
	3.9	21.0	6.6	2.2	33.7
	11.5	62.3	19.7	6.6	
	46.7	57.6	50.0	57.1	
	7.7	42.2	13.3	4.4	
3.	6	19	5	2	32
	3.3	10.5	2.8	1.1	17.7
	18.8	59.4	15.6	6.3	
	40.0	28.8	20.8	28.6	
	6.7	21.1	5.6	2.2	
COLUMN TOTAL	15	66	24	7	90
	16.7	36.7	26.7	7.8	100.0

APPENDIX P

Cross-tabulations of Salary by Highest Degree

Crosstabulation of Salary by Highest Degree





APPENDIX Q

Cross-tabulations of Group by Variables

GROUP BY PCTHIRED

CROSSTABULATION OF

GROUP	PCTHIRED 1.	PCTHIRED 2.	ROW TOTAL
HIGHER ED	88	39	127
	69.3	30.7	58.5
	58.3	59.1	
	40.6	18.0	
NON-HI-ED	63	27	90
	70.0	30.0	41.5
	41.7	40.9	
	29.0	12.4	
COLUMN TOTAL	151	66	217
	69.6	30.4	100.0

CORRECTED CHI SQUARE = 0 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = 1.0000
RAW CHI SQUARE = .01250 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .9110

GROUP BY OTHERPOS

GROUP	OTHERPOS 1.	OTHERPOS 2.	ROW TOTAL
HIGHER ED	33	94	127
	26.0	74.0	58.5
	57.9	58.7	
	15.2	43.3	
NON-HI-ED	24	66	90
	26.7	73.3	41.5
	42.1	41.3	
	11.1	30.4	
COLUMN TOTAL	57	160	217
	26.3	73.7	100.0

CORRECTED CHI SQUARE = 0 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = 1.0000
RAW CHI SQUARE = .01267 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .9104

* C R O S S T A B U L A T I O N O F * * * * * * * *
GROUP BY LONGRANG
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	LONGRANG 1.	LONGRANG 2.	ROW TOTAL
HIGHER ED	1.	119	8	127
		93.7	6.3	58.5
		63.0	28.6	
		54.8	3.7	
NON-HI-ED	2.	70	20	90
		77.8	22.2	41.5
		37.0	71.4	
		32.3	9.2	
COLUMN TOTAL		189	28	217
		87.1	12.9	100.0

CORRECTED CHI SQUARE = 10.50866 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0012
RAW CHI SQUARE = 11.88328 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0006

* C R O S S T A B U L A T I O N O F * * * * * * *
GROUP BY SHORTERM
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	SHORTERM 1.	SHORTERM 2.	ROW TOTAL
HIGHER ED	1.	126	1	127
		99.2	.8	58.5
		59.4	20.0	
		58.1	.5	
NON-HI-ED	2.	86	4	90
		95.6	4.4	41.5
		40.6	80.0	
		39.6	1.8	
COLUMN TOTAL		212	5	217
		97.7	2.3	100.0

CORRECTED CHI SQUARE = 1.71565 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .1903
RAW CHI SQUARE = 3.12939 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0769

* * * * * * * * * * * * * * * * * * * C R O S S T A B U L A T I O N O F * * * * *
GROUP BY COORDPER
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	COORDPER 1.	COORDPER 2.	ROW TOTAL
HIGHER ED	1.	122	5	127
		96.1	3.9	58.5
		61.3	27.8	
		56.2	2.3	
NON-HI-ED	2.	77	13	90
		85.6	14.4	41.5
		38.7	72.2	
		35.5	6.0	
COLUMN TOTAL		199	18	217
		91.7	8.3	100.0

CORRECTED CHI SQUARE = 6.32602 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0119
RAW CHI SQUARE = 7.64494 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0057

* * * * * * * * * * * * * * * * * * * C R O S S T A B U L A T I O N O F * * * * * *
GROUP BY SUPRVSNG
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	SUPRVSNG 1.	SUPRVSNG 2.	ROW TOTAL
HIGHER ED	1.	121	6	127
		95.3	4.7	58.5
		64.0	21.4	
		55.8	2.8	
NON-HI-ED	2.	68	22	90
		75.6	24.4	41.5
		36.0	78.6	
		31.3	10.1	
COLUMN TOTAL		189	28	217
		87.1	12.9	100.0

