

FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

The Effects of Sex of Teacher, Sex of Scenario Principal,  
and Leadership Style on the Performance Ratings  
of Scenario Principals by Teachers

A dissertation submitted in partial satisfaction of the  
requirements for the degree of Doctor of Education  
in Educational Administration and Supervision

by

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1996

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This dissertation, written by Shirley Hill Beer, and entitled *The Effects of Sex of Teacher, Sex of Scenario Principal, and Leadership Style on the Performance Ratings of Scenario Principals by Teachers*, having been approved in respect to style and intellectual content, is referred to you for judgement.

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## DEDICATION

In memory of my father,  
Woody R. Hill

## ACKNOWLEDGEMENTS

It is often said that life is a journey and not a destination, but as we travel through life, there are times when we acknowledge places we have come to and then move on. I have come to the end of my doctoral studies and before I move on I would like to thank those who made this accomplishment possible.

My committee members, Dr. Sarah Pell, Dr. Stephen Fain, and Dr. Allen Fisher have given of their time and talent. Their assistance in refining the instrument and providing feedback on early drafts was crucial, but most important was the genuine interest they expressed in my work.

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## ABSTRACT OF THE DISSERTATION

The Effects of Sex of Teacher, Sex of Scenario Principal,  
and Leadership Style on the Performance Ratings  
of Scenario Principals by Teachers

by

Shirley Hill Beer

Florida International University, 1996

Miami, Florida

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This study was designed to address questions regarding the effects of sex and leadership style on teacher perceptions of principal effectiveness. On a researcher-designed instrument, middle school teachers rated the effectiveness of a scenario principal's response in several situations. The responses reflected varying levels of Task and Relationship Behavior.

The design incorporated two between subjects factors (Teacher Sex and Principal Sex) and one within subjects factor (Leadership Style) which was treated as a repeated measure. An analysis of variance revealed no significant effects except for Leadership Style. Overall, High Task/High Relationship behavior rated significantly higher and Low Task/Low Relationship rated significantly lower than the others. The null hypothesis concerning

differences could not be rejected and the stated research hypotheses were not supported.

Additional analyses of variance were conducted substituting subject demographic variables for Teacher Sex in the research design. No significant interactions or main effects other than Leadership Style were noted when either Age or Ethnicity were substituted.

A significant two-way interaction was noted for Teacher Experience and Leadership Style ( $p = .0316$ ). Less experienced teachers rated principal's performance lower when exhibiting High Task/Low Relationship style than did more experienced teachers. A significant three-way interaction was noted for Administrative Aspiration x Principal Sex x Leadership Style ( $p = .0294$ ). Teachers who indicated an intent to enter administration differed more on their ratings between male and female principals exhibiting mixed styles of High Task/Low Relationship and Low Task/High Relationship than did teachers who indicated no or undecided.

Sex of the teacher appears less important than sex of the principal on performance ratings. Results suggest further study of the effects of teacher experience and teacher administrative aspiration on perceptions of principal effectiveness.

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## CHAPTER ONE - INTRODUCTION

During the last 20 years, the role of "leader" has been redefined by a changing perception of "leadership." During this time, increasing numbers of women have assumed leadership positions in business, education, government, and social organizations. This changing role of the leader, and the changing role of women in leadership, have come together to make gender a variable of interest in the study of effective leadership.

### 1.1 Statement of the Problem

The concept of leadership in business and social organizations has undergone a paradigmatic shift. The move has been away from task-oriented management toward a more balanced role in which both task-oriented and relationship-oriented activities are important. Within organizations, cooperation has become valued over competition. Shared transformational visions have become valued over bargained transactional agreements (Bennis & Nanus, 1985; Kanter, 1989; Peters & Waterman, 1982).

These changes are evident in the role of school principal. Effective schools are found to be those in which principals provide visionary leadership. Effective principals are able to support a viable institutional

structure while sustaining a communal climate (Ubben & Hughes, 1987).

Where once leadership was considered a masculine trait, it is now viewed as incorporating both masculine and feminine qualities. Some have suggested that both men and women should exhibit a balanced "androgynous" style of leadership (Blanchard & Sargent, 1984; Korabik, 1990; Sargent, 1978; Sargent & Stupak, 1989). Discussions of androgyny and school administration appear in the literature (Erickson, 1985; McPheron & Smith, 1981).

A question arises: Is there one style which is best for both men and women leaders? Theories of situational leadership suggest that the "best" leadership style is dependent upon the situation in which it takes place. Research on sex differences and leadership is sometimes inconclusive and often contradictory (Dobbins & Platz, 1986; Eagly & Johnson, 1990; Korabik, 1990). Despite these inconsistencies, sufficient differences exist to consider the sex of the leader and the sex of the follower as variables in the situational mix for determining the "best" leadership style.

Schmuck (1987) argues that while men and women do not differ appreciably in leadership behavior, there exists a different dynamic in the exercise of that leadership. This difference comes from sex stereotypes and expectations identified with the leader. Schmuck identifies this as an

important issue for research. There is a continuing need to understand the relationship between gender and the leadership role of principal.

### 1.2 Purpose of the Study

The purpose of this study is to examine relationships between gender and leadership style in teacher perceptions of principal effectiveness. Performance ratings of hypothetical principals are compared to determine if male or female teachers rate male or female principals differently in identical hypothetical situations.

Variations in leadership style are introduced within the hypothetical situations in order to study the interaction of leadership style with gender differences.

### 1.3 Definition of Terms

For purposes of this study, leadership style is defined in terms of Task Behavior and Relationship Behavior. As used in this study, these two terms encompass concepts from both leadership theory and sex-role theory. These components have emerged in the literature in various forms (see Chapter 2 for a complete discussion). These components are reviewed in Table 1.

Table 1

Leadership Style Components

SOURCE	COMPONENTS	
	Task Behavior	Relationship Behavior
<u>FROM LEADERSHIP THEORY</u>		
Halpin and Winer (1957)	Initiating Structure	Consideration
Blake and Mouton (1964)	Concern for Production	Concern for People
Hersey and Blanchard (1969)	Task - Orientation	Relationship - Orientation
<u>FROM SEX-ROLE THEORY</u>		
Parson and Bales(1955)	Instrumental	Expressive
Bakan (1966)	Agentic	Communal

Task Behavior is defined as those activities which serve to create organizational patterns and methods, provide structures and procedures, establish standards, assign roles, define goals, and explain organizational activities. Task Behavior is further defined as activities which serve to coordinate and adapt to the outside world, sustain goal orientation, provide self-protection, and enhance self-expansion.

Relationship Behavior is defined as those activities which express concern for others, establish mutual trust, respect and warmth, express sympathy, and indicate an understanding of the needs of others. Relationship Behavior is further defined as activities which serve to promote maintenance and regulation of emotional needs, selflessness, contact, cooperation, and openness.

Using the more encompassing definitions of Task Behavior and Relationship Behavior taken from both leadership theory and sex-role theory, and the quadrant designations suggested by Hersey and Blanchard (1969), four leadership styles can be defined. These four styles represent high or low levels of Task Behavior combined with high or low levels of Relationship Behavior (see Figure 1).

RELATIONSHIP BEHAVIOR	High	Quadrant 3: LT/HR Low Task/ High Relationship	Quadrant 2: HT/HR High Task/ High Relationship
	Low	Quadrant 4: LT/LR Low Task/ Low Relationship	Quadrant 1: HT/LR High Task/ Low Relationship
		Low	High
		TASK BEHAVIOR	

Figure 1. Four quadrants of leadership style as suggested by Hersey and Blanchard (1969, page 164).

## 1. 4 Hypotheses and Research Questions

### Research Questions

This study addresses several questions related to sex differences when teachers evaluate the leadership effectiveness of scenario principals. Do teachers rate the performance of male or female principals higher under the same situation? Does the sex of the teacher affect this rating?

The interaction between leadership style and sex is also of interest. Are Task Behavior and Relationship Behavior on the part of the principal valued equally by male and female teachers? Are Task Behavior and Relationship Behavior valued equally for male and female principals? Are there differences in ratings for male and female principals in some situations, but not others? Do these differences reflect gender-associations for particular leadership styles?

### Research Hypotheses

The 2 x 2 x 4 design utilized in this study results in the following null hypothesis corresponding to the second-order interaction among the three variables:

Null H0: There are no significant effects among sex of teacher, sex of scenario principal, and principal leadership style on the performance ratings of scenario principals.

While this is a statement of the null hypothesis for the three-way interaction generated by the design of this study, several research hypotheses are of particular concern.

There is evidence in the literature which suggests that leadership maintains a masculine bias. (See Chapter 2 for a complete discussion of sex-differences in leadership.) Given this bias, it is expected that the average rating across all items for male scenario principals will be higher than the average rating for female scenario principals. This research hypothesis is as follows:

Hypothesis 1: Male scenario principals will have higher average performance ratings than female scenario principals.

It is generally accepted that of the four styles in this study, high task/high relationship leadership behavior (HT/HR) is most valued and low task/low relationship leadership behavior (LT/LR) is least valued. Under these circumstances, it is expected that while the HT/HR and LT/LR ratings will be at the extremes, male principals will be rated higher than female principals by teachers of either sex on each of these two leadership styles. These research hypotheses may be stated as follows :

Hypothesis 2: Teachers will rate male scenario principals higher than female scenario principals when exhibiting HT/HR leadership behavior.

Hypothesis 3: Teachers will rate male scenario principals higher than female scenario principals when exhibiting LT/LR leadership behavior.

The literature suggests that male and female subordinates value relationship and task behavior differently when mixed styles are exhibited (LT/HR or HT/LR) and that these preferences will have the greatest impact on ratings of female principals. It is expected that female teachers will value relationship behavior more highly than task behavior and male teachers will value task behavior over relationship behavior in mixed leadership styles. This will result in female teachers rating LT/HR behaviors higher than HT/LR behaviors and male teachers rating HT/LR behaviors higher than LT/HR behaviors. These research hypotheses may be stated as follows:

Hypothesis 4: Female teachers will rate principals exhibiting LT/HR leadership behavior higher than those exhibiting HT/LR behavior.

Hypothesis 5: Male teachers will rate principals exhibiting HT/LR leadership behavior higher than those exhibiting LT/HR behavior.

There is support in the literature to suggest that female teachers will rate female scenario principals higher

than male scenario principals when exhibiting LT/HR behavior. This research hypothesis is as follows:  
Hypothesis 6: Female teachers will rate female principals higher than male principals when exhibiting LT/HR leadership behavior.

The literature is inconsistent as it relates to male subordinate reaction to socially appropriate or inappropriate sex-role behavior on the part of female supervisors. This question will be left open and if a difference occurs, the direction of the difference will be explored.

#### 1.5 Significance of the Study

If gender differences exist in the perceived effectiveness of principals, then it is of serious concern for schools, teachers, and principals. Subtle bias can only be addressed if it is first identified. It is only through an understanding of possible inequity that equity can be pursued. The findings of this study, regardless of outcome, should provide information which will be useful. It will enable principals, male and female, to more fully understand the situation in which their leadership takes place.

#### 1.6 Assumptions and Limitations

While consideration will be given to the control of possible threats to ecological, external, and internal validity, clearly limitations do exist. The population for

this study consists of middle school teachers in a large, multi-ethnic, urban school district. Teachers at the elementary, middle, and secondary levels may view the responsibilities of principals differently. Principal demographics in larger school districts may be different from those in smaller school districts. Because of these differences, it may be inappropriate to generalize results to middle schools in other school districts or to elementary or senior high level schools within either this or other school districts.

Subjects are volunteers. This introduces an external validity concern over differences between participants and non-participants. Teachers who choose to participate in research studies may tend to be either more open-minded or more opinionated. This limits the generalizability of results.

In general, possible threats to internal validity are related to history of subjects, instrumentation, and the selection process. History may affect the subject's objectivity and interpretation of a particular situation if the subject identifies it closely with a personal experience. Teachers' prior experiences with male and/or female principals may affect their ratings of scenario principals. It is not feasible to seek this information. If subjects become overly aware of sex as a variable of concern, they may attempt to either compensate for an

experienced bias or reinforce what they determine to be an expected bias.

However, since this study is a factorial study based on a posttest-only control group design, it is assumed that sufficient sample sizes and random assignment of participants into groups will alleviate these concerns related to internal validity. According to Gay (1992), the only threat to internal validity associated with this design is mortality. This is not a problem in this study as data collection from each participant is completed in one session.

This study assumes the usefulness of hypothetical vignettes in measuring complex variables. Kerlinger (1986) cites the increased use of vignettes in psychological and educational research as permitting unobtrusive approaches to sensitive information. While providing controls for extraneous variables, vignettes may not provide a comprehensive analysis of the evaluation process which takes place when knowledge of individual personalities and achievement enter into the evaluation process. On the other hand, any bias which emerges in hypothetical vignettes may be assumed to be operating at some level in reality.

## CHAPTER TWO - REVIEW OF THE LITERATURE

The question of gender and its relationship to leadership is an interesting one that we are only beginning to explore. We have changed not only our view of women as leaders in the last 50 years, but our view of leadership itself. We face a contradiction in that we traditionally label "leadership" a masculine trait, while current theory suggests the need for more "feminine" behaviors in the practice of leadership. This chapter will discuss relevant terms, trace the development of leadership theory as it relates to gender, and review research concerning gender-related differences in leadership behavior.

### 2.1 Relevant Terms

#### Sex, Gender, and Sex-Role

Archer and Lloyd (1988) state that the term "sex differences" was originally used to indicate both socially derived distinctions between men and women and their biological differences. This term became less clear as psychologists became more open to the possibility that these differences were not equivalent. Archer and Lloyd write, "Recently this usage has been called into question, and increasingly the term *gender* is being used when referring to socially derived distinctions, leaving the term *sex* for biological differences." (p.vii) This designation is found in other research:

Sex is a biological description, one that divides most of humankind into two types of people - females and males... Gender is a cultural term... It describes the characteristics we ascribe to people because of their sex - the ways we believe they behave or the characteristics we believe they possess, based on our cultural expectations of what is male and what is female (Shakeshaft, Nowell, and Perry, 1991, p.134).

According to Spence and Helmreich (1978), the delineation of the meaning of "sex-role" is more difficult. They find the term ubiquitous, seldom clearly defined, and frequently inconsistent. The anthropological definition emphasizes position and division of labor, the sociological definition emphasizes relationships between the sexes, and the psychological definition refers to differences in behavior, personality, abilities, and preferences (p.12).

Variations in meaning occur for the terms sex, gender, and sex-role. Heilbrun (1981) defines "sex gender" as the biological sex (male or female), "sex role" as the psychological sex of the individual (masculine or feminine), and "sex-role identity" as the cognitive representation of sex-role culminating often, but not always, in a global judgement of "masculine" or "feminine" (p.4).

For the purposes of this study, a clarification of the terms "sex," "gender," and "sex-role" is in order. "Sex" is a biological condition. Except for physical abnormality, the sex of an individual can be classified as male or female. "Gender" is a socially derived association with one sex or the other. There are various behavioral

characteristics, attitudes, and traits which society generally associates with the male or female sex. These behaviors or traits can be labeled "masculine" or "feminine." A "sex-role" is the assumption of a set of behaviors related to personality, abilities, and preferences which have gender associations and which can be given a global designation.

Sex-role in this sense does not pertain to sexual orientation or preference regarding heterosexual or homosexual behavior. An individual of either sex may demonstrate behaviors associated with the same or other sex. No individual, regardless of sex, would be expected to exhibit traits entirely of one gender. According to Singer (1976), although our society allows the presence of both masculine and feminine qualities in an individual, we maintain an expectation that the gender appropriate qualities will remain in the forefront. Individuals are expected to maintain and preserve a strong gender identity through appropriate sex-role behavior.

Each society or culture defines what it considers to be masculine or feminine. Bem (1975) classified as "masculine" those characteristics which respondents believed society deemed more desirable for a man than for a woman. Similarly, characteristics deemed more socially desirable for a woman than for a man are classified "feminine." In her research, the terms ambitious,

dominant, and self-reliant are classified as "masculine," and the terms affectionate, gentle, and understanding are classified as "feminine." While there is some variation, Western society appears to share a general designation for certain traits or behaviors. Behaviors such as aggressivity, dominance, hardness, logic, competitiveness, achievement orientation, thinking, inventiveness, and reason are considered masculine. Behaviors such as passivity, compliance, softness, emotion, co-operativeness, nurturance, intuition, conservation, and tenderness are considered feminine (Singer, 1976).

Heilbrun's Adjective Check List (ACL) includes 300 commonly used behavioral adjectives (Heilbrun, 1981). These adjectives were classified as masculine or feminine based upon whether they were selected by males or females as being self-characteristic. Those identified as masculine include: forceful, opportunistic, tough, assertive, autocratic, confident, enterprising, frank, industrious, self-confident, stern, and strong. Adjectives identified as feminine include: sentimental, sympathetic, appreciative, dependent, excitable, fickle, forgiving, frivolous, praising, sensitive, submissive, talkative, and warm.

Heilbrun describes the masculine sex-role as stereotypically consisting of behaviors which sustain goal orientation while the feminine sex-role stereotypically

consists of behaviors which sustain interpersonal relationships. Heilbrun cites the distinction made by Parson and Bales (1955) between the *instrumental* qualities of masculinity and the *expressive* qualities of femininity. Instrumentality is defined as the coordination and adaptation of the family system's needs with the outside world. Expressiveness involves maintenance and regulation of the family's emotional needs and interactions within itself.

Bakan (1966) proposed two fundamental modalities of living organisms, *agency* and *communion*. Agency is concerned with the maintenance of the organism as an individual and involves assertive activity, differentiation, self-protection, self-expansion, and forming separation from others. Communion seeks to integrate participation with the larger whole. It involves selflessness, contact, cooperation, and openness. Cook (1985) merged the frameworks of Parson and Bales and Bakan to identify the *instrumental/agentive* nature of masculinity and the *expressive/communal* nature of femininity.

There are female and male sexes and feminine and masculine genders. The designation "male" or "female" rests on biological and physical fact. The designation "masculine" or "feminine" is more difficult in that society must agree on what is and is not associated with each sex. The differentiation of sex-roles is more complex still.

While sex-role differentiation is universal among societies, it has been noted that the diversities are as remarkable as the similarities (Spence and Helmreich, 1978). The concept of androgyny has proven useful in assigning global designations to sex-role behavior.

### Androgyny

In her book, Androgyny: Toward a New Theory of Sexuality, Singer (1976) proposes that masculine and feminine behaviors are dynamic in their interaction, not only between individuals, but within individuals. She describes androgyny as an archetype inherent in the human psyche and considers it to be part of a new consciousness in a society which may have become "overbalanced" in favor of so-called masculine qualities of character. Singer writes:

Beyond the contest for dominance, beyond the polarization of *masculine* consciousness and *feminine* consciousness, lies the intuition that there must be something else, a further development in *human* consciousness (p.24).