CORRECTED CHI SQUARE = 16.51394 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0001
RAW CHI SQUARE = 19.22642 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0000

GROUP BY TEACHING

CROSSTABULATION OF

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	TEACHING 1.	TEACHING 2.	ROW TOTAL
HIGHER ED	1.	102	25	127
		80.3	19.7	58.5
		53.7	92.6	
		47.0	11.5	
NON-HI-ED	2.	88	2	90
		97.8	2.2	41.5
		46.3	7.4	
		40.6	.9	
COLUMN TOTAL		190	27	217
		87.6	12.4	100.0

CORRECTED CHI SQUARE = 13.18469 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0003
RAW CHI SQUARE = 14.74406 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0001

GROUP BY BUDGETNG

CROSSTABULATION OF

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	BUDGETNG 1.	BUDGETNG 2.	ROW TOTAL
HIGHER ED	1.	111	16	127
		87.4	12.6	58.5
		65.7	33.3	
		51.2	7.4	
NON-HI-ED	2.	58	32	90
		64.4	35.6	41.5
		34.3	66.7	
		26.7	14.7	
COLUMN TOTAL		169	48	217
		77.9	22.1	100.0

CORRECTED CHI SQUARE = 14.80929 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0001
RAW CHI SQUARE = 16.11437 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0001

CROSSTABULATION OF GROUP BY PUBLICRE

GROUP	PUBLICRE 1.	PUBLICRE 2.	ROW TOTAL
1. HIGHER ED	118	9	127
	92.9	7.1	58.5
	62.8	31.0	
	54.4	4.1	
2. NON-HI-ED	70	20	90
	77.8	22.2	41.5
	37.2	69.0	
	32.3	9.2	
COLUMN TOTAL	188	29	217
	86.6	13.4	100.0

CORRECTED CHI SQUARE = 9.15570 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0025
RAW CHI SQUARE = 10.42197 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0012

CROSSTABULATION OF GROUP BY LABORREL

GROUP	LABORREL 1.	LABORREL 2.	ROW TOTAL
1. HIGHER ED	46	81	127
	36.2	63.8	58.5
	54.1	61.4	
	21.2	37.3	
2. NON-HI-ED	39	51	90
	43.3	56.7	41.5
	45.9	38.6	
	18.0	23.5	
COLUMN TOTAL	85	132	217
	39.2	60.8	100.0

CORRECTED CHI SQUARE = .83981 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .3595
RAW CHI SQUARE = 1.11841 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .2903

CROSSTABULATION OF GROUP BY HIDEGREE

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	HIDEGREE 1.	2.	3.	4.	5.	6.	7.	ROW TOTAL
HIGHER ED	1.	0 0 0 0	2 1.6 50.0 .9	12 9.4 27.3 5.5	22 17.3 48.9 10.1	66 52.0 73.3 30.4	24 18.9 96.0 11.1	1 .8 50.0 .5	127 58.5
NON-HI-ED	2.	7 7.8 100.0 3.2	2 2.2 50.0 .9	32 35.6 72.7 14.7	23 25.6 51.1 10.6	24 26.7 26.7 11.1	1 1.1 4.0 .5	1 1.1 50.0 .5	90 41.5
COLUMN TOTAL		7 3.2	4 1.8	44 20.3	45 20.7	90 41.5	25 11.5	2 .9	217 100.0

RAW CHI SQUARE = 52.07843 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = .0000

CROSSTABULATION OF GROUP BY WORKDEGR

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	WORKDEGR 1.	2.	ROW TOTAL
HIGHER ED	1.	96 75.6 58.2 44.2	31 24.4 59.6 14.3	127 58.5
NON-HI-ED	2.	69 76.7 41.8 31.8	21 23.3 40.4 9.7	90 41.5
COLUMN TOTAL		165 76.0	52 24.0	217 100.0

CORRECTED CHI SQUARE = .00047 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .9828
RAW CHI SQUARE = .03348 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .8548

* C R O S S T A B U L A T I O N O F GROUP BY MGTLEVEL *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	MGTLEVEL 1.	MGTLEVEL 2.	MGTLEVEL 3.	ROW TOTAL
HIGHER ED	1.	29 22.8 64.4 13.4	84 66.1 61.3 38.7	14 11.0 40.0 6.5	127 58.5
NON-HI-ED	2.	16 17.8 35.6 7.4	53 58.9 38.7 24.4	21 23.3 60.0 9.7	90 41.5
COLUMN TOTAL		45 20.7	137 63.1	35 16.1	217 100.0

RAW CHI SQUARE = 6.03691 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = .0489

* C R O S S T A B U L A T I O N O F GROUP BY SALARY *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	SALARY 1.	SALARY 2.	SALARY 3.	SALARY 4.	SALARY 5.	SALARY 6.	ROW TOTAL
HIGHER ED	1.	2 1.6 33.3 .9	4 3.1 26.7 1.8	60 47.2 66.7 27.6	43 33.9 58.1 19.8	14 11.0 53.8 6.5	4 3.1 66.7 1.8	127 58.5
NON-HI-ED	2.	4 4.4 66.7 1.8	11 12.2 73.3 5.1	30 33.3 33.3 13.8	31 34.4 41.9 14.3	12 13.3 46.2 5.5	2 2.2 33.3 .9	90 41.5
COLUMN TOTAL		6 2.8	15 6.9	90 41.5	74 34.1	26 12.0	6 2.8	217 100.0

RAW CHI SQUARE = 10.70218 WITH 5 DEGREES OF FREEDOM. SIGNIFICANCE = .0576

CROSSTABULATION OF GROUP BY ONJOBTRN

GROUP	ONJOBTRN 1.	2.	ROW TOTAL
1. HIGHER ED	114	13	127
	89.8	10.2	58.5
	57.3	72.2	
	52.5	6.0	
2. NON-HI-ED	85	5	90
	94.4	5.6	41.5
	42.7	27.8	
	39.2	2.3	
COLUMN TOTAL	199	18	217
	91.7	8.3	100.0

CORRECTED CHI SQUARE = .96411 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .3262
RAW CHI SQUARE = 1.51703 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .2181

CROSSTABULATION OF GROUP BY SEMWKSHP

GROUP	SEMWKSHP 1.	2.	ROW TOTAL
1. HIGHER ED	112	15	127
	88.2	11.8	58.5
	57.1	71.4	
	51.6	6.9	
2. NON-HI-ED	84	6	90
	93.3	6.7	41.5
	42.9	28.6	
	38.7	2.8	
COLUMN TOTAL	196	21	217
	90.3	9.7	100.0

CORRECTED CHI SQUARE = 1.06051 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .3031
RAW CHI SQUARE = 1.59475 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .2067

* C R O S S T A B U L A T I O N O F * * * * * *
GROUP BY FORMPROG
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	FORMPROG 1.	FORMPROG 2.	ROW TOTAL
HIGHER ED	1.	58	69	127
		45.7	54.3	58.5
		69.0	51.9	
		26.7	31.8	
NON-HI-ED	2.	26	64	90
		28.9	71.1	41.5
		31.0	48.1	
		12.0	29.5	
	COLUMN TOTAL	84 38.7	133 61.3	217 100.0

CORRECTED CHI SQUARE = 5.56416 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0183
RAW CHI SQUARE = 6.25144 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .0124

* C R O S S T A B U L A T I O N O F * * * * * *
GROUP BY OTHER16
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	OTHER16 1.	OTHER16 2.	ROW TOTAL
HIGHER ED	1.	17	110	127
		13.4	86.6	58.5
		54.8	59.1	
		7.8	50.7	
NON-HI-ED	2.	14	76	90
		15.6	84.4	41.5
		45.2	40.9	
		6.5	35.0	
	COLUMN TOTAL	31 14.3	186 85.7	217 100.0