The concept of androgyny recognizes that our social structure classifies behaviors as masculine or feminine and that these behaviors are exhibited apart from biological sex. Androgyny is not to be confused with bisexuality or physiological abnormality. Singer views the concerns of the bisexual as *interpersonal*, while the concern of the androgyne are *intrapsychic*. An androgynous individual, to varying degrees, is freed from stereotypical sex-role

behavior and exhibits and utilizes behaviors which are adapted to the situation.

For Singer, androgyny reflects a return to "Primordial Wholeness." It is a philosophical issue grounded in both ancient and developing myths. While this approach may seem esoteric and cosmic in its origins, the concept of androgyny has been given an operational definition by Bem (1976).

Bem suggests that the relationship between masculinity and femininity is independent rather than inverse. Therefore, an individual may be high or low in masculinity and high or low in femininity, with androgyny being the condition of both high masculinity and femininity. Bem considers an androgynous self-concept to be advantageous in that it allows the individual to engage freely in whatever behavior seems most effective.

The Bem Sex Role Inventory (BSRI) can be used to determine masculinity and femininity scores for individuals. These scores, when viewed relative to median scores, can be used to designate sex-role as masculine (high in masculinity/low in femininity), feminine (high in femininity/low in masculinity), androgynous (high in both), or undifferentiated (low in both).

Heilbrun (1981) identifies two characteristics which define androgyny. The first is a potential for masculine and feminine behavior which exceeds expectation. The second

is a requirement that there be a similarity in the strength of both so that neither will predominate. He proposes an androgyny index which is the sum of masculinity and femininity scores minus the absolute value of their difference. He warns of a "halo effect" often extended to androgyny which presumes that a disposition to blend masculine and feminine repertoires implies its judicious use.

Spence and Helmreich (1978) expressed reservation concerning use of the word "androgynous" given a sometimes negative reaction to its original meaning of biological hermaphroditism. However, they described as "clearly in error" the unidimensional, bipolar model of masculinity and femininity that was dominant prior to the 1970s. Seeking an appropriate label, they prefer to identify their general conception as a "dualistic approach to psychological masculinity and femininity." Acknowledging the clumsiness of their own label, and citing what appears to be an increased understanding by others of the term "psychological androgyny," they cautiously agree to its use (pp.109-111).

It is in this psychological sense of the word that the term "androgyny" has come to be applied to leadership theory and research and will be of concern in this study.

## Leadership

Leadership is a vast and complex field which encompasses broad social, psychological, and philosophical concerns. The concept of leadership has been given structure through definitions, taxonomies, typologies, models, and theories. The comprehensive work, Bass and Stogdill's Handbook of Leadership (Bass, 1990), utilizes over one-thousand pages to chronicle the conceptual development of the term "leadership."

Calling leadership "one of the world's oldest preoccupations," Bass provides considerable insight into its evolving and expanding nature. He offers many variations for a definition of leadership, but concludes that the definition of leadership depends on the purposes to be served by the definition.

Finding one inclusive, all purposeful definition for leadership appears to be an elusive task. Each definition of leadership is difficult to disassociate from the assumptions and bias of the model on which it is based. For the purposes of this study the definition will be simply stated: Leadership consists of those behaviors, interactions, and processes which influence followers in the pursuit of goals. Under this definition leadership can be viewed as: good or bad, effective or ineffective, emergent or assigned, autocratic or democratic, transactional or transformational, task-oriented or

relationship-oriented, masculine or feminine, or within any other number of model structures.

The distinction between "leadership" and "management" is not always clear. Bass (1990) writes, "Leaders manage and managers lead, but the two activities are not synonymous" (p.383). Leadership is viewed as encompassing discretionary activities and processes which are beyond the mandated rules, regulations, and procedures required of management. Gardner (cited in Bass, 1990) finds that the leader-manager, unlike the routine manager, emphasizes vision, motivation and renewal. Zaleznik (1977) finds that leaders focus on purpose and mission, while managers focus on process. Hersey and Blanchard (1969) state that leadership is a broader concept than management, finding management to be a kind of leadership in which the accomplishment of organizational goals is paramount. For purposes of this study, the use of the term "leadership" will imply the more encompassing leader-manager role.

#### Summary of Relevant Terms

As discussed, the term sex will refer to the physiological designation of male or female. Gender will refer to a socially or culturally determined association with one sex or the other which results in a masculine or feminine designation. Studies have determined gender associations for various lists of traits, attitudes, and behaviors. Stereotypical masculine behaviors are found to

be oriented to sustaining goals and are termed instrumental/agentive qualities. Stereotypical feminine behaviors are found to be oriented to sustaining interpersonal relationships and are termed expressive/communal qualities.

Sex-role will refer to the assumption of a set of behaviors related to personality, abilities, and preferences which have gender associations. The term sex-role does not imply sexual orientation or preference.

Masculinity and femininity are not considered to be bipolar or unidimensional, therefore, an individual may be high or low in masculinity and high or low in femininity. Androgyny refers to the integration of masculinity and femininity. Sex-role can be designated masculine (high in masculinity/low in femininity), feminine (high in femininity/low in masculinity), androgynous (high in both), or undifferentiated (low in both). While the philosophical view addresses the "wholeness" of androgyny, a psychological view should not presume an advantage.

Leadership consists of those behaviors, interactions, and processes which influence followers in the pursuit of goals. Management and leadership are sometimes synonymous in usage, but in general, leadership implies a concern beyond goals of production to include vision, purpose, and mission.

Approaches to the study of leadership are many and varied with a broad range of conceptual emphases. The discussion of leadership which follows will focus on those models and theories which are useful in analyzing the relationship between gender and leadership.

## 2.2 Theories of Leadership

### Early Theories

Leadership theory began with myths and legends concerning generals, prophets, and kings. Good leaders were heroic, virtuous, just, wise, and male. The "great-man" theory is recognized as one of the first attempts to explain the nature of leadership and the conditions for its emergence. It assumes a natural endowment of superior qualities which enables the leader, a great-man, to rise above the masses and alter the course of history (Bass, 1990).

Essays and texts on great-men ignored aberrant great-women. Bass notes that Joan of Arc and Elizabeth I failed to receive their due consideration. Burns (1978) writes, "Over the centuries femininity has been stereotyped as dependent, submissive and conforming, and hence women have been seen as lacking in leadership qualities" (p. 50). He notes that this bias persists and is reflected in the false assumption that leadership is mere command or control. For Burns, however, the greatest bias in the great-man theory is not cultural or sexual, it is the assumption that

leaders make history. He suggests that when leadership is dominated by images of "presidents and prime ministers" we forget that the preponderance of personal influence is exerted "quietly and subtly in everyday relationships" (p.442).

Bass points to the development of trait theories of leadership as an attempt to isolate and identify those qualities which differentiate leaders from followers. Until the 1940s, most research about leaders and leadership focused on individual traits of consequence. Pure trait theories proved unproductive and fell into disfavor. Pure situationalist theories were in direct opposition, suggesting that leadership was the result of time, place, and circumstance. What emerged were combined models of leadership that considered both the personality and behavior of the leader and the situation in which the leadership took place (Bass, 1990).

#### Components of Leadership Style

The Ohio State Leadership Studies were organized in 1945. As part of this work, Hemphill (1956) and his associates Stogdill and Coons (1957) developed the Leader Behavior Description Questionnaire (LBDQ) to rate the frequency of particular behaviors on the part of a leader. Based on statistical analyses of over 1500 behavior descriptions, two interrelated sets of items or factors emerged. These primary factors were identified by Halpin as

"initiating structure" and "consideration" (Halpin, 1966). He viewed these as independent components of leadership behavior, each of which was needed to a high degree for effective leadership.

"Initiating structure" emphasized creating organizational patterns and methods which would provide the structure needed to enhance goal achievement. This would include activities such as assigning roles and tasks, setting schedules, determining work procedures, establishing standards, and defining goals.

"Consideration" expressed concern for establishing mutual trust, respect, and warmth in order to create relationships which would promote the attainment of goals. This would include activities such as showing concern for the welfare of subordinates, expressing sympathy, and understanding the needs of subordinates.

Blake and Mouton (1964) termed the components of leadership style "concern for people" and "concern for production." These two components were plotted to create a managerial grid. Utilizing a scale of 1 to 9 for each axis, 81 cells were created which represented the interaction of these two components. The cells were grouped to yield five dominant management styles. Blake and Mouton indicated that effective leadership should focus on the development of a "9,9" management style which carries a high concern for both production and people.

Two component threads were emerging concerning leadership style. For Fiedler (1967) and Hersey and Blanchard (1969), these two components were identified as "task-orientation" and "relationship-orientation." Although not synonymous in their operational definitions, the similarities of initiation of structure, concern for production, and task-orientation provide one common thread of leadership style. Consideration, concern for people, and relationship-orientation form the other.

Bass (1990) has similarly grouped these task and relationship behaviors in discussing authoritarian and democratic leadership clusters. While acknowledging that the terms are not fully overlapping, Bass places initiation of structure, concern for production, and task-orientation within the authoritarian cluster and consideration, concern for people, and relationship-orientation within the democratic cluster.

These threads run parallel to the previous discussion concerning Heilbrun's identification of stereotypical masculine behavior which sustains goal orientation and stereotypical feminine behavior which sustains interpersonal relationships, and Cook's identification of the instrumental/agentive qualities of masculinity and the expressive/communal qualities of femininity. Taken as a whole, these component threads would seem to provide for a masculine and a feminine side to leadership.

Halpin and Blake and Mouton proposed that there was a "best" style which incorporated a high degree of both leadership style components. Fiedler and Hersey and Blanchard did not accept the existence of one "best" style of leadership, they concluded instead that effective leadership was situational in nature.

### Situational Leadership Theories

Fiedler's model viewed the two components of leadership style as existing on a continuum. The Least Preferred Coworker (LPC) scale served to provide a measure of leadership style on this continuum. Effective leadership required an appropriate match between leader style and the situation, the "best" leadership style being contingent on the situation.

In Fiedler's contingency theory, there are three situational factors influencing the appropriateness of style. The first is position power or the leader's status, that is the degree to which the leader is provided control and influence. The second is task structure or the nature of the task as to clarity and specificity of goals and decisions. The third factor is the interpersonal relationship between the leader and followers (Fiedler, 1967).

Unlike Fiedler, Hersey and Blanchard viewed the components of "task behavior" and "relationship behavior" as interacting to yield four basic styles. They agreed with

Fiedler in determining that the most effective style was situational, but they considered the critical situational variable to be the maturity level of the follower. Maturity level is determined by the follower's job maturity (capacity to set goals, the ability to assume responsibility, and level of education and experience) and the follower's psychological maturity (motivation, self-esteem, confidence, and willingness to do a good job).

Hersey and Blanchard designed the Leadership Effectiveness and Adaptability Description (LEAD) to provide brief vignettes which measure flexibility in leader style. They postulated that effective leadership could be represented by a curvilinear relationship between the leader's task and relations orientation and the subordinates maturity level (Hersey and Blanchard, 1969).

Adding to the complexity of adapting leadership style to the situation was a growing realization that effective leadership should serve to alter the situation in which it takes place. Burns (1978) states that leadership changes the environment in which both the leader and the followers act. It is perhaps at this point that "leadership" and "management" become no longer synonymous. It is Burns' suggestion that we must see both power and leadership as relationships rather than things. His distinction between transactional and transformational leadership was to become central to later models of leadership.

In a transactional relationship, leaders and followers exchange one thing for another. Leaders and followers bargain with each other so that each may separately prosper. In a transformational relationship the leader and follower engage in mutual stimulation and elevation. Leaders shape and alter the motives, values, and goals of followers. Transactional leaders may bargain resources when the goals of the leader and the followers are different. Transformational leadership seeks to make the goals the same, and in doing so, leaders and followers engage each other in lifting common goals to a higher level.

#### A New Paradigm for Leadership

Kuhn (1962) describes the process of "normal" science as operating under a shared paradigm which serves to both direct the question and provide the solution in normal problem-solving activity. A new paradigm emerges when the old paradigm's failure to explain reaches crisis proportions. The acceptance of a new paradigm is revolutionary rather than evolutionary. Current literature frequently points to a paradigmatic shift in leadership theory (Bennis & Nanus, 1985; Rogers, 1988; Sargent & Stupak, 1989). At its core is a reevaluation of the relationship between individuals and organizations.

In The Human Side of Enterprise , McGregor (1960) introduced Theory X and Theory Y which supported a move

away from what he termed the principles of organization to a principle of integration. The Theory X manager assumes that individuals are passive, lazy, and resistant to organizational needs. The Theory X manager controls through the exercise of authority. The Theory Y manager assumes that individuals are self-directive, creative, and can be motivated to want to achieve organizational goals. The Theory Y manager seeks to integrate the needs of the individual and the organization.

Ouchi (1981) developed Theory Z to characterize American organizations operating with Japanese-style characteristics. His book was released at a time when American business had acknowledged a remarkable growth in Japanese productivity. Ouchi found the underlying principle of Type Z (Japanese style) organizations to be one of cooperation characterized by trust, subtlety, and intimacy. Trust supports an increased participation in decision-making which in turn deepens trust. Subtlety is evident in the de-coupling of titles and responsibilities. Intimacy evolves from close collaboration and shared responsibilities. In his criticism of American managers for emphasizing technology as the means to increased production, Ouchi writes, "What Theory Z calls for instead is a redirection of attention to *human* relations in the corporate world" (p. 196).

Peters and Waterman (1982) called for a paradigm shift away from the rationality of Taylor's school of scientific management and towards Burns' exercise of transformational leadership. They found the underlying principles to include informal networking, open communication, hands-on and value-driven practices, and a genuine belief in "productivity through people." Their work promoted a new paradigm emphasizing informality and fluidity in strategy and structure and soon became a focal point for the "excellence" movement in management.

Bennis and Nanus (1985) acknowledge what they term the "seminal" work of Burns in their analysis of leadership. They describe a major turning point "where some new height of vision is sought, where some fundamental redefinitions are required, where our table of values will have to be reviewed" (p.13). They perceive power as the reciprocal of leadership and leadership as the wise use of power. Four "human handling" skills focus to become four themes of leadership: vision, communication, trust, and positive regard for self and others.

Kanter (1989) suggests that in the coming decade, managers will find a game more like the game of croquet Alice faced in Wonderland than traditional competitive games. The new game requires more creative maneuvering and flexibility. Organizations face the "post-entrepreneurial revolution" in which they must be able to restructure and

carry out change while maintaining productivity and cooperation. Management must be sensitive to the needs and concerns of people in order to achieve synergy, a whole that multiplies the value of its parts.

With its focus on relationships and cooperation, the new paradigm calls for what may be considered a "feminine" side to the practice of leadership. Leaders are encouraged to utilize traits and behaviors which have traditionally been given gender associations. This blending of masculine and feminine behaviors in leadership emerges in discussions of "androgynous leadership."

#### Androgynous Leadership

Bower (1957), writing in the Harvard Business Review, discussed a growing shortage of top executives. His article made suggestions on how best to nurture "high-talent manpower," "a really talented man," "topnotch men," or "a well-selected man." It is not surprising that the article made no mention of women or how they might be used to satisfy the shortage of talent. In the Fifties, women were considered ill-suited for leadership roles. The traits considered necessary were also considered unfeminine. Inappropriate sex-stereotypical behavior was deemed a far greater evil than inequity in the workplace. Management was a man's domain.

In the Sixties and Seventies, the Feminist Movement and civil rights legislation forced opened the doors of

management. Women who could demonstrate sufficient mastery of necessary masculine skills found their way into leadership positions. How-to books such as Harragan's (1978) Games Mother Never Taught You, encouraged women to understand management as a masculine playing field. The emphasis was on learning to play a man's game by his rules, while at the same time, the rules were beginning to change. A new paradigm for leadership was altering the role of "relationships" in managing and leading organizations.

During the Eighties, increasing numbers of women in leadership positions and the changing role of the leader came together to create changes in the "playing field" of management and leadership. Sargent (1978) suggested that it might be as relevant for male managers to increase their interpersonal competencies in affiliation and intimacy as for female managers to become more effective in dealing with power. She proposed the development of "androgynous managers," people who valued both masculine and feminine behaviors, who could be at once fatherly and maternal, utilize competition and cooperation, be dominant and yielding, develop both right brain functions (creativity, intuition, and imagination) and left-brain functions (abstract, logical and deductive reasoning). It was critical that both sexes have opportunities to develop androgynous behavior in order to work effectively with a human relations style of management within a new workforce.

Blanchard and Johnson (1982) introduced the "one-minute manager" who used three "secrets" of successful management: setting goals, praising performance, and reprimanding performance. Blanchard and Sargent (1984) determined that people had to behave androgynously in order to become one-minute managers, describing goal-setting and reprimanding as masculine behaviors and praising as a feminine behavior.

Sargent and Stupak (1989) continued to support androgynous management as a blend of "vertical values" (rugged individualism, autonomy, and independence) with "horizontal values" (interdependence, mutuality, networking, and coalition building) which were becoming increasingly evident in corporate America. Androgynous leadership was termed relevant to "macro and micro relationships" necessary in a "multigender, multinational, and multisocial" environment of the future.

Smith and Smits (1994) using the term "synergistic" rather than androgynous, called for a leadership model which would encompass strengths traditionally associated with both sexes. This new model would be better-suited to managing increasingly diverse workforces and would enable people to work together to maximize collective strengths.

Korabik (1990) suggests that androgynous leadership may be a solution to the dilemma of the "double bind" facing women managers. If they behave in a stereotypically feminine manner, they will be viewed as not possessing the

traditional masculine qualities regarded as necessary for leadership. If they behave in a stereotypically masculine manner, they will be viewed as engaging in sex-inappropriate behavior. It is by adapting an androgynous sex-role that women can be seen as both competent and likeable in managerial positions.

Korabik notes that studies of sex differences in leadership have often provided conflicting or inconclusive findings. She suggests that these studies have been founded on an inappropriate theoretical framework. The mistaken premise of "biopsychological equivalence" exists in which it is incorrectly assumed that biological sex is equivalent to psychological sex-role. The concept of an androgynous sex-role is useful if a sex-role rather than sex-differences paradigm is employed in research. Korabik suggests that under this research paradigm, it may be shown that leadership style is actually a function of sex-role orientation rather than biological sex.

#### Summary of Theories of Leadership

One of the earliest theories of leadership viewed leaders as "great-men" endowed with superior qualities, thus qualities of leadership were masculine by association. Attempts to identify leadership traits led to pure trait theories. Attempts to focus all interest on circumstance led to pure situational theories. Neither were productive and so a model emerged which combined the personal

attributes of the leader with the circumstance of the situation. Rather than one "best" style of leadership, there was a growing acceptance that effectiveness rested on the interaction between leader style and situation.

Studies of leadership style revealed two component threads. This duality can be seen in definitions of initiating structure/consideration (Halpin), concern for production/concern for people (Blake and Mouton), task motivation/relationship motivation (Fiedler), and task behavior/relationship behavior (Hersey and Blanchard). Task orientation expresses concern for the structure needed to achieve goals. Relationship orientation expresses concern for the interpersonal interaction needed to accomplish goals. When compared to the instrumental/agentive qualities of masculinity and the expressive/communal qualities of femininity, there would appear to be a masculine and feminine side to leadership.

A paradigmatic shift in leadership theory became evident with a reevaluation of the relationship between individuals and organizations. McGregor suggested that managers should seek to integrate the needs of the individual and the organization. Burns distinguished between transactional and transformational leadership, in which the leader seeks to engage followers in the mutual development of higher goals.

Popular literature supported this broader concept of leadership which took management beyond the routine to include vision, mission, and higher purpose. The constant theme was one of increased attention to informality, communication, collaboration, cooperation, trust, warmth, and above all, relationships.

The new paradigm seemed to bring new value to the feminine side of leadership. It was time to move away from the traditional view of leadership as a masculine trait, and consider the androgynous view of leadership which allowed both males and females greater flexibility.

Increasing numbers of women in the workforce and in leadership roles raises new questions regarding the relationship between gender and leadership. Is androgynous leadership an acceptable style? Do male and female leaders use different leadership styles? Do male and female followers have different expectations regarding leadership style? Are the expectations of followers affected by the sex of the leader? These questions have been asked in the current research. Clearly the sex and sex-role behavior of leaders and followers are inherent factors in the nature of the "situation" in "situational leadership," but as Korabik and others suggest, the research results concerning sex differences and leadership are often conflicting and inconclusive. This research will now be considered.

## 2.3 Sex-Differences Related to Leadership

### Masculine Characterizations of Leadership

In the early 1970s, Schein studied the relationship between sex role stereotyping and characteristics perceived as requisite for success as a manager. Schein (1973) surveyed male middle managers utilizing an index containing 92 adjectives and descriptive terms. Subjects were asked to rate how characteristic each term was of Men in General, Women in General, or Successful Managers in General. There was a large and significant relationship between the ratings of Men and Managers, whereas there was a near zero, nonsignificant resemblance between ratings of Women and Managers. Results confirmed that successful middle managers were perceived to possess those characteristics, attitudes and temperaments more commonly ascribed to men in general than to women in general.

In a replication of the first study, Schein (1975) surveyed female middle managers. While the relationship between ratings of Women and Managers was stronger than previously found, the resemblance between the ratings of Men and Managers was still considerably more significant than that between Women and Managers.

Massengill and Dimarco (1979) surveyed both male and female middle managers in a study which confirmed Schein's earlier results. The only change identified as

"appreciable" was that female subjects perceived more similarity between Men and Managers than found by Schein.

Given the changing role of women in the workplace, additional replications have been undertaken to determine if strong sex-role stereotypes remain. Brenner, Tomkiewicz, and Schein (1989) found that results for male respondents supported the original findings. While men and women continue to express agreement on the similarity between Men and Managers, female respondents perceived a greater similarity between Men and Women and between Women and Managers than previously expressed.

Heilman, Block, Martell, and Simon (1989) in a variation on Schein's study, surveyed male managers. In order to examine the effects of subcategories on stereotypes, they asked respondents to rate characteristics for additional categories including Men or Women Managers and Successful Men or Women Managers. They found that men in general were still described as more similar to successful managers than women in general. When information was provided about a woman's managerial status, the number of items differentiating a woman manager from a successful manager was reduced. However, it should be noted that the discrepancies which remained tended to be on those items considered more "central" to leadership such as leadership ability, self-confidence, responsibility, and industriousness.

In a study by Inderlied and Powell (1979), subjects completed the Bem Sex-Role Inventory (BSRI) for both self and "ideal" managers. Ideal manager sex-role identity scores were higher on masculinity and lower on femininity than self-scores for all sample groups.

This would seem to indicate that the inclination to associate the characteristics of leadership with masculine characteristics has remained high over the last 20 years despite the infusion of more women into leadership positions.

#### Acceptance and Emergence of Leaders

The expectation that the leader will be male remains a strong one. Porter, Geis, and Jennings (1983) conducted a study in which subjects were shown a photograph of a five-person group and asked to rate each member of the group on leadership attributes. A man seated at the head of the table in a mixed sex-group or all-male group was seen as the leader of the group, a woman occupying the same position in a mixed-sex group was not seen as the leader. The head-of-the-table cue identified women as leaders only in all-female stimulus groups. In addition, males who were seen as leaders were also rated as dominant and talkative, women seen as leaders were not. When a woman was seen as leader, she was rated as cold, a rating men seen as leaders did not receive. These results held regardless of subject sex or subject sex-role identity as determined by the BSRI.

In an earlier, often cited work by Megargee (1969), it was found that when a high dominance female was paired with a low dominance female, the high dominance female adopted the role of leader 67% of the time. Yet, when the high dominance female was paired with a low dominance male, the high dominance female would adopt the role of leader only 9% of the time. An analysis of the decision-making process showed that this was not the result of assertiveness by the low dominant male, but rather a reluctance by the high dominance female to assume leadership over a male.

Eskilson and Wiley (1976) investigated leader behavior of males and females in three person groups. No significant difference was found between female and male leaders for performance output, but it was noted that follower behavior and group sex composition affect leadership performance. Female leaders were significantly less likely to choose self as future leader on a similar task. Male-led groups were not found to be more effective than female-led groups. Although differences were not significant, both male and female leaders performed in a more leader-like way when with members of their own sex. Female leaders exerted least leadership with two male followers; male leaders exerted least leadership with mixed sex followers.

Owen (1986) found that when female leaders emerged in three work groups they did so by engaging in two rhetorical

themes. The first was the rhetoric of the "hard worker" (leading by default). The other was the rhetoric of "not leading" (filling a void). Female leaders seem to distance themselves from the "leader" label and male followers indicated that they had allowed females to lead.

Bunyi and Andrews (1985) studied emergent leadership within three person groups and found that task competence was more important than gender in assuming leadership, but the presence of a male altered the perception of the task competence of females. Males were selected as leaders more frequently than females in male-majority groups.

The characterization, emergence, and acceptance of leaders has been shown to carry a masculine bias. The question as to whether this bias reflects a difference in style and effectiveness between male and female leaders has yielded sometimes conflicting results.

#### Meta-Analytic Findings

Several meta-analysis of studies related to sex-differences and leadership have been undertaken. Brown (1979) in a review of 32 studies found that trait studies consistently support the stereotypical view of women as lacking adequate leader characteristics while style and contingency studies were split as to whether women were effective or ineffective leaders. Studies involving students in laboratory settings tended to support typical female stereotypes, while managerial studies in field

settings suggested that experience tended to modify these attitudes.

Dobbins and Platz (1986) in their meta-analytic review of 17 studies found that the studies tended to be of three types: laboratory experiments, laboratory simulations, and field studies. They noted "conflicting findings and confusion exist both within and across the three major methodologies" (p. 119). In 8 studies comparing initiating structure and consideration behaviors of male and female leaders, they found no difference in the rating of male and female leaders. In their meta-analysis of 7 studies they found that subordinate satisfaction does not differ as a function of leader sex. In 11 studies comparing effectiveness of male and female leaders, they found that male leaders were more effective than females in lab settings, but no difference was found in field settings.

Eagly and Johnson (1990) noted that there was a divergence of opinion regarding sex differences in leadership as discussed in social scientific and popular writings. While social scientists found no reliable differences in the way men and women lead, popular books have argued for the presence of sex differences in leadership styles. Maintaining that previous meta-analyses may have been too narrow in their inclusion of studies, Eagly and Johnson conducted a meta-analysis of 162 studies

to determine if scientific support existed for the opinion expressed by popular experts in the management field.

Eagly and Johnson found their major hypothesis confirmed, that stereotypical sex differences would be less in field settings than in laboratory studies. This was supported for both the interpersonal and task styles. However, there was strong evidence for a sex difference in leadership style based on a democratic versus autocratic style which did not become smaller for organizational settings. Women tend to adopt a more democratic or participative style, while men tend to adopt a more autocratic or directive style.

This interaction between sex, sex-role, and leadership style provides specific findings which are both varied and interesting in their complexity.

#### Sex Differences in Leadership Style and Effectiveness

Forsyth, Schlenker, Leary, and McCown (1985) found that self-presentation of leaders' abilities were primarily determined by sex-role stereotypes rather than situational factors. Male leaders emphasized social influence and task abilities. Female leaders emphasized interpersonal and socioemotional abilities. Both sexes rated task abilities as more important than interpersonal abilities for leader success.

Statham (1987) conducted interviews with 40 managers and their secretaries and found that a task versus person-

oriented dichotomy was not appropriate in describing the differences between male and female management styles. While women were found to be both task-engrossed and person-invested, men were instead both image-engrossed and autonomy-invested.

Bartol and Wortman (1976) compared male and female self-descriptions of their own leader behavior and found few differences between males and females in the way they perceive their leader behavior or in their satisfaction with various aspects of their jobs. Significant differences were noted in that females reported more frequent toleration of uncertainty and consideration behaviors than males. Females were found to be more satisfied with their co-workers than males.

Deaux (1979) found that in self-evaluations by male and female managers, males saw themselves performing significantly better overall than did females. Men evaluated their ability as greater, their intelligence as higher, and viewed their jobs as more difficult than did women. However, ratings by supervisors of the same male and female managers showed very little differences between the sexes.

Irby and Brown (1995) in a study of executives from government, business, and education investigated male and female perceptions of leadership skills. In-depth interviews revealed that both men and women perceived

female executives as more attentive to detail, more emotional, and possessing authority earned through hard-work. Male executives were perceived as delegating detail, reliant on past experience, and possessing automatic authority based on gender. Both men and women were reported to hold subtle negative views of feminine leadership traits.

Chusmir and Koberg (1986) examined gender differences in the creativity of managers and found that while the overall levels of creativity were not significantly different, for males creativity was linked to the need for achievement and for females creativity was linked to the need for affiliation.

In an examination of gender differences on cognitive styles of administrators, Doyle and Mueller (1989) report that while both males and females were equally using gestalt (envisioning the whole), males did so through synthesis, while females utilized analysis.

Serafini and Pearson (1984) suggested that the psychological sex-role (masculine, feminine, or androgynous) of an individual was related to leadership style rather than sex alone. Their study indicates that androgynous individuals exhibit both significantly more initiating behaviors than feminine individuals and significantly more consideration behaviors than masculine individuals.

Berryman-Fink and Brunner (1987) in a study of the effects of sex on interpersonal conflict management styles found that males were significantly higher in the use of competing style, while females were significantly higher in the use of compromising style. Both males and females reported significantly higher use of an accommodation style when dealing with a female.

Winther and Green (1987) found that while male leaders displayed more socially-oriented verbal behavior than female leaders, both male and female leaders displayed more task-oriented verbal behavior when instructing a female subordinate.

Dobbins (1986) in a study of the differences between male and female leader response to poorly performing subordinates found that female leaders were more affected by likableness and sex of the subordinate than male leaders, responding less punitively to females than to males.

Many studies have viewed leadership through subordinate evaluations and satisfaction. Day and Stogdill (1972), in a study of civilian Air Force employees, found that subordinates perceived male and female supervisors to exhibit similar patterns of leadership behavior and be similar in terms of effectiveness.

Adams and Hicks (1978) found that subordinates rated male and female platoon leaders as equally effective,

however, while there were no significant differences on the dimensions of consideration and structure in self-evaluations by male and female platoon leaders, subordinates rated female leaders significantly higher on consideration. Subordinates rated male and female leaders equally on structure.

Jacobson and Effertz (1974) examined the effect of sex-role stereotyping on the effectiveness ratings of leaders and followers. Their study supported several interesting findings. Given a contrived task designed to generate a lack of success, followers judged male leaders more harshly than female leaders. Leaders who experienced this lack of success judged female followers more harshly than male followers. Jacobson and Effertz suggest that this is in keeping with traditional sex roles which expect males to be good leaders and females to be good followers. Higher expectations provide lower ratings and lower expectations allow for higher ratings in the light of failure. Contrary to their original hypothesis, the data showed no differences between male and female enjoyment of the leader role.

Sex-role stereotypes imply that women supervisors would be expected to be more considerate or relationship-oriented than male supervisors. Likewise, male supervisors would be expected to be more structured or task-oriented than female supervisors. Many have noted the incongruity between

characterizations of traditional leadership and the stereotypical feminine sex-role.

Marshall (1985) speaks of the stigmatized professional woman who must learn to "pass" by balancing social and career identities. Feuer (1988) warns that women managers can "sabotage themselves" if they fail to recognize the organization's culture and value system.

Heller (1982) found in her anecdotal study of women and men as leaders that there are contemporary stereotypes for each, but these stereotypes have distinctly different positive and negative images. Negative images for women are being too focused on people, too emotionally demonstrative, and not assertive. Negative images for men are being too focused on procedures, too remote, and too authoritarian. Women have positive images when they are humane, open, egalitarian, efficient, and organized. Men have positive images when they are seen as relaxed, humorous, able to think categorically, and work independently.

### Sex-Role Stereotypes and Leadership

The interaction between sex-role expectations and perceived leader effectiveness is a complex one which has again yielded varying research results. Research has explored this area through subordinate evaluations of male or female supervisors who demonstrate varying levels of

task or relationship behavior. In addition, other style categories have been explored.

Rosen and Jerdee (1973) suggested that both the sex of the supervisor and the sex of the subordinate should be considered when studying the relationship between style and effectiveness. They found a reward style more effective for male supervisors than for female supervisors. Consideration (friendly-dependent style) was found to be more strongly related to effectiveness when sex of supervisor and sex of subordinate were different.

In a partial replication of Rosen and Jerdee, Haccoun, Haccoun, and Sallay (1978), determined if use of a directive (authoritative), rational (analytical), or friendly (emotional) style by male and female supervisors affected subordinate satisfaction and effectiveness ratings. They did not support Rosen and Jerdee's finding that a dependent friendly style is more appropriate when displayed by supervisors of opposite-sex subordinates. They did find that males subjects perceived that female supervisors who use directive styles would be least effective. Effectiveness ratings for use of rational or friendly styles did not differ by sex of supervisor.

Petty and Lee (1975) asked subordinates to evaluate their supervisors regarding initiating structure or consideration behaviors. The job satisfaction levels of the subordinates were also determined. They found that for

all groups, subordinates with supervisors higher in consideration displayed greater satisfaction with their work. This satisfaction was noted to be particularly higher for subordinates with female supervisors. Most relationships between supervisor's initiating structure and subordinates' satisfaction were not significant. There was however, some tendency for male subordinates to express lower satisfaction with female supervisors rated higher in structure.

Lee and Alvares (1977) questioned whether male and female supervisors demonstrating identical behaviors would be judged equally on measures of consideration and structure. Four styles were represented utilizing high and low levels of consideration crossed with high and low levels of structure. In general, they found no sex differences in the evaluations of supervisory behavior, except for the high consideration-high structure style. In this instance, males were scored significantly lower in structure than were females given the same high-high categorical description of their behavior. Females described the same supervisors (given sex and description) as being higher in consideration than did males.

Bartol and Butterfield (1976) depicted four styles based on the dimensions of initiating structure, consideration, production emphasis, and tolerance for freedom. They found that females who exhibited

consideration were evaluated more positively than males exhibiting the same behavior. In contrast, males were evaluated more positively than females when they exhibited structure. No influence was found on production emphasis or tolerance for freedom. In addition, female subjects evaluated structuring behavior more highly than did male subjects.

Utilizing only female leaders, Forsyth and Forsyth (1984) conducted a study in which subordinate subjects who were classified as either conservative or liberal in their attitudes towards women, worked on a task in a group led by a female who used either a task-oriented or relationship-oriented style. They found that in general conservative subjects rejected the task-oriented female leader, while liberal subjects preferred the task-oriented female leader.

In another manipulation of female leadership style, Watson (1984) explored whether a sex-appropriate considerate style helped women to be more influential and effective as leaders than a sex-inappropriate dominant style. The hypothesis that sex-appropriate behavior leads to greater influence was confirmed only for females leading exclusively male subordinates.

Sex of subjects differences were found by Sopasakis and Snodgrass (1990) in their study of autocratic and participative styles used by attractive and unattractive male and female leaders. It was found that male and female

subjects evaluate their own sex differently from the way they evaluate the opposite sex. Both tend to give their highest ratings to the unattractive, autocratic leader of the opposite sex, and to give their lowest ratings to the attractive, autocratic leader of the opposite sex. Contrary to what was expected, neither attractive, nor participative leaders were rated as more effective overall. Sopasakis and Snodgrass suggest that we want someone of the opposite sex who is attractive to be "warm and friendly" and are willing to "forgive" someone who is not attractive for being more autocratic.

Focusing on ratings of managers described as using an authoritative or participative style, Griffin (1992) found that male managers were rated more positively when they were authoritative; female managers were rated more positively when they were participative. Given otherwise equivalent descriptions, fewer subjects indicated they would like or like to work for the female manager than the male manager. The interaction of sex-role stereotypes could be seen in that more subjects reported not wanting to work for the authoritative female (44%) than for the authoritative male (4%).

Griffin's findings vary from an earlier study by Jago and Vroom (1982) in which it was found that males and females perceived to be participative were rated equally favorably. However, females perceived to be autocratic

were negatively evaluated, while autocratic males received modest, but still positive, evaluations. Jago and Vroom suggest that male managers may have greater freedom to engage in either autocratic or participative practices without arousing negative evaluations.

Along a similar line of reasoning, Russell, Rush, and Herd (1988) suggest that in order for women to be effective they may need to exhibit higher levels of both consideration and initiating structure behaviors. This view was supported in their study in which subjects were asked to describe behavioral expectations of an effective leader. The results were limited in that all subjects were women. The authors further suggest that age of subjects may have resulted in more variance in the expectations for female leader than for male leader.

Wiley and Eskilson (1982) found that women may be at a disadvantage in their use of power as it applies to evaluation of their managerial effectiveness. Their study found that men were rated more effective when they used expert power to influence others, whereas women were rated more effective when they used reward power to influence others. This is a disadvantage for women in that it is generally accepted that expert power is more reliable than reward power.

Support for stereotypic expectations was not found in a study by Arnett, Higgins, and Priem (1980). They found

accommodative style leadership better liked than directive style irrespective of sex of the manager. Females managers as a whole were not less well liked than male managers either by subordinates as a whole or by male subordinates in particular.

Similarly, Kushell and Newton (1986) found that subordinates expressed greater satisfaction with democratically led groups than with autocratically led groups regardless of the sex of the leader. They did note that female subordinates were more dissatisfied than males in autocratically led groups.

Many studies have been undertaken specific to school principals as leaders and teachers as subordinates. These studies have analyzed sex differences in principal leadership style and effectiveness as well as teacher satisfaction with principal style.