CORRECTED CHI SQUARE = .06407 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .8002
RAW CHI SQUARE = .20251 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .6527

* C R O S S T A B U L A T I O N O F * * * * *
GROUP BY MOVE
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	MOVE 1.	2.	3.	4.	ROW TOTAL
1. HIGHER ED		17	4	63	43	127
		13.4	3.1	49.6	33.9	58.5
		60.7	80.0	56.3	59.7	
		7.8	1.8	29.0	19.8	
2. NON-HI-ED		11	1	49	29	90
		12.2	1.1	54.4	32.2	41.5
		39.3	20.0	43.8	40.3	
		5.1	.5	22.6	13.4	
COLUMN TOTAL		28	5	112	72	217
		12.9	2.3	51.6	33.2	100.0

RAW CHI SQUARE = 1.28659 WITH 3 DEGREES OF FREEDOM. SIGNIFICANCE = .7323

* C R O S S T A B U L A T I O N O F * * * * *
GROUP BY MARITAL
* *

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	MARITAL 1.	2.	3.	4.	ROW TOTAL
1. HIGHER ED		69	17	40	1	127
		54.3	13.4	31.5	.8	58.5
		54.8	68.0	61.5	100.0	
		31.8	7.8	18.4	.5	
2. NON-HI-ED		57	8	25	0	90
		63.3	8.9	27.8	0	41.5
		45.2	32.0	38.5	0	
		26.3	3.7	11.5	0	
COLUMN TOTAL		126	25	65	1	217
		58.1	11.5	30.0	.5	100.0

RAW CHI SQUARE = 2.61156 WITH 3 DEGREES OF FREEDOM. SIGNIFICANCE = .4555

GROUP * C R O S S T A B U L A T I O N O F * * * * BY ETHNIC

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	ETHNIC 1.	2.	3.	4.	5.	6.	ROW TOTAL
HIGHER ED	1.	0 0 0 0	1 .8 20.0 .5	1 .8 100.0 .5	0 0 0 0	124 97.6 59.9 57.1	1 .8 100.0 .5	127 58.5
NON-HI-ED	2.	2 2.2 100.0 .9	4 4.4 80.0 1.8	0 0 0 0	1 1.1 100.0 .5	83 92.2 40.1 38.2	0 0 0 0	90 41.5
COLUMN TOTAL		2 .9	5 2.3	1 .5	1 .5	207 95.4	1 .5	217 100.0

RAW CHI SQUARE = 8.86989 WITH 5 DEGREES OF FREEDOM. SIGNIFICANCE = .1144

GROUP * C R O S S T A B U L A T I O N O F * * * * * BY AGE

GROUP	COUNT / ROW PCT / COL PCT / TOT PCT	AGE 1.	2.	3.	4.	5.	ROW TOTAL
HIGHER ED	1.	3 2.4 16.7 1.4	46 36.2 51.1 21.2	34 26.8 58.6 15.7	35 27.6 83.3 16.1	9 7.1 100.0 4.1	127 58.5
NON-HI-ED	2.	15 16.7 83.3 6.9	44 48.9 48.9 20.3	24 26.7 41.4 11.1	7 7.8 16.7 3.2	0 0 0 0	90 41.5
COLUMN TOTAL		18 8.3	90 41.5	58 26.7	42 19.4	9 4.1	217 100.0

RAW CHI SQUARE = 32.05852 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = .0000

* C R O S S T A B U L A T I O N O F * * * * * * * *

GROUP BY ANALYSIS

* *

		ANALYSIS		
	COUNT / ROW PCT / COL PCT / TOT PCT	1.	2.	ROW TOTAL
GROUP				
HIGHER ED	1.	19 15.0 65.5 8.8	108 85.0 57.4 49.8	127 58.5
NON-HI-ED	2.	10 11.1 34.5 4.6	80 88.9 42.6 36.9	90 41.5
	COLUMN TOTAL	29 13.4	188 86.6	217 100.0