#### Gender and the Principalship

In a survey of all Maine principals and superintendents, Estler (1987) reports that females expect themselves to use more skills and knowledge in their jobs at a higher level of expertise than their male colleagues. There appeared to be a decreasing number of gender related differences at increasingly higher levels (elementary principal to secondary principal to superintendent). Typically women were significantly higher on people-related and cognitive competencies and attributes while men were

higher on items related to "things" and conflict (such as facilities management, computer usage, and collective bargaining).

A survey of approximately 35% of the teachers in Hawaii was conducted regarding teachers' perceptions of principal leadership behavior. Araki (1982) reports that women principals were rated higher in every leadership category, with higher scores that were statistically significant on seven out of the ten leadership effectiveness variables.

In their analysis of data collected from teachers in elementary schools across several states, Charters and Jovick (1981) found that the faculties of female principals exhibited higher levels of job satisfaction than did the faculties of male principals. This was true for both male and female teachers. Female principals were found to be more influential in the educational affairs of the school and they were shown to have more extensive person-to-person interaction with the teaching faculty. Male and female principals did not differ in the closeness with which they supervised teacher performance, nor were there significant differences in components of managerial style including consideration and production emphasis.

Cioci, Lee, and Smith (1991), utilizing data from the High School and Beyond database (a general survey of American schools), explored the effects of principal and teacher gender on evaluations of principal leadership and

perceptions of teacher empowerment. Findings supported a strong interaction between teacher and principal sex. In female-headed schools, female teachers reported greater empowerment and male teachers reported less empowerment in the areas of classroom control and collegiality. Male-female differences were less marked in the components of factors measuring personal and interpersonal power. Male and female teachers rated male principals equally, but female principals were rated differently by male and female teachers. Female principals were rated as above average in effectiveness by female teachers, while male teachers rated female principals as relatively ineffective.

In an exploration of the sex-role identity of teachers and administrators, Barrett and Bieger (1987) found that male and female administrators scored higher in masculinity than did teachers of either sex (as determined by the BEM Sex-role Inventory). Subjects classified as androgynous were found to have a leadership style higher in consideration than other groups.

As previously discussed, Eagly and Johnson (1990) conducted a meta-analysis of 162 studies related to sex differences in leadership. Eagly, Karau, and Johnson (1992) conducted a second meta-analysis on 50 studies related specifically to sex differences in the leadership styles of public school principals. This meta-analysis, based on a sub-sample of the original, reached a similar

conclusion in that female principals tended to be more democratic/participative than male principals who tended to adopt a more autocratic/directive style.

A smaller, yet still significant sex difference was supported for female principals to be more task-oriented than male principals. Female principals were only slightly more interpersonally-oriented than male principals.

An interesting finding of the meta-analysis was that more recent studies produced more highly gender-stereotypical sex differences than did older studies. Eagly, Karau, and Johnson suggest that this supports the view that females adopt leadership styles that are less female stereotypical to the extent that females are relatively rare in the given role. There appears to be a need to more closely mirror the male counterpart in a male-dominated field. As women become more numerically represented in the role of principal, the need to demonstrate close similarity to male counterparts is lessened.

Over 80% of the studies reviewed by Eagly, Karau, and Johnson were dissertations. Recent dissertations have continued to explore sex differences in the role of principal. Justis (1990) noted differences in teacher perceptions of male and female principal performance regarding frequency of use and competency on seven instructional leadership functions. Miller (1991)

determined that sex was a factor influencing the degree of acceptance by the principal of individual instructional leadership competencies. However, Carr (1987) found no differences in the leadership attitudes of male and female secondary principals.

Counts (1987) studied differences in the patterns of rights and response considerations used by male and female principals and superintendents and concluded that significant differences do exist in that women use more response considerations than do men. Haschak (1991) found that sex was significant in predicting the degree of Machiavellianism of the principal.

Haas (1986) investigated the relationship between teacher perception of principal's sex-role identity and effectiveness. A relationship was found between perceived sex-role identity and effectiveness, but none was found between perceived sex-role identity and adaptability.

Pocsi (1987) considered sex-typed principal personality traits and their relationship to measures of school effectiveness. Feminine traits were found to be positively related to adaptiveness and negatively related to teacher job satisfaction. Masculine traits were found to be positively related to adaptiveness and negatively related to staff participation.

Kuhr (1988) found that male and female principals identified with high masculine traits and held similar

perceptions of leadership while teachers viewed male teachers as stronger leaders.

Robson (1985) found that teachers rated male administrators as more task oriented than female administrators. Male administrators perceived themselves as low on task and relationship orientation, while female administrators perceived themselves as high on relationship and low on task orientation.

Gillman (1993) found that female principals tended to demonstrate a Theory-Y orientation more than male principals. Teachers were more satisfied with a Theory-Y oriented principal than a Theory-X oriented principal regardless of sex of the principal.

Kanthak (1991) determined the collaboration and instructional leadership work orientation of male and female principals who entered the principalship before or after 1985. It was found that males hired prior to 1985 scored lowest on collaboration and instructional leadership. Males entering the principalship after 1985 scored higher than any other group on instructional leadership.

Mamma (1987) found that both teachers and administrators viewed top-level administrative positions as more suitable for men than for women, administrators held more positive views of women's abilities than did teachers,

and female administrators had more positive views of women's abilities than did male administrators.

In a study concerning decision-making on the part of practicing and aspiring administrators, Mertz and McNeely (1993) reported that practicing administrators tended to write-in their own responses and follow a more consistent pattern in their choices than did aspiring administrators. No gender differences were noted for practicing administrators. Gender differences which seemed to emerge for aspiring administrators could be better attributed to differences on the Myers-Briggs Type Indicator.

Perkins (1991) found that teachers with female principals were significantly more satisfied with their administration than teachers with male principals. However, there was no significant difference regarding teacher job satisfaction and principal sex. Similarly, Tharrington (1992), found no significant relationship between teacher job satisfaction and principal sex.

Burkhardt (1993) found that sex of principal had no effect on school effectiveness or teacher job satisfaction in favorable situations as defined by Fiedler's Contingency Model. Principal sex effects were noted in moderately favorable and unfavorable situations. Relationship-oriented females generated higher satisfaction than relationship-oriented males and task-oriented females

generated lower satisfaction than task-oriented males on various measures of teacher job satisfaction.

Ungar (1994) found that male principals provided more opportunity for teacher involvement in decision making than did female principals. The opportunity for teacher involvement was not significantly different for male and female teachers, nor was their preferred role in decision making.

In a longitudinal study, Grunbaum (1992) noted that the dynamic interaction between principals differed for all-male and mixed-sex groups and that this dynamic was altered when the superintendency shifted from male to female.

Mouse (1994) determined that gender differences played a minimal role in the collegial relationships between principals and assistant principals, finding common educational philosophies, degree of autonomy, and shared respect to be more significant influences.

Studies cited indicate that the relationship between gender and principal effectiveness, evaluation, and subordinate satisfaction remains yet unresolved. Not only do we question whether men and women lead schools differently, we question whether or not they *should* lead schools differently. This will continue to be an area of interest and concern.

Marshall (1995) suggests that we "imagine" leadership without the encumbrances of previous theory in order to

embrace leadership that has schools and schooling in mind. This would allow leadership which emphasizes coordinating resources, nurturing relationships, and incorporating the talents of nontraditional, nonmale leaders.

Pounder (1990) suggests that current educational megatrends will lead to increased female leadership in schools. Noting that the 1980s educational reform movement significantly altered the image of schools and school leadership, Pounder discusses a "weakening of the dissonance" between administrator role stereotypes and female stereotypes in educational leadership. The administrator role may have become more gender-neutral or androgynous. This combined with increased projected student enrollment and a steady increase in the number of women securing credentials in educational administration could result in a greater representation of women in the principalship.

In general, the issue of increased female leadership has led to a discussion of the nature of "feminine" leadership in which women optimize differences. Tully (1989) has called for a feminist redefinition of leadership which recognizes the distinct needs and unique perspective of women as leaders. Rosener (1990) writes that second-generation managerial women engage in interactive leadership which draws on shared experience as women. Shakeshaft (1986) describes a female organizational culture

with altered communication and decision-making styles. Rogers (1988) remarks on a shift in leadership which integrates the values of the female ethos, a new paradigm in which feminine leaders must learn to trust their own style and use it. Helgesen (1990) explores the unique perspective that women bring to the public realm of leadership, noting that a "female advantage" may exist in the use of webs of inclusion over hierarchies and in the feminine principles of nurturing and caring over the need for competition and control.

In a changing educational administration environment, the call for a change in principal leadership style may need to be addressed differently by male and female principals. Research which analyzes sex differences related to the role of principal would seem appropriate and necessary to promote understanding of this issue.

#### Need for Research

Adkison (1981) reviewed research on women in school administration and suggested that continued research on women in administration and management could provide evidence of changed attitudes towards women. Shakeshaft (1981) in an analysis of dissertation research on women in educational administration termed it an "area of inquiry ripe for further research" (p. 10). In a later review, Shakeshaft (1989) discusses the "gender gap" in research in educational administration, noting that research in

educational administration is weak both in research on women in organizations and research on the impact of gender on behavior.

Schmuck (1987) citing gender as a relevant concept for educational leadership writes, "For men and women, there is a different dynamic in the exercise of leadership due to sex stereotypes, expectations and identity with the leader. I flag this as an important issue for research"(p. 8).

At the conclusion of their meta-analytic study, Dobbins and Platz (1986) called for a moratorium on research that simply compares male and female leaders on measures of initiating structure, consideration, and effectiveness, but indicated that future research should investigate the process through which sex stereotypes and implicit sex theories bias evaluations.

Bass (1990), in concluding a chapter on Women and Leadership, writes "... it would seem necessary to continue to give careful consideration to the underlying dynamics and dimensions of importance to success and effectiveness of women leaders" (p. 737).

#### Summary of Sex Differences Related to Leadership

Our society has given gender designations, masculine or feminine, to many traits, attitudes, and behaviors which are deemed more characteristic of either sex, male or female. Sex-role has been defined as the assumption of a set of traits, attitudes, and behaviors which have gender

designations. When we began to view masculinity and femininity as orthogonal rather than bi-polar, it allowed the definition of masculine, feminine, and androgynous sex-roles. Whereas stereotypical masculine behaviors are found to be oriented to sustaining goals, stereotypical feminine behaviors are found to be oriented to sustaining interpersonal relationships. The androgynous sex-role integrates both sets of behaviors.

Theories of leadership have undergone a transition from trait theories, which emphasized masculine qualities, to situational theories, which call for the use of both structure/task behavior and consideration/relationship behavior. The new leadership paradigm calls for a move from Theory-X to Theory-Y, from authoritative to democratic, and from transactional to transformational leadership. This new paradigm places value on both masculine and feminine qualities in the exercise of leadership. This new emphasis has resulted in discussions of an androgynous leadership style, a style which could be embraced by both men and women in their efforts to provide effective leadership. This raises the question as to whether there is one "best" style for both men and women. Sex of leader and sex of subordinate may be an important part of the "situation" in situational leadership.

Research has shown that in self and ideal ratings of managers there is a strong identification with

characteristics, attitudes, and temperaments considered to be masculine (Brenner et al., 1989; Brown, 1979; Heilman et al., 1989; Inderlied & Powell, 1979; Massengill & Dimarco, 1979; Schein, 1973, 1975). There is an overriding expectation for the leader to be male (Porter et al., 1983); an expectation which may cause otherwise competent females to be unwilling to assume leadership or see themselves as leaders (Eskilson & Wiley, 1976; Megargee, 1969), or to distance themselves from the leader label even when engaged in leading (Owen, 1986).

Research has questioned whether men and women practice different leadership styles. Various sex differences in leadership have been noted: Male leaders were found to emphasize their task abilities while female leaders were found to emphasize their interpersonal abilities, although both considered task abilities to be more important (Forsyth et al, 1985); males were shown to use a competing style while females were shown to use a compromising style in conflict management (Berryman-Fink & Brunner, 1987); female leaders were found to be both task and relationship oriented, while males emphasized image and autonomy (Statham, 1987); leaders identified as androgynous were found to exhibit high levels of both initiating and consideration behaviors (Serafini & Pearson, 1984); subordinates perceived male and female leaders equally on structure, but rated female leaders higher on the use of

consideration (Adams & Hicks, 1978). Despite similar ratings by supervisors, males saw themselves as performing significantly better overall than did females (Deaux, 1979).

Other differences related to leader or manager abilities have been noted: Males' creativity was found to be linked to need for achievement, while for females it was linked to need for affiliation (Chusmir & Koberg, 1986); cognitive differences were found in that males used synthesis while females utilized analysis (Doyle & Mueller, 1989); males displayed more socially-oriented verbal behavior than females (Winther & Green, 1987); female leaders were more affected by sex of subordinate than males in responses to subordinates (Dobbins, 1986).

Other studies have found no significant differences: Few differences were noted in male and female self-description of their own leader behavior (Bartol & Wortman, 1976); subordinates perceived leaders as similar in style and effectiveness (Day & Stogdill, 1972).

While an androgynous leadership style may appear to address the varying needs which arise in situational leadership, leadership must be exercised against an understood set of stereotypical sex-roles for males and females. One area of research has sought to determine if evaluation of effectiveness and subordinate satisfaction

vary according to perceived compliance with sex-role expectations.

At least partial support for the existence of stereotypical sex-role expectations regarding leaders has been shown in several studies (Bartol & Butterfield, 1976; Griffin, 1992; Jacobson & Effertz, 1974; Jago & Vroom, 1982; Lee & Alvares, 1977; Sopasakis & Snodgrass, 1990; Wiley & Eskilson, 1982). In other studies, sex of the subordinate interacted with sex of the leader in influencing the affect of sex-role stereotypes on subordinates' perceptions (Forsyth & Forsth, 1984; Haccoun et al., 1978; Petty & Lee, 1975; Rosen & Jerdee, 1973; Russell et al., 1988; Watson, 1984).

Yet, in still other studies, no support for stereotypic expectations regarding style was found (Arnett et al., 1980; Kushnell & Newton, 1986).

Meta-analytic findings support the view that no consistent differences can be found between the use of initiating and consideration behaviors by males and females (Brown, 1979; Dobbins & Platz, 1986), but strong evidence exists for a sex difference in the female use of democratic style versus the male use of autocratic style (Eagly & Johnson, 1990). Meta-analyses note the tendency for stereotypical sex differences to be found more in laboratory than in field settings.

A meta-analysis of studies related specifically to the leadership styles of public school principals found female principals to be more democratic, more task-oriented, and slightly more interpersonally-oriented than male principals. (Eagly, et al., 1992) Other findings of interest include: Female administrators expect themselves to use more skills and abilities than do male principals (Estler, 1987); teachers report female principals higher on leadership effectiveness variables (Araki, 1982); faculties of female principals exhibited higher levels of job satisfaction, but male and female principals showed no significant differences on components of style (Charters & Jovick, 1981); male principals were rated the same by male and female teachers, but female principals were rated differently by male and female teachers (Cioci et al., 1991).

Dissertations have continued to explore sex-differences related to the principalship with mixed results. Sex differences were found regarding teacher perceptions of principal performance (Justis, 1990), principal acceptance of various leadership competencies (Miller, 1991), response patterns of male and female principals (Counts, 1987), and degree of Machiavellianism (Haschak, 1991).

Teachers rated male principals as more task-oriented than females (Robson, 1985). Female principals tended to demonstrate Theory-Y leadership more than males (Gillman,

1993). Principal sex and style were found to interact regarding teacher job satisfaction (Burkhardt, 1993).

Male principals provided more opportunity for teacher involvement in decision-making (Ungar, 1994). Males entering administration after 1985 exhibited a more collaborative work orientation than those entering prior to 1985 (Kanthak, 1991).

Differences were found regarding sex-role identity and effectiveness (Haas, 1986). Sex-typed principal traits were found to be related to various measures of school effectiveness (Pocsi, 1987). Male and female principals identified with masculine traits (Kuhr, 1988). Top-level administrative positions were seen as more suitable for men (Mamma, 1987), and sex of the superintendent was found to influence the dynamic of principal interactions (Grunbaum, 1992).

No sex differences were noted by others: Male and female principals did not exhibit different leadership attitudes (Carr, 1987); no differences were found related to teacher satisfaction and principal sex (Perkins, 1991; Tharrington, 1992); gender differences played a minimal role between principals and assistant principals (Mouse, 1994).

Given the unresolved issues and the increasing number of women in leadership positions, the need for research in the area of sex differences related to leadership has been

noted (Adkison, 1981; Bass, 1990; Dobbins & Platz, 1986; Schmuck, 1987; Shakeshaft, 1981, 1989). If the leadership styles exhibited by men and women tend to be more alike than different, is there a conflict with differing stereotypical sex-role expectations for men and women?

We are brought back to the question as to whether or not there is one "best" leadership style for both men and women which is androgynous in nature, blending both the traditional masculine qualities of leadership with more considerate feminine qualities of nurturance. Perhaps this high task/high relationship, androgynous style is more important for female leaders than for males. It may be that men have a greater range of effective leadership style. The situational differences caused by gender expectations may direct that there can be no single best style for both men and women.

## CHAPTER THREE - METHOD

This is an experimental study of the effects of sex of teacher, sex of scenario principal, and principal leadership style on the performance ratings of scenario principals by teachers.

Subjects were middle school teachers who were given a written scenario which described a principal. In addition, subjects received a set of situations. Each situation consisted of a problem and the principal's response to that problem. Subjects were asked to rate the quality of the scenario principal's performance in each of the situations.

### 3.1 Population and Sample

Subjects were drawn from a population of middle school teachers in a large urban school district. Given that the inclusion of both elementary and secondary schools could introduce extraneous variables related to the nature of schools and leadership at each level, it was determined that middle schools would best represent a blending of these leadership environments.

### 3.2 Instrument

The instrument is original to this study. It consists of four sections: a participant survey, a scenario which describes a male or female principal, instructions for rating the scenario principal's level of performance, and a set of six situations in which the subject rates the

scenario principal's level of performance. (See Appendices A, B, C, and D for copies of the instrument.)

### Participant Survey

On the response sheet, a brief introduction to the instrument is followed by the Participant Survey which asks subjects to complete a checklist indicating categories for age, sex, ethnicity, and administrative aspirations. Only sex of participant is relative to this study, the request for additional information will detract from the importance of sex as a variable of interest. However, this additional information will be useful in exploring the data for future research.

### Scenario

Subjects were given one of two scenarios in which the sex of the principal was manipulated. In one version, the principal is identified as a man, John Dawson. In the other version, the principal is identified as a woman, Janet Dawson.

Names (John/Janet) and pronouns (his/hers, him/her, and he/she) are used throughout the scenario to establish the sex of the principal. The descriptions of the principals are identical in all other respects. The description of each principal is meant to provide sufficient use of gender related pronouns to establish the sex of the principal in the subject's mind. The description is androgynous in

nature, using behavioral terms which reflect a balance of masculine and feminine qualities.