CORRECTED CHI SQUARE = .38267 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .5362
RAW CHI SQUARE = .67416 WITH 1 DEGREE OF FREEDOM. SIGNIFICANCE = .4116

APPENDIX R

Normative Table for LEAD-Self Style and Adaptability

NORMATIVE INFORMATION FOR LEAD/SELF
STYLES AND ADAPTABILITY SCORES

NCE	%-ile	Style 1	Style 2	Style 3	Style 4	Adaptability	%-ile	NCE
99	99	6-12	11-12	10-12	5-12	20-24	99	99
93	98	-	10	9	-	19	98	93
90	97	5	-	8	4	-	97	90
87	96	-	-	-	-	18	96	87
85	95	-	-	-	-	-	95	85
83	94	-	9	-	-	-	94	83
81	93	-	-	-	-	17	93	81
80	92	-	-	7	-	-	92	80
78	91	-	-	-	3	-	91	78
77	90	-	-	-	-	-	90	77
76	89	-	-	-	-	16	89	76
75	88	4	-	-	-	-	88	75
74	87	-	-	-	-	-	87	74
73	86	-	-	-	-	-	86	73
72	85	-	8	-	-	15	85	72
71	84	-	-	-	2	-	84	71
70	83	-	-	6	-	-	83	70
69	82	-	-	-	-	-	82	69
68	81	-	-	-	-	14	81	68
68	80	-	-	-	-	-	80	68
67	79	-	-	-	-	-	79	67
66	78	-	-	-	-	-	78	66
66	77	-	-	-	-	-	77	66
65	76	-	-	-	-	-	76	65
64	75	-	-	-	-	-	75	64
64	74	-	-	-	-	-	74	64
63	73	-	-	-	-	13	73	63
62	72	-	-	-	-	-	72	62
62	71	-	-	-	-	-	71	62
61	70	3	-	-	-	-	70	61
60	69	-	7	-	-	-	69	60
60	68	-	-	-	-	-	68	60
59	67	-	-	-	-	12	67	59
59	66	-	-	-	-	-	66	59
58	65	-	-	-	-	-	65	58
58	64	-	-	5	-	-	64	58
57	63	-	-	-	-	-	63	57
56	62	-	-	-	-	-	62	56
56	61	-	-	-	-	-	61	56
55	60	-	-	-	-	11	60	55
55	59	-	-	-	-	-	59	55
54	58	-	-	-	1	-	58	54
54	57	-	-	-	-	-	57	54
53	56	-	-	-	-	-	56	53
53	55	-	-	-	-	-	55	53
52	54	-	-	-	-	-	54	52
52	53	-	-	-	-	-	53	52
51	52	-	-	-	-	10	52	51
51	51	-	-	-	-	-	51	51

Source: Greene, 1980, p. 32.

NORMATIVE INFORMATION FOR LEAD/SELF
STYLES AND ADAPTABILITY SCORES
(continued)