The behavioral terms selected to describe the principal were taken from behaviors listed on the BEM Sex-Role Inventory (Bem, 1981) which classifies behaviors as characteristically masculine, feminine, or neither. Of the six terms selected, two are considered masculine, two are considered feminine, and two are neither characteristically masculine nor feminine. All six of the selected terms are generally considered to be positive behaviors. The masculine terms used are "willing to take risks" and "self-reliant." The feminine terms used are "sensitive to the needs of others" and "understanding." The neutral terms used are "reliable" and "conscientious."

Additional statements in the scenario imply that performance rating may vary from one situation to the next. This is done to establish circumstances in which the subject may feel free to give varying performance ratings to the principal in each of the separate situations.

#### Performance Rating Instructions

In this section, subjects were told that they would be given situations in which the scenario principal responded to a problem. Subjects are provided a rating scale of 1 to 5 and were asked to rate the scenario principal's performance in each of the given situations.

Ratings are given the following descriptions:

- 1: Unacceptable performance (inadequate response).
- 2: Poor performance (response should have been better).
- 3: Adequate performance (response could have done better).
- 4: Good performance (acceptable response).
- 5: Excellent performance (effective and efficient response).

For subject's reference, this rating scale is repeated in abbreviated form at the top of each page on which the situations were given.

### Situations

Subjects were given a set of six situations. Each situation consisted of a problem statement and a description of the principal's response to that problem. Four of the situations are of interest and reflect the four leadership styles. Since a rating scale of 1 to 5 is utilized, it was determined that only four items might make the participant less likely to use a rating value more than once. The remaining two situations are "fillers" to provide a sufficient number of rating opportunities to encourage free use of the rating scale.

Each subject received the same set of six situations except for changes in the principal's name and the use of

appropriate gender pronouns to match the Scenario provided to each subject on the response page.

The principal's responses were constructed to reflect a variation in leadership style. (The style of each response is not identified to the subjects.) As discussed in Chapters 1 and 2, two components of leadership style can be identified: Task Behavior and Relationship Behavior. Leadership style can exhibit high or low levels of Task Behavior and high or low levels of Relationship Behavior. As suggested by Hersey and Blanchard (1969), these combinations result in four quadrants of leadership style.

Item reviewers rated items #3 and #4 higher in Task Behavior than items #2 and #5. Item reviewers rated items #2 and #3 higher in Relationship Behavior than items #4 and #5. Relative to each other, this places one item in each of the four quadrants of leadership style. Four subscales are formed corresponding to the four quadrants of leadership style. Each subscale consists of one of the four identified items on the instrument (see Figure 2).

RELATIONSHIP BEHAVIOR	High	Quadrant 3 Low Task/ High Relationship Item: LT/HR(2)	Quadrant 2 High Task/ High Relationship Item: HT/HR(3)
	Low	Quadrant 4 Low Task/ Low Relationship Item: LT/LR(5)	Quadrant 1 High Task/ Low Relationship Item: HT/LR(4)
		Low	High
		TASK BEHAVIOR	

Figure 2. Item breakdown by leadership style resulting in four subscales.

Validity and Reliability

The content validity of the instrument was established by reviewer agreement as to the likelihood of the occurrence of each situation and the representativeness of the range of situations as they pertain to the responsibilities of principals. This was accomplished through field test activities with teachers and school administrators.

The construct validity of the instrument was established by reviewer agreement as to the degree of Task and Relationship Behavior expressed in each response. This was accomplished through field test activities with teachers (3), school administrators (3), and dissertation

committee members (3). (See Appendix E for reviewer instructions regarding analysis of leadership style.)

It was determined that the nature of the instrument (one item for each style quadrant) did not lend itself to established measures of reliability.

### 3.3 Research Design

This study is a factorial study based on a posttest-only control group design. It utilizes a 2 x 2 x 4 factorial analysis of variance with repeated measures to study the effects of sex of teacher, sex of scenario principal, and leadership style on the performance ratings of scenario principals by teachers.

The independent variables are: sex of the teacher, sex of the scenario principal, and leadership style. All three are categorical variables. Sex of the teacher is an attribute variable. Sex of the principal and leadership style are active variables which are experimentally manipulated through design of the research instrument.

The dependent variable is the scenario principal's performance rating measured on a Likert-type scale from 1 (low) to 5 (high).

Sex of the teacher is identified as TM or TF (Teacher Male or Teacher Female). Sex of the scenario principal is identified as PM or PF (Principal Male or Principal Female). Leadership Style is identified as HT/LR , HT/HR , LT/HR, or LT/LR. (These represent High or Low Task

Behavior combined with High or Low Relationship Behavior corresponding to one of four quadrants.) The scenario principal's performance ratings scores are numerical values.

This design involves repeated measures in that each subject in one of the 2 x 2 (sex of teacher x sex of principal) cells provides performance rating scores for each of the four leadership styles, thus creating the 2 x 2 x 4 design.

Utilizing the terminology supported by Stevens (1986), this design is a two between and one within repeated measures design. The two between factors are sex of teacher and sex of scenario principal. The one within factor is leadership style. (See Figure 3 for a conceptualization of the research design.)

		<i>Sex of Scenario Principal</i>							
		<i>Male (PM)</i>				<i>Female (PF)</i>			
		<i>Leadership Style</i>				<i>Leadership Style</i>			
		1	2	3	4	1	2	3	4
<i>Sex of Teacher</i>	Male (TM)	<i>(Performance ratings)</i>							
	Female (TF)								

Figure 3. Research design. (Leadership Style numbers refer to quadrants which correspond to style combinations as follows: HT/LR, HT/HR, LT/HR, and LT/LR.)

### 3.4 Procedures

A pool of original problem/response situations was created. Field testing was conducted to anticipate problems with instrument instructions and clarity and usefulness of items. The first draft of nine items was informally field-tested on 14 teachers. The second draft of these revised items was informally tested on 14 other teachers. Teachers completed the instrument and were then interviewed. Additional input was received from dissertation committee members and school administrators who reviewed the items.

A pilot study was conducted in February, 1995, utilizing teachers in a FIU graduate education course. This pilot study was conducted with 27 subjects to determine possible procedural, instrument, and data analysis problems. The pilot study instrument contained eight items. It was determined that four of these items best reflected the defined leadership styles, two additional items were selected to be used as "fillers" in the final instrument.

In July, 1995, an application to conduct research was filed with Dade County Public Schools. Following approval to conduct research, data collection took place in the fall of 1995. Given the difficulty in achieving high levels of response from mailed surveys and the need for reliable

administration of the instrument, the study was conducted by the researcher at various school sites.

Nine middle schools were invited to participate in this study. Seven schools agreed to participate. Due to scheduling problems at two schools, five schools were used in this study.

Subjects were teachers who volunteered to complete the instrument at the conclusion of a regularly scheduled faculty meeting. The number of teachers who chose to remain ranged from a low of 33.3% at one site to a high of 94.3% at another. Overall, 70.2% of those present chose to remain and complete the instrument. This resulted in 200 completed instruments, of which 3 were not usable due to incorrect coding, leaving 197 usable responses.

Through random assignment, half of the male subjects received male principal scenarios and half received female principal scenarios. Similarly, half of the female subjects received male principal scenarios and half received female principal scenarios. Random assignment was achieved by using a stack of instruments which had been alternately layered by male and female principal scenarios. Male teachers were given an instrument off the top of the stack and female teachers were given an instrument off the bottom of the stack. This provided for the random assignment of male or female principal scenarios to

teachers while maintaining equal cell distributions by teacher sex.

A consistent set of oral directions was used at each sampling site. Additional directions were provided on the instrument itself. Data collection required 15-20 minutes at each site.

### 3.5 Data Analysis

There are three main effects for this study. They are: between teacher sexes, between principal sexes, and among leadership styles. There are three first order interactions for this study. They are: Sex of Teacher x Sex of Principal, Sex of Principal x Leadership Style, and Sex of Teacher x Leadership Style. There is one second-order interaction for this study. It is: Sex of Teacher x Sex of Principal x Leadership Style.

Data analysis was conducted using a MacIntosh computer and Statview 4.0 with SuperANOVA (Abacus Concepts software package). This package contains procedures for factorial ANOVA with repeated measures. F ratios for main effects, first-order, and second-order interactions were analyzed at the .05 significance level.

## CHAPTER FOUR - RESULTS

Data were coded and entered into Statview 4.0 with SuperANOVA. See Appendix F for a breakdown of the data entry format.

### 4.1 Subject Demographics

The sample was drawn from the teaching staff at five middle schools. A total of 200 teachers participated, returning 197 usable responses. Three responses were not usable due to incorrect coding or missing information. Responses to survey items provide a demographic breakdown of the sample (see Table 2).

Subjects were teachers who volunteered to remain at the end of a regularly scheduled faculty meeting and complete the instrument. There were 285 eligible subjects in attendance at the meetings, the number of participants reflects a 70.2% return rate.

Table 2

Demographic Breakdown of Subjects

	<u>n</u>	<u>PERCENT</u>
<u>TEACHER SEX</u>		
Male	69	35.0
Female	128	65.0
TOTAL	197	100.0
<u>AGE</u>		
20-30 years	40	20.3
31-40 years	40	20.3
41-50 years	79	40.1
Over 50 years	38	19.3
TOTAL	197	100.0
<u>ETHNICITY</u>		
African-American	56	28.4
Hispanic	20	10.2
Non-Hispanic White	102	51.8
Other	17	8.6
Omitted	2	1.0
TOTAL	197	100.0

Table 2 (continued)

	<u>n</u>	<u>PERCENT</u>
<u>TEACHING EXPERIENCE</u>		
1-5 years	55	27.9
6-10 years	35	17.8
Over 10 years	107	54.3
TOTAL	197	100.0
<u>ADMINISTRATIVE ASPIRATIONS</u>		
Yes	31	15.7
No	121	61.4
Undecided	45	22.8
TOTAL	197	100.0

The sample comprised 35.0% male and 65.0% female subjects. This approximates district percentages of male and female middle school instructional staff. Districtwide, middle school instructional staffs are 32.6% male and 67.4% female (School Board of Dade County, Florida, 1996). The distribution of subjects across Teacher Sex x Principal Sex cells can be seen in Table 3. Male subjects were equally distributed across male and female principal cells, as were female subjects.

Table 3

Subject Cell Breakdown: Teacher Sex x Principal Sex

TEACHER SEX	PRINCIPAL SEX		TOTAL
	Male (PM)	Female (PF)	
Male (TM)	35	34	69
Female (TF)	64	64	128
TOTAL	99	98	197

4.2 Breakdown of Item Ratings

Each subject was given six situations in which to rate the principal's performance. These situations will be referred to as items #1 through #6. Four of the situations were designed to reflect the four leadership styles defined by combinations of high or low levels of Relationship Behavior with high or low levels of Task Behavior. These four items will be identified as follows:

HT/HR(3) Item #3 - High Task/High Relationship Style

HT/LR(4) Item #4 - High Task/Low Relationship Style

LT/HR(2) Item #2 - Low Task/High Relationship Style

LT/LR(5) Item #5 - Low Task/Low Relationship Style

The remaining two situations (items #1 and #6) were provided to give a sufficient number of rating opportunities to encourage free use of the rating scale.

Subjects were asked to rate the principal's performance in each situation on a scale of 1 to 5 using the following guideline:

- 1 - Unacceptable performance (inadequate response).
- 2 - Poor performance (response should have been better).
- 3 - Adequate performance (response could have done better).
- 4 - Good performance (acceptable response).
- 5 - Excellent performance (effective and efficient response).

The frequency distribution of the ratings for each item can be found in Table 4. See Appendix G for histograms of rating distributions for all items, including #1 and #6.

Table 4

Distribution of Performance Ratings by Item

PERFORMANCE RATINGS	ITEM							
	HT/HR(3)		HT/LR(4)		LT/HR(2)		LT/LR(5)	
	n	%	n	%	n	%	n	%
1 (Unacceptable)	2	1.0	24	12.2	40	20.3	44	22.3
2 (Poor)	11	5.6	58	29.4	57	28.9	97	49.2
3 (Adequate)	29	14.7	51	25.9	47	23.9	36	18.3
4 (Good)	81	41.1	49	24.9	36	18.3	15	7.6
5 (Excellent)	74	37.6	15	7.6	17	8.6	5	2.5
TOTAL	197	100.0	197	100.0	197	100.0	197	100.0

Mean ratings for each item were analyzed. The mean and standard deviation for each item are found in Table 5. The mean was highest for HT/HR(3) - High Task/High Relationship and lowest for LT/LR(5) - Low Task/Low Relationship. Greater variability was found in the ratings for the mixed styles, LT/HR(2) - Low Task/High Relationship and HT/LR(4) - High Task/Low Relationship.

Table 5

Overall Item Means and Standard Deviations

---

<u>ITEM</u>	<u>M</u>	<u>SD</u>
HT/HR(3)	4.086	0.913
HT/LR(4)	2.863	1.150
LT/HR(2)	2.660	1.233
LT/LR(5)	2.188	0.953
Average(2-5)	2.949	0.630

---

Note. N = 197.

Tables 6, 7, and 8 provide item means broken down by the variables Teacher Sex, Principal Sex, and Teacher Sex by Principal Sex.

Table 6

Item Means by Teacher Sex

ITEM	TEACHER	
	Male (TM) (n = 69)	Female (TF) (n = 128)
HT/HR(3)	3.942	4.164
HT/LR(4)	2.783	2.906
LT/HR(2)	2.580	2.703
LT/LR(5)	2.304	2.125
Average(2-5)	2.902	2.975

Table 7

Item Means by Principal Sex

ITEM	PRINCIPAL SEX	
	Male (PM) (n = 99)	Female (PF) (n = 98)
HT/HR(3)	4.061	4.112
HT/LR(4)	2.859	2.867
LT/HR(2)	2.626	2.694
LT/LR(5)	2.232	2.143
Average(2-5)	2.944	2.954

Table 8

Item Means for Teacher Sex by Principal Sex

ITEM	TEACHER SEX, PRINCIPAL SEX			
	TM, PM	TM, PF	TF, PM	TF, PF
	(n = 35)	(n = 34)	(n = 64)	(n = 64)
HT/HR(3)	3.914	3.971	4.141	4.188
HT/LR(4)	2.914	2.647	2.828	2.984
LT/HR(2)	2.543	2.618	2.672	2.734
LT/LR(5)	2.400	2.206	2.141	2.109
Average(2-5)	2.943	2.860	2.945	3.004

Graphs of item means broken down by Teacher Sex, Principal Sex, and other demographic characteristics can be found in Appendix H.

#### 4.3 Analysis of Variance

This is a factorial study based on a posttest-only control group design. A 2 x 2 x 4 factorial analysis of variance with repeated measures on the last factor was carried out to study the effects of sex of teacher, sex of scenario principal, and leadership style on the performance ratings of scenario principals by teachers.

This design has two between subjects factors and one within subjects factor and so is a repeated measures design. It is "mixed" in that it contains both between and

within subject factors. The two between factors are Teacher Sex and Principal Sex. The within factor is Leadership Style. Measures are repeated in that each subject provides a performance rating for each of four leadership styles.

Teacher Sex is an attribute variable with two levels which were designated TM (Teacher Male) and TF (Teacher Female).

Principal Sex and Leadership Style are active variables which were experimentally manipulated through design of the research instrument. Principal Sex has two levels which were designated PM (Principal Male) and PF (Principal Female). Leadership Style has four levels which reflect the four leadership styles defined by combinations of high or low levels of Relationship Behavior with high or low levels of Task Behavior. These levels were designated HT/HR(3), HT/LR(4), LT/HR(2), and LT/LR(5), with numbers referring to specific items on the instrument as previously discussed in this chapter.

An analysis of variance was carried out using SuperANOVA for MacIntosh to generate Type III Sums of Squares. As specified by this program, Leadership Style was treated as a "compact variable" and Teacher Sex and Principal Sex were selected for full interaction. The results of this analysis are summarized in Table 9.

Table 9

Analysis Of Variance of Performance Ratings  
by Teacher Sex, Principal Sex, and Leadership Style

Source	df	Sum of Squares	Mean Square	F Value	P Value
Teacher Sex (TS)	1	0.956	0.956	0.596	0.4410
Principal Sex (PS)	1	0.026	0.026	0.016	0.8993
TS x PS	1	0.893	0.893	0.557	0.4565
Subject (Group)	193	309.619	1.604		
Leadership Style (LS)	3	334.358	111.453	110.989	0.0001
LS x TS	3	4.048	1.349	1.344	0.2592
LS x PS	3	1.012	0.337	0.336	0.7994
LS x TS x PS	3	1.416	0.472	0.470	0.7032
LS x Subject(Group)	579	581.417	1.004		

Note. Abbreviations used in the table are TS for Teacher Sex, PS for Principal Sex, and LS for Leadership Style.

The analysis of variance revealed no significant three-way interaction, no significant two-way interactions, and

no significant main effects except for Leadership Style with a p-value of 0.0001.

Tukey's HSD Post Hoc Test was performed to determine pairwise differences related to Leadership Style. The critical value at the 0.05 level was determined to be 0.25914. An examination of the means (see Table 5) indicated that LT/LR(5) (mean = 2.188) differs significantly from all other styles. Similarly, HT/HR(3) (mean = 4.086) differs from all others. It was found that LT/HR(2) (mean = 2.660) and HT/LR(4) (mean = 2.863) do not differ significantly from each other.

The three-way interaction plot associated with this analysis of variance is shown in Figure 4.

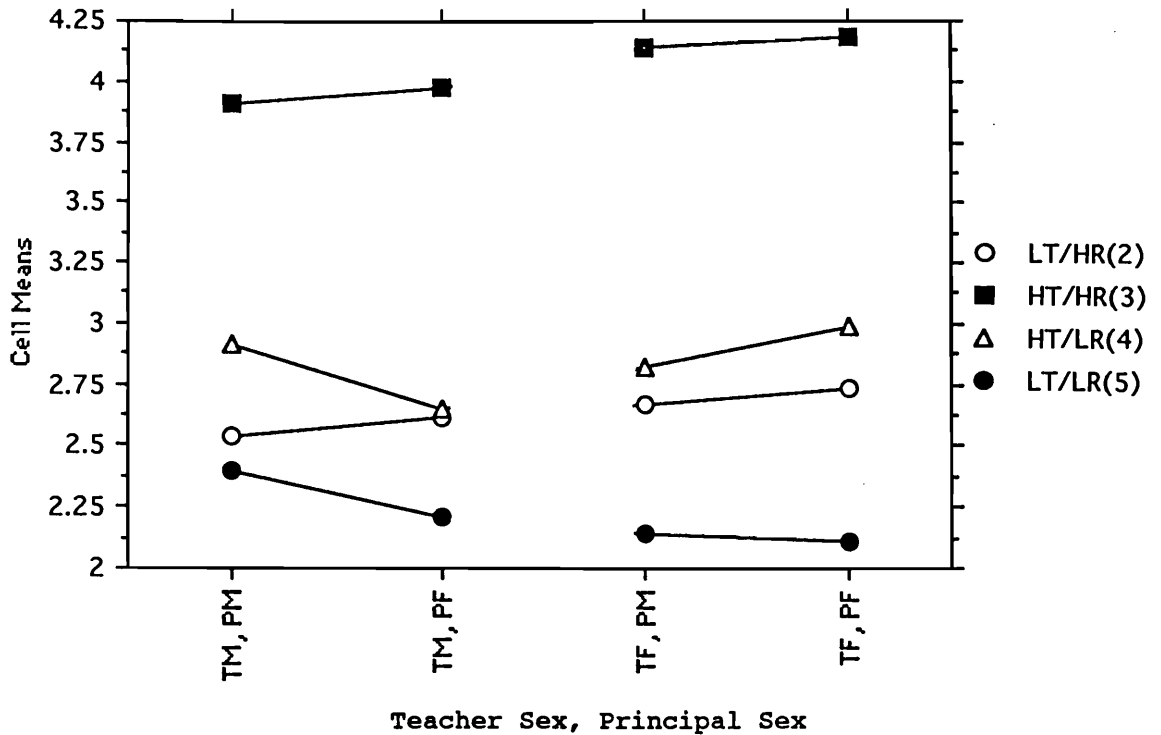


Figure 4. Interaction plot for each of four Leadership Style items.

While not statistically significant, Figure 4 suggests that HT/LR(4) may differ by Teacher Sex and Principal Sex from the others. For male principals, male and female teachers rated performance similarly, but for female principals, male teachers tended to rate performance lower than did female teachers. This relationship can be seen in Figure 5.

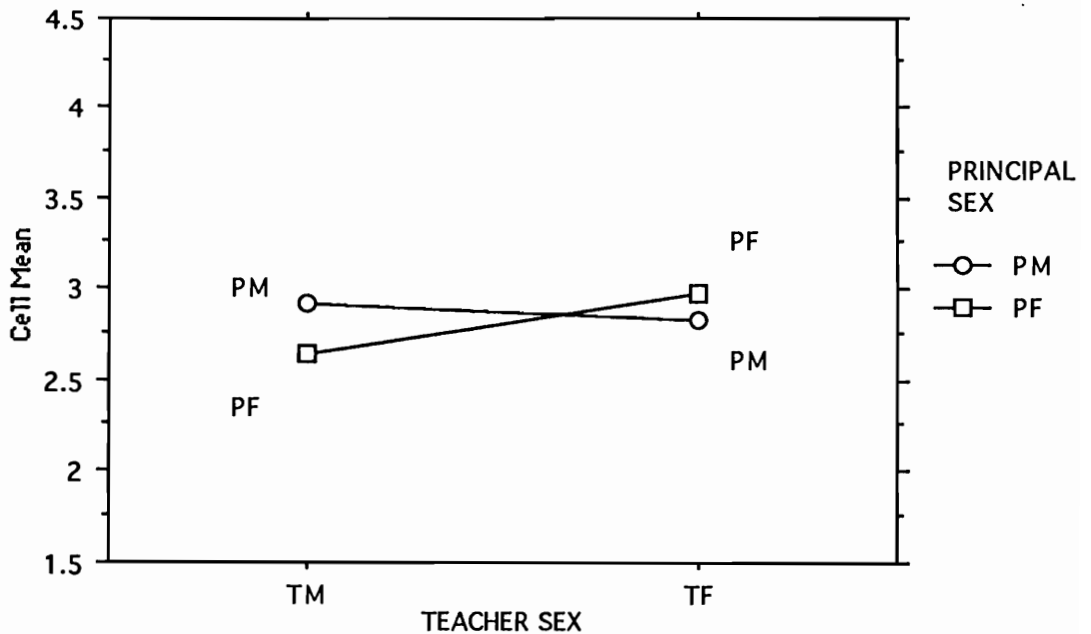


Figure 5. Interaction line plot for HT/LR(4).

#### 4.4 Analyses of Variance Using Demographic Characteristics

Item means were generated by the teacher demographic characteristics of Age, Ethnicity, Experience, and Administrative Aspiration. Differences in means (see Appendix I) suggested further analysis.

An analysis of variance was conducted on each of the following: Teacher Ethnicity x Principal Sex x Leadership Style, Teacher Age x Principal Sex x Leadership Style, Teacher Experience x Principal Sex x Leadership Style, and Administrative Aspiration x Principal Sex x Leadership Style.

No significant interactions or main effects (except for Leadership Style as previously discussed) were found in the analysis of variance for Teacher Ethnicity x Principal Sex x Leadership Style or Teacher Age x Principal Sex x Leadership Style. (See Appendix J for resulting tables.) Significant findings were noted for Teacher Experience x Principal Sex x Leadership Style and Administrative Aspiration x Principal Sex x Leadership Style.

Teacher Experience x Principal Sex x Leadership Style

Teacher Experience contained three levels: 1 - 5 years, 6 - 10 years, and Over 10 years. The cell breakdown for Teacher Experience x Principal Sex x Leadership Style is seen in Table 10.

Table 10

Subject Cell Breakdown: Teacher Experience x Principal Sex

TEACHER EXPERIENCE	PRINCIPAL SEX		TOTAL
	Male (PM)	Female(PF)	
1 - 5 years	29	26	55
6 - 10 years	14	21	35
Over 10 years	56	51	107
TOTAL	99	98	197

A breakdown of item means is found in Tables 11 and 12.

Table 11

Item Means for Teacher Experience

ITEM	TEACHER EXPERIENCE		
	1-5 Years (n = 55)	6-10 Years (n = 35)	Over 10 Years (n = 107)
HT/HR(3)	3.964	4.229	4.103
HT/LR(4)	2.455	3.257	2.944
LT/HR(2)	2.564	2.457	2.776
LT/LR(5)	2.164	2.200	2.196
Average(2-5)	2.786	3.036	3.005

Table 12

Item Means for Teacher Experience by Principal Sex

ITEM	TEACHER EXPERIENCE		
	1-5 Years	6-10 Years	Over 10 Years
<u>PRINCIPAL - MALE</u>	(n = 29)	(n = 14)	(n = 56)
HT/HR(3)	3.966	4.429	4.018
HT/LR(4)	2.483	3.571	2.875
LT/HR(2)	2.655	2.429	2.661
LT/LR(5)	2.276	1.786	2.321
Average(2-5)	2.845	3.054	2.969
<u>PRINCIPAL - FEMALE</u>	(n = 26)	(n = 21)	(n = 51)
HT/HR(3)	3.962	4.095	4.196
HT/LR(4)	2.423	3.048	3.020
LT/HR(2)	2.462	2.476	2.902
LT/LR(5)	2.038	2.476	2.059
Average(2-5)	2.721	3.024	3.044

The analysis of variance for Teacher Experience x Principal Sex x Leadership Style yielded significant interactions (see Table 13).

Table 13

Analysis Of Variance of Performance Ratings  
by Teacher Experience, Principal Sex, and Leadership Style

Source	df	Sum of Squares	Mean Square	F Value	P Value
Teacher Experience (TE)	2	8.355	4.267	2.701	0.0697
Principal Sex (PS)	1	0.106	0.106	0.067	0.7957
TE x PS	2	1.475	0.737	0.467	0.6278
Subject (Group)	191	301.796	1.580		
Leadership Style (LS)	3	329.287	100.762	111.594	0.0001
LS x TE	6	13.721	2.287	2.325	0.0316
LS x PS	3	1.041	0.347	0.353	0.7871
LS x TE x PS	6	11.044	1.841	1.871	0.0836
LS x Subject(Group)	573	563.595	0.984		

Note. Abbreviations used in the table are TE for Teacher Experience, PS for Principal Sex, and LS for Leadership Style.

No relationship regarding Teacher Experience with other variables was hypothesized, however, the two-way interaction Teacher Experience x Leadership Style was significant ( $p = 0.0316$ ). Although teachers with 1-5 Years experience rated principals lower on HT/HR(3) and LT/LR(5) than did more experienced teachers, they rated principals much lower on HT/LR (4) than the more experienced teachers (see Table 11). Teachers with Over 10 Years experience rated principals higher on LT/HR(2) than either of the other groups with less experience (see Figure 6).

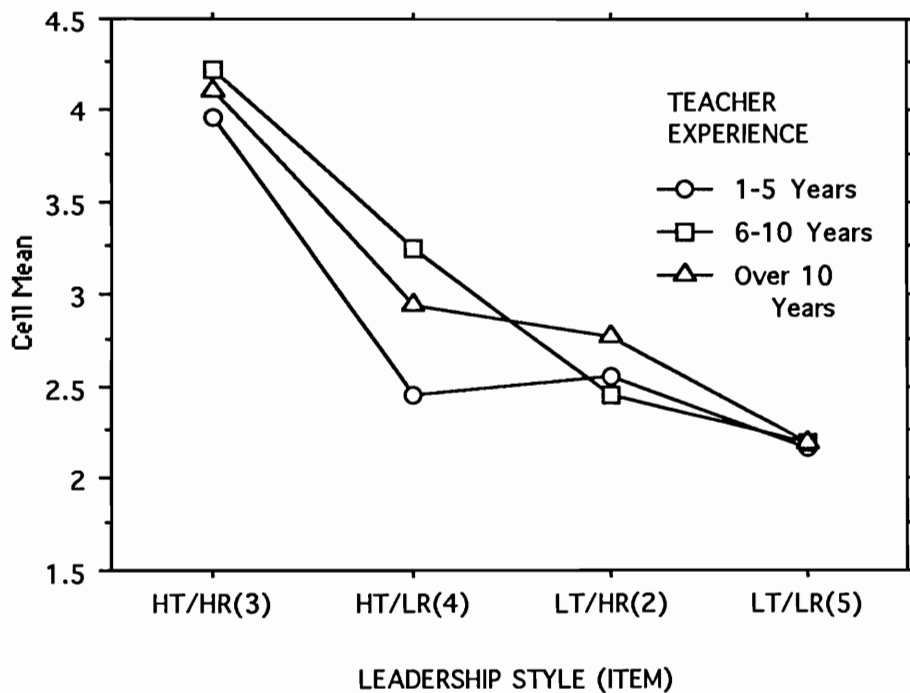


Figure 6. Item means by Teacher Experience.

At the  $p < .10$  level, analysis yielded a main effect for Teacher Experience ( $p = .0697$ ). Teachers with 6 - 10 Years experience (mean = 3.036) and teachers with Over 10 Years experience (mean = 3.005) rated all principals (across leadership style and principal gender) higher than did teachers with 1 - 5 Years experience (mean = 2.786). (See Table 11).

Also at the  $p < .10$  level, a three-way interaction for Teacher Experience x Principal Sex x Leadership Style was found ( $p = .0836$ ). Teachers with 6-10 Years experience showed greater differences in mean ratings (see Table 12) between male and female principals than did the other two experience groups on HT/HR(3), HT/LR(4), and LT/LR(5). (See Figures 7 - 9).

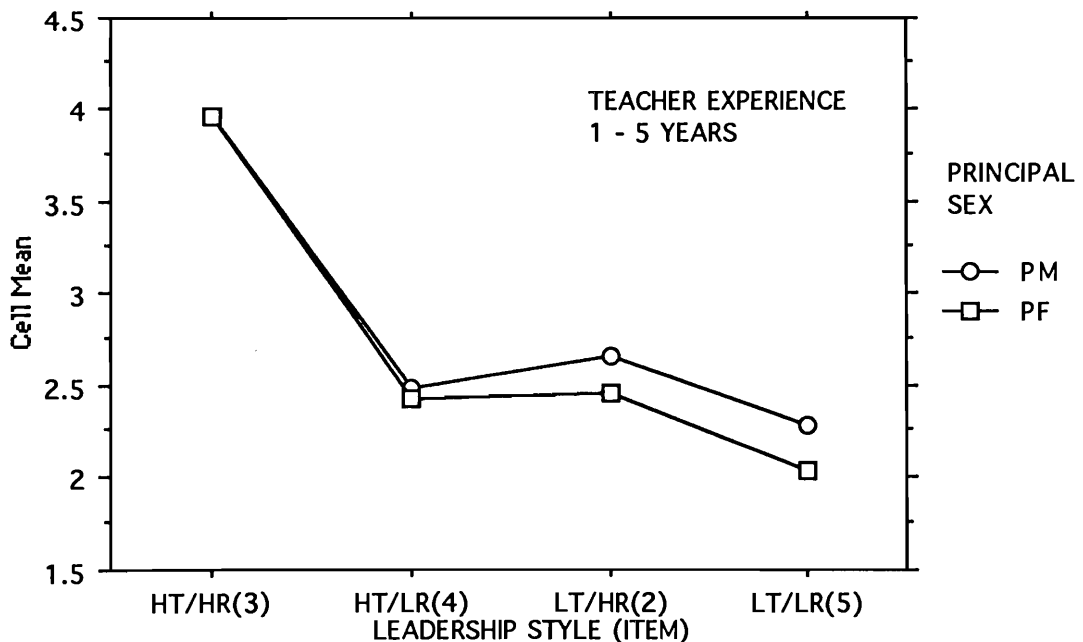
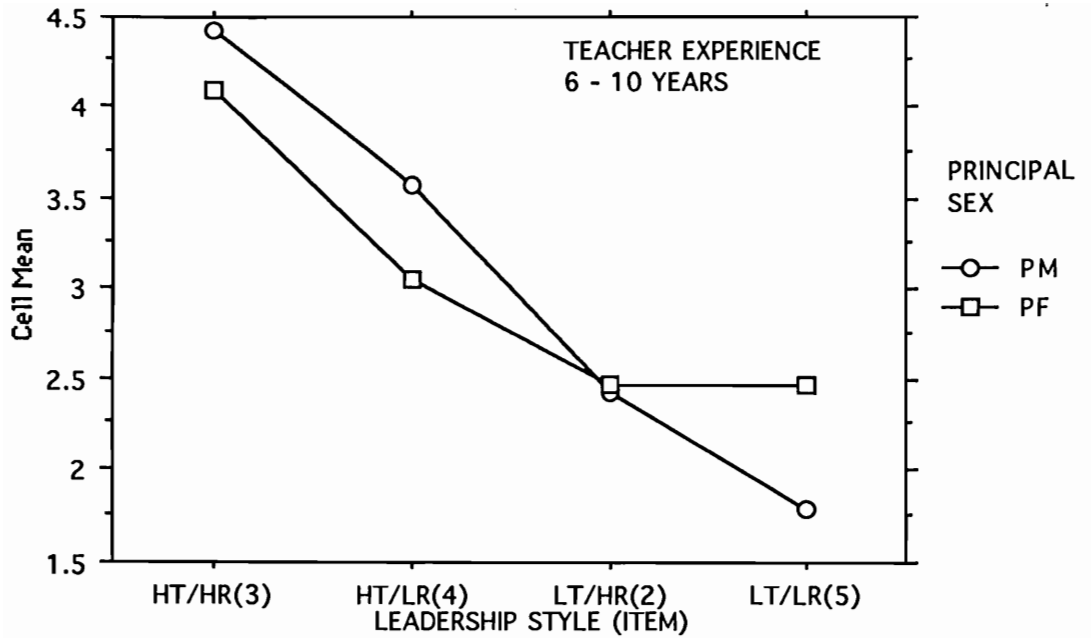
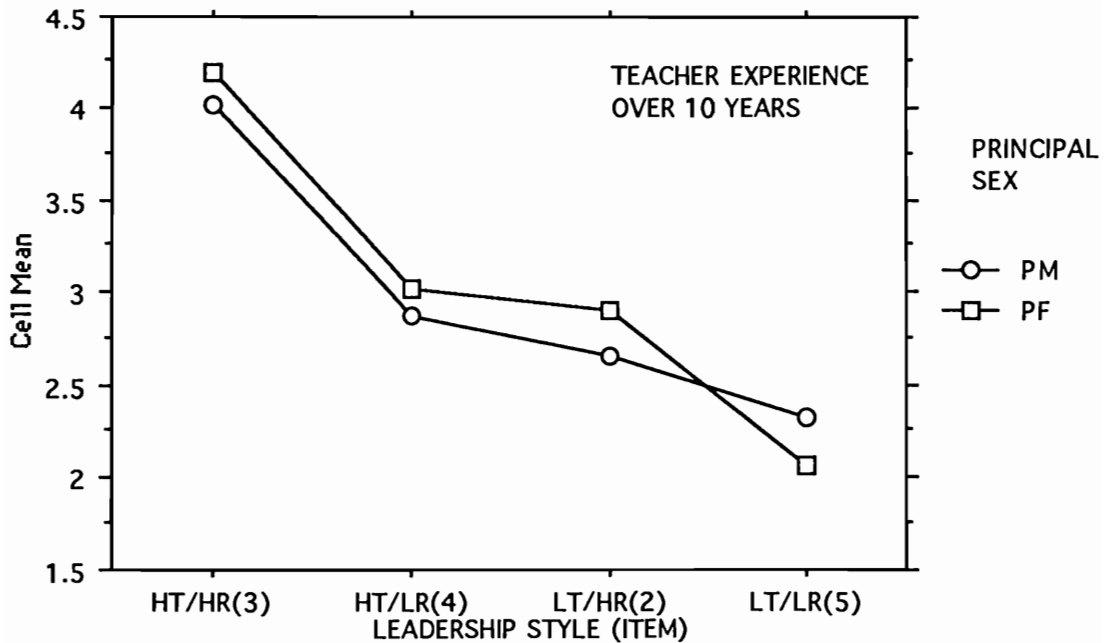


Figure 7. Item means by Principal Sex for teachers with 1-5 Years experience.



**Figure 8.** Item means by Principal Sex for teachers with 6 - 10 Years experience.



**Figure 9.** Item means by Principal Sex for teachers with Over 10 Years experience.

Administrative Aspiration x

Principal Sex x Leadership Style

Teacher Administrative Aspiration contained three levels: Yes, No, and Undecided. The cell breakdown for Teacher Administrative Aspiration x Principal Sex is seen in Table 14.

Table 14

Subject Cell Breakdown: Teacher Administrative Aspiration x Principal Sex

---

ADMINISTRATIVE ASPIRATION	PRINCIPAL SEX		TOTAL
	Male (PM)	Female (PF)	
Yes	13	18	31
No	64	57	121
Undecided	22	23	45
TOTAL	99	98	197

---

A breakdown of item means is found in Tables 15 and 16.