NCE	%-ile	Style 1	Style 2	Style 3	Style 4	Adaptability	%-ile	NCE
50	50	-	-	-	-	-	50	50
49	49	-	-	-	-	-	49	49
49	48	-	-	-	-	-	48	49
48	47	-	6	-	-	-	47	48
48	46	2	-	-	-	9	46	48
47	45	-	-	-	-	-	45	47
47	44	-	-	-	-	-	44	47
46	43	-	-	4	-	-	43	46
46	42	-	-	-	-	-	42	46
45	41	-	-	-	-	-	41	45
45	40	-	-	-	-	-	40	45
44	39	-	-	-	-	-	39	44
44	38	-	-	-	-	8	38	44
43	37	-	-	-	-	-	37	43
42	36	-	-	-	-	-	36	42
42	35	-	-	-	-	-	35	42
41	34	-	-	-	-	-	34	41
41	33	-	-	-	-	-	33	41
40	32	-	-	-	-	-	32	40
40	31	-	-	-	-	-	31	40
39	30	-	-	-	-	7	30	39
38	29	-	-	-	-	-	29	38
38	28	-	-	-	-	-	28	38
37	27	-	5	-	-	-	27	37
36	26	-	-	-	-	6	26	36
36	25	-	-	-	-	-	25	36
35	24	-	-	-	-	-	24	35
34	23	-	-	3	-	-	23	34
34	22	-	-	-	-	-	22	34
33	21	1	-	-	-	5	21	33
32	20	-	-	-	-	-	20	32
32	19	-	-	-	-	-	19	32
31	18	-	-	-	-	-	18	31
30	17	-	-	-	-	-	17	30
29	16	-	-	-	-	-	16	29
28	15	-	4	-	-	4	15	28
27	14	-	-	-	-	-	14	27
26	13	-	-	-	-	-	13	26
25	12	-	-	-	-	-	12	25
24	11	-	-	-	-	-	11	24
23	10	-	-	-	-	3	10	23
22	9	-	-	-	-	-	9	22
20	8	-	-	2	-	-	8	20
19	7	-	-	-	-	2	7	19
17	6	-	3	-	-	-	6	17
15	5	-	-	-	-	-	5	15
13	4	-	-	-	-	1	4	13
10	3	-	2	-	-	0	3	10
7	2	-	-	1	-	-1	2	7
1	1	0	0-1	0	0	(-24)→(2)	1	1

Source: Greene, 1980, p. 33.

APPENDIX S

LEAD-Self Profile Chart

LEAD-SELF PROFILE CHART

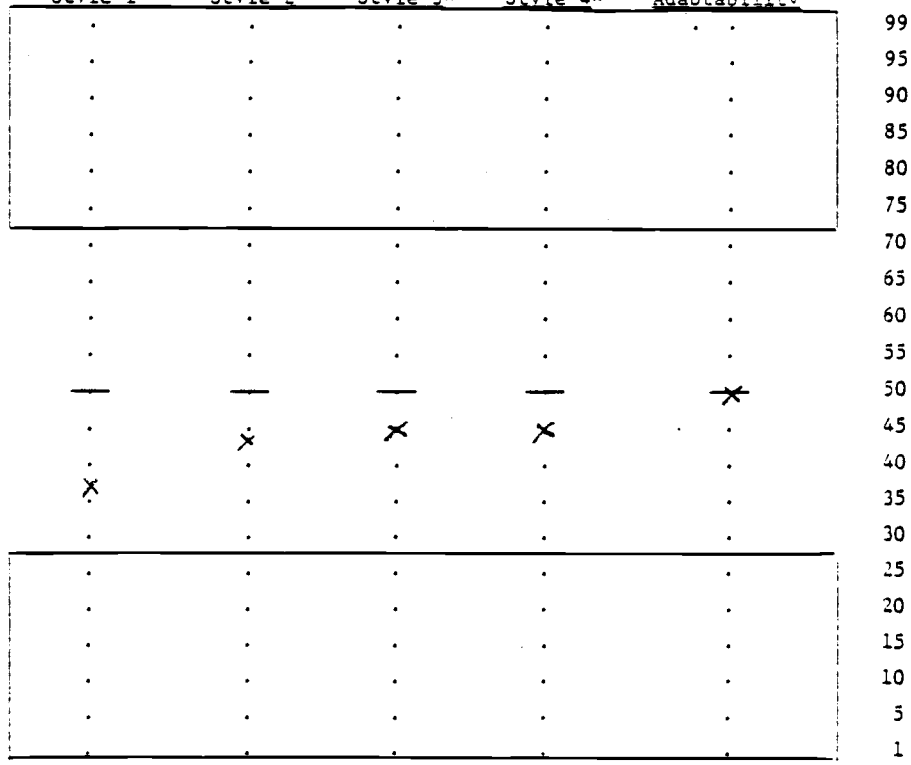
Profile Chart for_____
(name)

Date_____
Company_____
Position_____

Section A
LEAD-SELF SCORES

	Raw Score	NCE
Style 1	____	____
Style 2	____	____
Style 3	____	____
Style 4	____	____
Adaptability	____	____

Section B
LEAD-SELF PROFILES



* Caution: Normative Ipsative Scores.