Table 15

Item Means for Teacher Administrative Aspiration

ITEM	TEACHER ADMINISTRATIVE ASPIRATION		
	Yes (n = 31)	No (n = 121)	Undecided (n = 45)
HT/HR(3)	3.968	4.058	4.244
HT/LR(4)	2.677	2.843	3.044
LT/HR(2)	2.387	2.645	2.889
LT/LR(5)	2.290	2.198	2.089
Average(2-5)	2.831	2.936	3.067

Table 16

Item Means for Teacher Administrative Aspiration  
by Principal Sex

ITEM	<u>TEACHER ADMINISTRATIVE ASPIRATION</u>		
	Yes	No	Undecided
<u>PRINCIPAL - MALE</u>	(n = 13)	(n = 64)	(n = 22)
HT/HR(3)	3.692	4.047	4.318
HT/LR(4)	3.077	2.719	3.136
LT/HR(2)	2.846	2.438	3.045
LT/LR(5)	2.462	2.266	2.000
Average(2-5)	3.019	2.867	3.125
<u>PRINCIPAL - FEMALE</u>	(n = 18)	(n = 57)	(n = 23)
HT/HR(3)	4.167	4.070	4.174
HT/LR(4)	2.389	2.982	2.957
LT/HR(2)	2.056	2.877	2.739
LT/LR(5)	2.167	2.123	2.174
Average(2-5)	2.694	3.013	3.011

The analysis of variance for Teacher Administrative Aspiration x Principal Sex x Leadership Style yielded significant interaction (see Table 17).

Table 17

Analysis Of Variance of Performance Ratings  
by Teacher Administrative Aspiration, Principal Sex,  
and Leadership Style

Source	df	Sum of Squares	Mean Square	F Value	P Value
Administrative Aspiration (AA)	2	3.562	1.781	1.131	0.3249
Principal Sex (PS)	1	1.348	1.348	0.856	0.3560
AA x PS	2	6.304	3.152	2.001	0.1380
Subject (Group)	191	300.818	1.575		
Leadership Style (LS)	3	271.896	90.632	91.534	0.0001
LS x AA	6	5.037	0.840	0.848	0.5332
LS x PS	3	2.546	0.849	0.857	0.4632
LS x AA x PS	6	14.006	2.334	2.358	0.0294
LS x Subject(Group)	573	567.352	0.990		

Note. Abbreviations used in the table are AA for Administrative Aspiration, PS for Principal Sex, and LS for Leadership Style.

No relationship regarding Teacher Administrative Aspiration with other variables was hypothesized, however, a significant three-way interaction was found in the analysis of variance for Administrative Aspiration x Principal Sex x Leadership Style ( $p = 0.0294$ ).

An examination of the item means (see Table 16) reveals that teachers who indicated an intent to enter administration differed more on their ratings between male and female principals than did teachers who indicated no or undecided. These differences are greater for the mixed styles of HT/LR(4) and LT/HR(2) than for HT/HR(3) and LT/LR(5). These differences are apparent in graphs of the item means as shown in Figures 10 - 12.

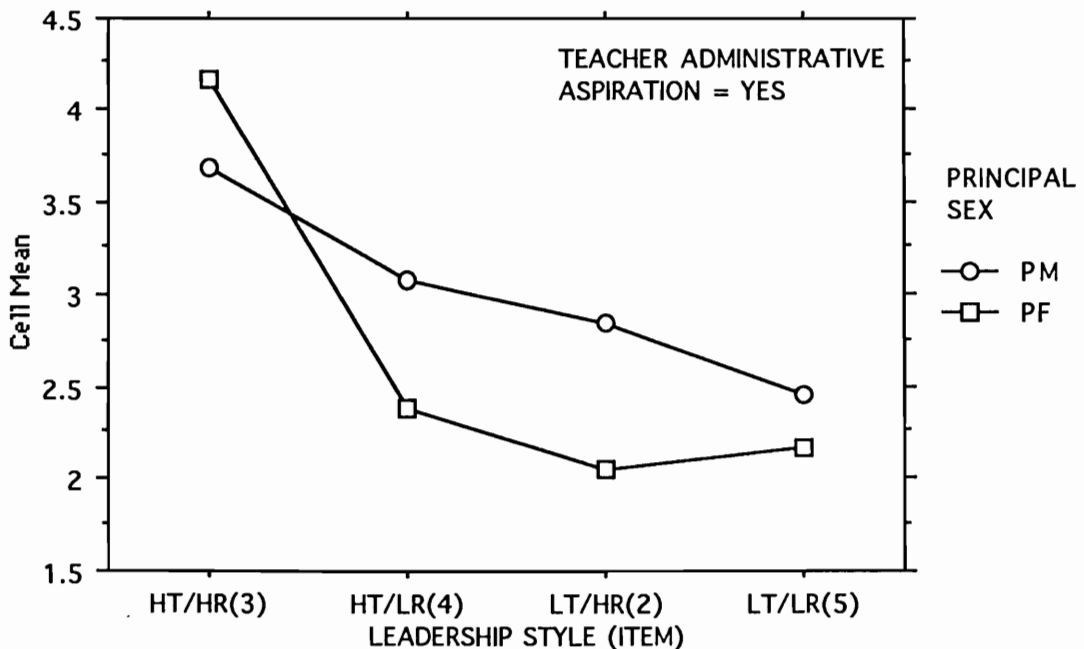


Figure 10. Item means by Principal Sex for teachers answering "yes" to Administrative Aspiration.

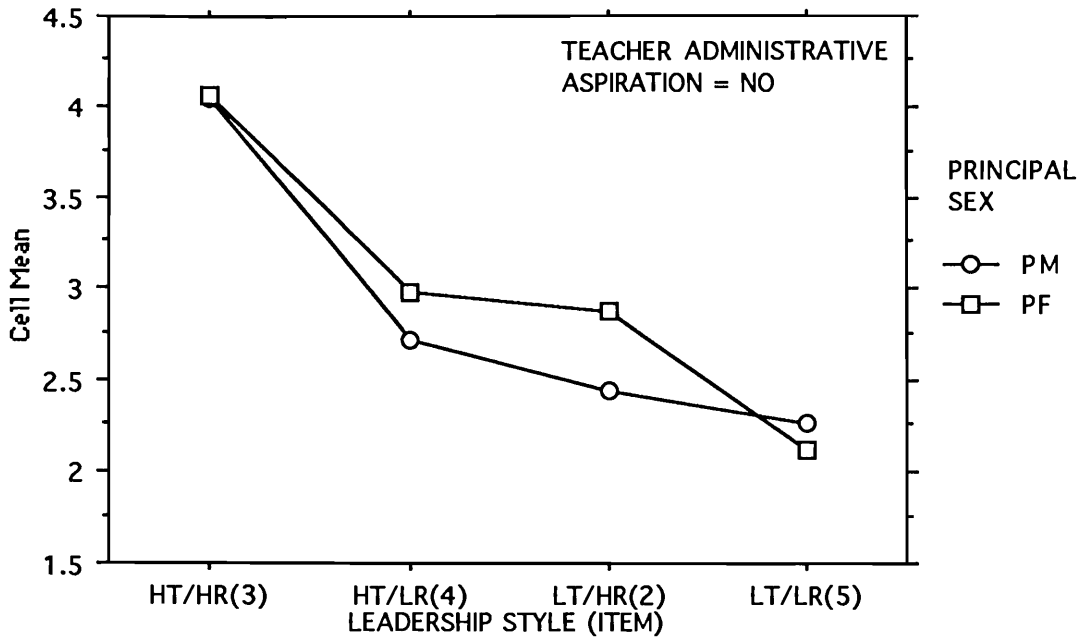


Figure 11. Item means by Principal Sex for teachers answering "no" to Administrative Aspiration.

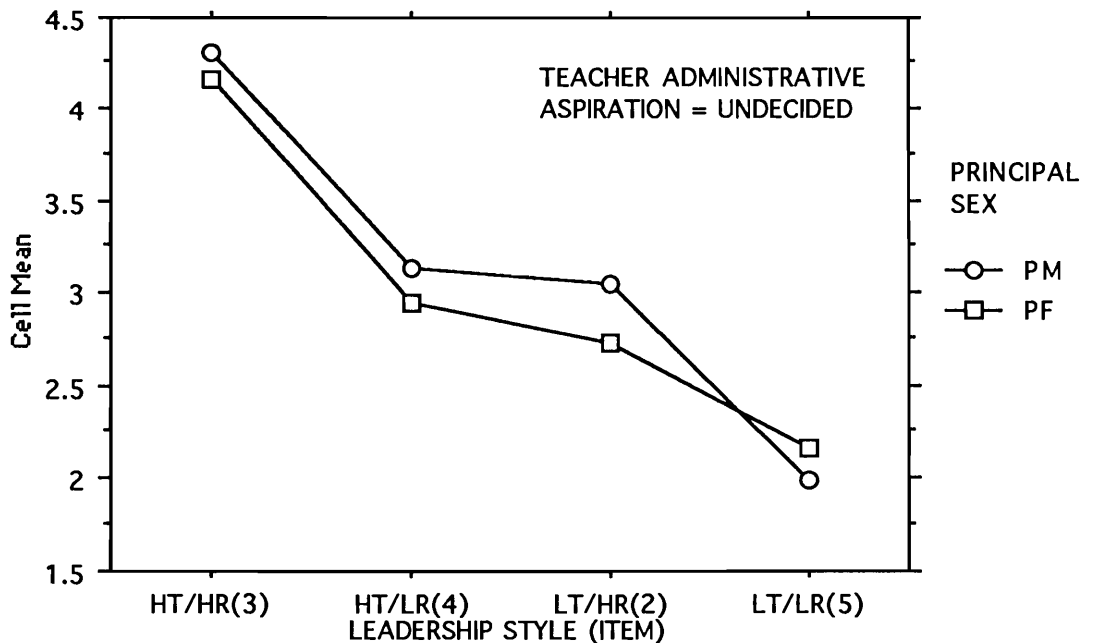


Figure 12. Item means by Principal Sex for teachers answering "undecided" to Administrative Aspiration.

A further exploration of the data yields differences between male and female teachers who indicated "yes" to Administrative Aspiration, however, cell sizes become extremely small and this must be considered when analyzing the data (see Table 18). A complete subject cell breakdown for Administrative Aspiration x Teacher Sex x Principal Sex can be found in Appendix K.

Table 18

Subject Cell Breakdown: Teacher Sex x Principal Sex  
(Administrative Aspiration is Yes)

TEACHER SEX	PRINCIPAL SEX		TOTAL
	Male (PM)	Female (PF)	
Male	7	8	15
Female	6	10	16
TOTAL	13	18	31

Note. Approximately 21.7% of male teachers answered "yes" to Administrative Aspiration. Approximately 12.5% of female teachers answered "yes."

Female principals were rated higher than male principals by teachers of both sexes on HT/HR(3) and lower on the remaining three items (see Table 19).

Table 19

Item Means for Teacher Sex by Principal Sex  
(Administrative Aspiration is Yes)

ITEM	TEACHER SEX, PRINCIPAL SEX			
	TM, PM (n = 7)	TM, PF (n = 8)	TF, PM (n = 6)	TF, PF (n = 10)
HT/HR(3)	3.571	4.375	3.833	4.000
HT/LR(4)	2.714	2.250	3.500	2.500
LT/HR(2)	2.571	2.125	3.167	2.000
LT/LR(5)	2.571	2.000	2.333	2.300
Average(2-5)	2.857	2.688	3.208	2.700

As suggested by Figure 13 and Figure 14, male teachers answering "yes" to Administrative Aspiration showed greater differences between ratings of male and female principals on HT/HR(3) and LT/LR(5) than did female teachers. Female teachers showed greater differences between male and female principals on the mixed styles of HT/LR(4) and LT/HR(2). However, these differences between male and female teachers (AA = Yes) were not found to be significant. (An analysis of variance completed for Teacher Sex x Principal Sex x Leadership Style when Administrative Aspiration is Yes can be found in Appendix L.)

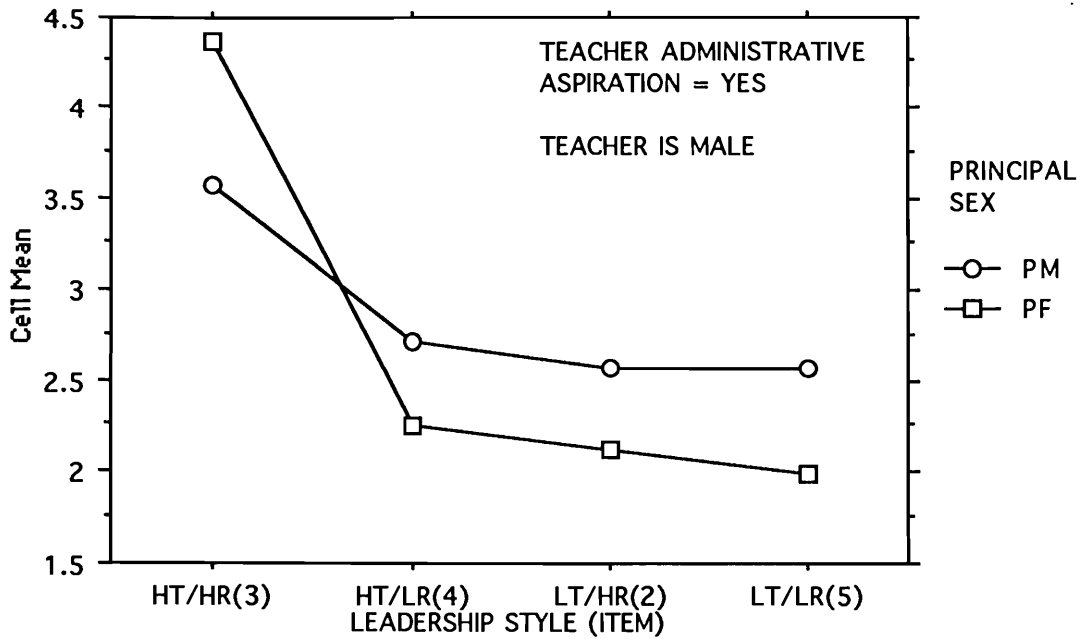


Figure 13. Item means by Principal Sex for male teachers answering "yes" to administrative Aspiration.

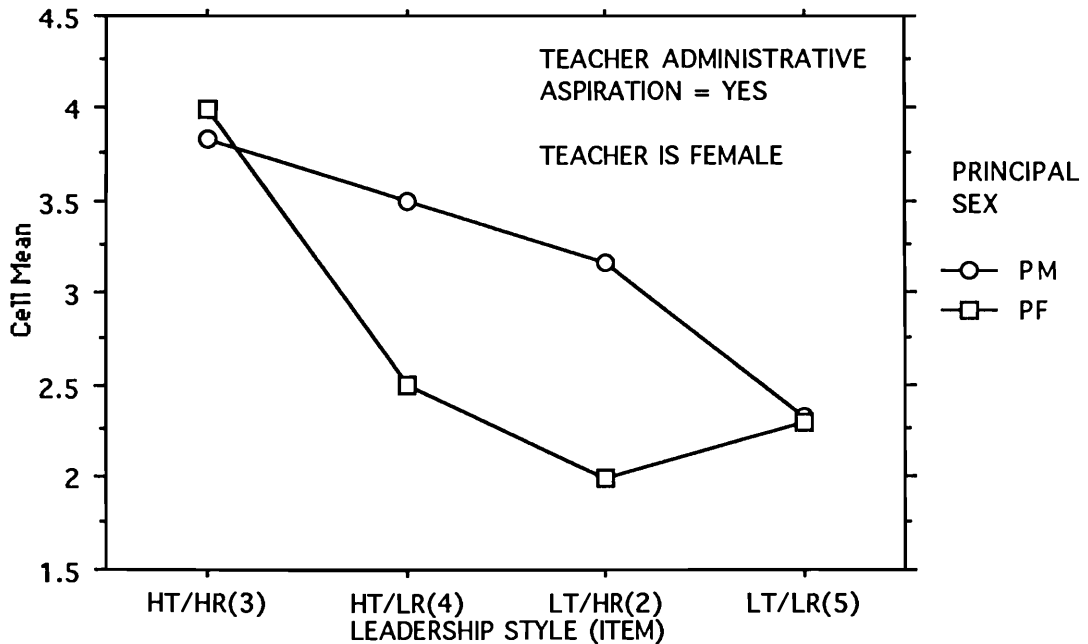


Figure 14. Item means by Principal Sex for female teachers answering "yes" to administrative Aspiration.

#### 4.5 Summary of Results

The null hypothesis was not rejected. (Null H0: There are no significant effects among sex of teacher, sex of scenario principal, and principal leadership style on the performance ratings of scenario principals.) Significant interactions were found when demographic variables regarding teacher experience and teacher administrative aspiration were substituted for sex of teacher.

Stated research hypotheses were not supported. Resulting means are reported below, but no significant differences were found:

##### Hypothesis 1:

Male scenario principals will have higher average performance ratings than female scenario principals.

##### Results H1:

Mean overall (2-5) rating for PM was 2.944.

Mean overall (2-5) rating for PF was 2.954.

##### Hypothesis 2:

Teachers will rate male scenario principals higher than female principals when exhibiting HT/HR leadership behavior.

##### Results H2:

Mean HT/HR(3) rating for PM was 4.061.

Mean HT/HR(3) rating for PF was 4.112.

**Hypothesis 3:**

Teachers will rate male scenario principals higher than female principals when exhibiting LT/LR leadership behavior.

**Results H3:**

Mean LT/LR(5) rating for PM was 2.323.

Mean LT/LR(5) rating for PF was 2.143.

**Hypothesis 4:**

Female teachers will rate principals exhibiting LT/HR leadership behavior higher than those exhibiting HT/LR behavior.

**Results H4:**

Mean LT/HR(2) rating for TF was 2.703.

Mean HT/LR(4) rating for TF was 2.906.

**Hypothesis 5:**

Male teachers will rate principals exhibiting HT/LR leadership behavior higher than those exhibiting LT/HR behavior.

**Results H5:**

Mean HT/LR(4) rating for TM was 2.783.

Mean LT/HR(2) rating for TM was 2.580.

**Hypothesis 6:**

Female teachers will rate female principals higher than male principals when exhibiting LT/HR leadership behavior.

Results H6:

Mean LT/HR(2) rating for TF, PF was 2.734.

Mean LT/HR(2) rating for TF, PM was 2.672.

Results suggest that teacher experience and teacher administrative aspiration interact to a greater degree than does teacher sex on the ratings of scenario principals exhibiting various leadership styles. Sex of the principal appears to play some role in these interactions.

## CHAPTER FIVE - SUMMARY AND CONCLUSIONS

### 5.1 Summary of Study

Many leadership theories offer models containing two components of leadership style. Halpin and Winer (1957) offered "initiating structure" and "consideration," Blake and Mouton (1964) discussed "concern for production" and "concern for people." Each suggested that the "best" style exhibited high levels of both components. Hersey and Blanchard (1969) developed "task-orientation" and "relationship-orientation" components in their model. They suggested, as did Fiedler (1967), that the "best" leadership style was situational.

Sex-role theories identify stereotypical masculine behaviors and stereotypical feminine behaviors. Parson and Bales (1955) identified these as "instrumental" and "expressive" behaviors. Bakan (1966) termed them "agentic" and "communal." Heilbrun (1981) described the masculine sex-role as sustaining "goal orientation," while the feminine sex-role sustains "interpersonal relationships." Rather than existing on a continuum, masculine and feminine behaviors may be viewed as orthogonal, allowing an individual to express high or low levels of each. Behavior which is high in the expression of both masculine and feminine qualities is termed androgynous. Where once leadership was considered a masculine trait, it is now viewed as incorporating both masculine and feminine

qualities. The term "androgynous" leadership evolved to describe a type of leadership which could be practiced by both men and women, balancing both feminine and masculine traits or qualities in the exercise of leadership.

This two-component model which is threaded through both leadership theory and sex-role theory leads to the identification of two broad components of leadership style. These may be termed Task Behavior and Relationship Behavior. Different levels of each behavior may be present. When viewed as orthogonal, four quadrants emerge which identify combinations of high or low levels of the task and relationship components (HT/LR, HT/HR, LT/HR, and LT/LR). If the best or most effective leadership style is situational in nature, then a question arises. Does the sex of the leader or the sex of the subordinate/follower alter what is deemed the best response for a situation?

This study was designed to address questions regarding the effects of sex and leadership style on teacher perceptions of principal effectiveness. In particular, teachers were asked to rate the effectiveness of a scenario principal in several situations. The principal's response in each situation reflected varying levels of Task and Relationship Behavior. The sex of the scenario principal was manipulated through design of the instrument. The underlying assumption was that if the rating of the effectiveness of a male or female principal differed when

rated by a male or female teacher given identical responses in identical situations, then the difference in rating could be attributed to sex of the teacher, sex of the principal, or both. In addition, if the response represented a specific leadership style, the interaction of this style with teacher sex and principal sex could be examined.

The sample was drawn from the teaching staffs at five middle schools in a large, multi-cultural school district. There were 197 subjects in the sample reflecting a participation rate of approximately 70% of possible subjects who were in attendance at regularly scheduled faculty meetings. The ratio of female subjects to male subjects reflects typical middle school staffs with a ratio of nearly two to one. Male and female teachers were randomly assigned instruments with scenarios for either a male or female principal. Teachers gave scenario principals performance ratings for each of four situations designed to reflect varying levels of task and relationship behavior in leadership style. In addition, teachers responded to a demographic survey concerning age, years of teaching experience, ethnicity, and administrative aspiration.

The design incorporated two between subjects factors (Teacher Sex and Principal Sex) and one within subjects factor (Leadership Style) which was treated as a repeated

measure. An analysis of variance was completed and revealed no significant three-way interaction, no significant two-way interactions, and no significant main effects except for Leadership Style. Overall, High Task/High Relationship behavior rated significantly higher than the others. Low Task/Low Relationship rated significantly lower than the others. This was as expected, however, the overall null hypothesis concerning differences could not be rejected and the stated research hypotheses were not supported.

The research hypotheses suggested that male principals would rate higher on an overall average of all four items and higher on each extreme of leadership style (High Task/High Relationship and Low Task/Low Relationship). In fact, means were lower on the overall rating, lower on High Task/High Relationship, and higher only on Low Task/Low Relationship. None of these differences were found to be significant.

When considering only the mixed styles of High Task/Low Relationship and Low Task/High Relationship, the research hypotheses suggested that male teachers would favor the higher task orientation and female teachers would favor the higher relationship orientation in their ratings. In fact, the means for both male and female teachers favored the higher task orientation, but again the differences were not significant.

In addition, it was hypothesized that when rating the Low Task/High Relationship style, female teachers would show a preference for its use by female principals rather than male principals. In fact, the means were higher, but not significantly.

While not statistically significant, a relationship between Teacher Sex and Principal Sex may be indicated by ratings on the High Task/Low Relationship behavior item HT/LR(4). While both male and female teachers went consistently up on their ratings of female principals compared to male principals on LT/HR(2) and HT/HR(3), and both male and female teachers went consistently down on their ratings of female principals compared to male principals on LT/LR(5), the ratings by male and female teachers were not consistent on HT/LR(4). Male teachers tended to rate female principals lower than did female teachers on the High Task/Low Relationship behavior item.

Although no relationships regarding other demographic variables had been hypothesized, in order to explore the data for future research additional analyses of variance were conducted substituting subject demographic variables for Teacher Sex in the research design. No significant interactions or main effects other than Leadership Style were noted when either Age or Ethnicity were substituted. Significant interactions were found when Teacher Experience

and Administrative Aspiration were each substituted for Teacher Sex.

A significant two-way interaction was noted for Teacher Experience and Leadership Style ( $p = .0316$ ). While less experienced teachers rated performance on all items lower than more experienced teachers, this difference was greatest on HT/LR(4). At the  $p < .10$  level, both Teacher Experience as a main effect ( $p = .0697$ ) and the three-way interaction of Teacher Experience, Leadership Style, and Principal Sex ( $p = .0836$ ) were significant.

A significant three-way interaction was found in the analysis of variance for Administrative Aspiration x Principal Sex x Leadership Style ( $p = .0294$ ). Teachers who indicated an intent to enter administration differed more on their ratings between male and female principals than did teachers who indicated no or undecided. These differences are greater for the mixed styles of HT/LR(4) and LT/HR(2) than for HT/HR(3) and LT/LR(5). On HT/LR(4), LT/HR(2), and LT/LR(5) male principals were rated higher than female principals. On HT/HR(3) female principals were rated higher.

On both HT/LR(4) and LT/HR(2), teachers with administrative aspiration and teachers who were undecided as to administrative aspiration rated male principals higher than female principals. Teachers who indicated no to

administrative aspiration did the reverse, rating female principals higher on both items.

Of teachers who indicated yes to administrative aspiration, female teachers differed more than male teachers on their ratings between male and female principals. The ratings given female principals by male and female teachers were similar, but female teachers gave male principals higher scores than did male teachers on the mixed styles of HT/LR(4) and LT/HR(2). However, these differences were not found to be significant and small cell sizes should be noted.

The results suggest that teacher experience and teacher administrative aspiration interact to a greater degree than does teacher sex on the ratings of scenario principals exhibiting various leadership styles. Similarly, sex of the teacher appears less important than sex of the principal on performance ratings. The mixed styles of High Task/Low Relationship and Low Task/High Relationship, HT/LR(4) and LT/HR(2), showed greater variation and were the focus of significant interactions found using demographic variables.

## 5.2 Discussion

The issue of "best" style requires some consideration. In a High Task/High Relationship response, the leader addresses both task and relationship needs involved in the problem. It is the "do everything" response and in

general, would be considered the best response, especially if time is not an issue. On the other hand, a Low Task/Low Relationship response is seen as a "do nothing" response, attending to neither task nor relationship concerns. In any situation requiring some response, this is clearly the least effective. In this study, the extreme styles showed the least variation in ratings and were not the apparent focus of significant interactions.

The "do everything" response is not always the most practical or efficient response. In the real world of problem-solving, time is an issue. The use of a mixed style becomes the "good enough" response. The worthiness of this response may depend on the importance of the problem compared to the problems surrounding it. To paraphrase an old adage, "It's hard to remember that the original objective was to drain the swamp when you're up to your neck in alligators." If, in a given problem, it is not possible to "do everything," the best mixed style for the problem may be situational in nature. In this study, when significant interactions were noted, or when interesting but non-significant interactions were found, the focus of interest was on items related to the mixed styles. Mixed styles tended to show the greatest variation in ratings.

It is difficult to guess how each subject saw the "swamp" when responding to the instrument in this study.

Subjects may have rated items based on a notion of how far it fell from the "do everything" response. Subjects may have viewed the six items on the instrument (two were "fillers" as previously discussed) as the entire swamp and given some weight to the perceived importance of the problem. Still others may have weighed the importance of the problem on a more personal level.

The design of the instrument used in this study may not have allowed for adequate interpretation of subject responses. The instrument was specifically designed to determine if male and female principals would receive the same rating for identical responses in identical situations. This may have oversimplified the effects of sex which may be more relevant in some situations than others. The situation itself may alter the interaction between sex and style.

A different approach to the design of the instrument may have targeted leadership style more precisely. Rather than each subject receiving the same set of scenarios (except for references to the principal's sex) several forms of the instrument could be created, each having the same set of situations, but different forms providing different responses to each situation. This would allow a more precise variation in the levels of task and relationship behavior used in the response and a clearer

understanding of the effect of style and possible interaction with sex on a particular situation.

As an example, HT/HR(3) on the instrument concerned resolving distribution of work assignments between two custodians. The response provided on the instrument was High Task/High Relationship in comparison to responses to other situations on the same instrument. Under a different design, each of four forms of the instrument could have a different response to this problem. These variations would provide for a response representing each of the four styles. Data would then be available regarding the ratings of different styles for the same problem. This format could become cumbersome, as four forms would be needed for each principal sex. This would increase the number of subject cells from the four used in this study to sixteen, requiring a considerably greater sample size.

Subjects might also be asked to provide some rating as to the relative importance of each problem in a typical principal's day. This would provide some sense of the "swamp" in which the subject is evaluating the effectiveness of the principal's response. As an example, LT/LR(5) on the instrument concerned failing to make arrangements for refreshments for a committee meeting with other principals. A "do nothing" response was provided, representing a Low Task/Low Relationship style. Male teachers tended to give higher ratings for this item than

did female teachers, this may have reflected a lack of importance of the situation in this item to male teachers. A "do nothing" response to a more important situation may have elicited different scores. Interestingly, both male and female teachers lowered their scores for female principals compared to male principals on this item. This may indicate an expectation that females fulfill the stereotypical nurturing role.

Item LT/HR(2) dealt with the problem of a teacher with a history of arriving late to school. This situation was provided a response representing a Low Task/High Relationship style. Item HT/LR(4) dealt with the problem of parent complaints against a teacher's grading policy. This situation was provided a response representing a High Task/Low Relationship style. Thus both items representing mixed styles were also items pertaining to teacher-related problems. Given that the subjects in this study were teachers, this may have affected their willingness to accept less than the "do everything" response as compared to problems dealing with custodians or other principals.

While no significant interactions were found for Teacher Sex, Principal Sex, and Leadership Style, there are interesting trends apparent in Figure 4 (see page 96). There is a pronounced consistency in ratings by male and female teachers on HT/HR(3) and LT/HR(2). On these two items the ratings given male and female principals by male

and female teachers are "parallel" in the sense that on HT/HR(3) and LT/HR(2) both teacher sexes rate female principals higher than males. Both of these items exhibit high levels of relationship behavior.

Female teachers continue this parallel difference on HT/LR(4), again rating female principals higher than male principals. However, on HT/LR(4), male teachers break from the pattern and provide female principals with lower ratings. This difference is greater than the difference on any other item between male and female principals provided by male or female teachers. Demonstration of High Task/Low Relationship behavior on the part of a female principal may be seen as inappropriate according to feminine sex-role stereotypes. In the literature, male subordinates have been shown to be affected by the expression of sex-role inappropriate behavior on the part of female supervisors. Haccoun, Haccoun, and Sallay (1978) found that male subjects perceived that female supervisors using directive styles would be least effective. Petty and Lee (1975) found a tendency for male subordinates to express lower satisfaction with female supervisors rated high in structure. Watson (1984) found sex appropriate behavior led to greater influence only for females leading exclusively male subordinates in simulated work groups. However, in their meta-analytic review, Dobbins and Platz (1986) found no difference in the ratings of male and

female leaders exhibiting initiating structure and consideration behaviors.

LT/LR(5) follows a different, yet still parallel pattern, in that both teacher sexes rate female principals lower than males. As previously discussed, the particular situation described in LT/LR(5) may account for the change in direction. Female principal ratings appeared to have been more affected when failing to respond in a situation requiring stereotypical female nurturing.

As noted in the review of the literature, studies concerning sex differences and leadership have often been conflicting or inconclusive (Brown, 1979; Dobbins and Platz, 1986; Korabik, 1990). While this study has failed to support stated research hypotheses, it has provided some significant findings which warrant further discussion.

Significant results were noted when teacher demographic variables were substituted for Teacher Sex in the research design. Leadership Style, as previously discussed, remained a main effect in all analyses. Neither Teacher Ethnicity nor Teacher Age produced additional main effects or interactions when analyzed with Principal Sex and Leadership Style, but significant interactions were noted in the analyses of variance when Teacher Experience and Teacher Administrative Aspiration were each analyzed with Principal Sex and Leadership Style. In considering these

results, it should be noted that cell sizes were sometimes less than fifteen.

The two-way interaction between Teacher Experience and Leadership Style was significant ( $p = .0316$ ) at the  $p < .05$  level and Teacher Experience as a main effect was significant ( $p = .0697$ ) at the  $p < .10$  level. Less experienced teachers (1 - 5 years experience) rated both male and female principals lower overall than did their more experienced counterparts, but this difference was most pronounced on HT/LR(4).

Item HT/LR(4) described a problem concerning parent complaints against a teacher's issuance of failing grades without prior notification. The principal's response was high on task behavior and low on relationship behavior. The principal directed the teacher to call the parents and either convince them of the grade or change the grade for having neglected to give required notification.

While the lower rating on HT/LR(4) given by less experienced teachers may indicate a greater concern or preference for high relationship behavior, it may also reflect personal reaction to the specific situation. Less experienced teachers may be less confident when dealing with irate parents. In this situation the principal offered no support. More experienced teachers may be willing to accept the situation as the teacher's problem and be confident in the teacher's ability to handle it.

The three-way interaction for Teacher Experience, Principal Sex, and Leadership Style ( $p = .0836$ ) was significant at the  $p < .10$  level. This interaction is difficult to interpret. In reviewing the ratings between male and female principals on each item, relatively small differences were noted for teachers with 1 - 5 Years Experience and those with Over 10 Years Experience. Greater differences were found between male and female principals when the ratings given by Teachers with 6 - 10 Year Experience were reviewed. Male principals were rated higher on HT/HR(3) and HT/LR(4), male and female principals were rated the same on LT/HR(2), and female principals were rated higher on LT/LR(5). That female principals were rated higher on LT/LR(5) is interesting in the light of the previous discussion concerning the particular situation in this item. Previously, ratings by male and female teachers appeared to have been affected by an expectation for female stereotypical nurturing. This effect is still present for teachers with experience levels of 1 -5 Years and Over 10 Years, it is only for teachers with 6 - 10 Years that the reverse is observed.

The analysis of variance for Teacher Administrative Aspiration, Principal Sex, and Leadership Style yielded a significant three-way interaction ( $p = .0294$ ) at the  $p < .05$  level. Teachers who indicated Yes to an intent to enter administration showed greater differences in their

ratings between male and female principals than did teachers who indicated No or Undecided. These differences were greatest on the mixed styles HT/LR(4) and LT/HR(2).

Teachers who indicated Yes or Undecided gave male principals higher overall ratings. Teachers who indicated No gave female principals higher overall ratings. It should be noted, that while the number of male and female principals being rated was similar at each level of Administrative Aspiration, the number of subjects at each level of Administrative Aspiration was disparate. The Administrative Aspiration x Principal Sex cell count varied from a high of 64 (No, PM) to a low of 13 (Yes, PM).

It is interesting to consider the possibility that those who are more likely to enter administration are also more likely to demonstrate differences when evaluating male and female principals. This has not often been found, Deaux (1979), found that supervisors differed little in their ratings of males and females. Mamma (1991) found that administrators held more positive views of women's abilities than did teachers, and female administrators had more positive views of women's abilities than did male administrators.

This last finding by Mamma is especially interesting in light of a further review of data in this study. When teachers responding Yes to Administrative Aspiration were separated by Teacher Sex, it was found that female teachers

(AA = Yes) differed more in their ratings between male and female principals than did male teachers (AA = Yes). While ratings on female principals by both male and female teachers (AA = Yes) were similar, and both male and female teachers (AA = Yes) rated male principals higher, female teachers (AA = Yes) rated male principals higher than did male teachers (AA = Yes). An analysis of variance did not reveal a significant difference based on Teacher Sex when Administrative Aspiration was Yes. It should be noted that cell sizes became extremely small in these comparisons, ranging from 6 - 10 subjects, and while these differences were not significant, they at least suggest a consideration for further research. This difference is especially interesting in light of the fact that teachers indicating yes to an intent to enter administration are generally the pool from which principals are eventually selected. However, research has shown that aspiring and practicing school administrators may differ significantly. Mertz and McNeely (1993) noted a difference in decision-making by the two groups.

One last note concerning the sample for this study. Subjects were teachers from five middle school staffs in a large multi-cultural school district. The ratio of female subjects to male subjects was nearly two to one. This ratio accurately reflects the percentages of male and female middle school instructional staff across the

district. Data for this study were collected through scheduled faculty meetings and thus the unequal ratio of male and female subjects presented itself. Since it is difficult to determine what effect, if any, unequal cell sizes may have had on results, care should be taken when reviewing differences related to subject sex.

### 5.3 Implications for Practice

Leadership theory suggests that leadership style incorporates levels of task and relationship behavior. Situational theories indicate that the "best" style varies given the nature of the situation. The question was asked, does sex of the leader or sex of the follower interact on the perceived effectiveness of a given style? The results of this study would suggest that in the case of principals as leaders and teachers as followers, sex does not play a role. Male and female principals were rated similarly by male and female teachers when demonstrating the same style in the same situation. This sense of equity is reassuring, but practitioners might still be reluctant to dismiss the sense that a subtle bias may exist.

If the new leadership paradigm calls for a balance of masculine and feminine qualities, of task and relationship behavior, then both males and females will be most effective when demonstrating this optimum balance of style. Practicing female principals often express a sense that while they must carefully use this balanced style, male

principals have a greater range of acceptable style in which to operate. Their stereotypical sex-role provides males with a natural authority that females sense they must "earn" or work harder to establish. There are times when a principal may need to be, in the interest of expediency, direct and authoritative. Females express a sense that they must always use the "do everything" response, while males seem to have greater freedom to engage in either autocratic or participative practice. That females do not feel as free to use various styles may come from their own preferences, and not truly reflect a bias on the part of what followers will accept from them. The true constraint may be in what female leaders will accept from themselves.

The school system in which this study took place is a large, urban, multi-cultural district with percentages of females in principalships which may be higher than those found in other school systems. In this district, 71% of 194 elementary principals are female, 45% of 49 middle school principals are female, and 31% of 29 senior high principals are female (School Board of Dade County, 1996). Teachers in this study are more likely to have experienced working with a female principal than perhaps teachers in general. Through this experience they may have lessened stereotypical assessments of a principal's effectiveness.

While the lack of differences in ratings given by male and female teachers for male and female principals was

reassuring, the significant interaction found for Administrative Aspiration, Principal Sex, and Leadership Style was troublesome to consider. In some fashion, those interested in entering administration held male and female principals to a different yardstick. Female principals using mixed styles were rated lower than male principals. This would confirm the sense of subtle bias felt by female administrators, but it would suggest that the bias comes from peers and possible supervisors rather than teachers.

While differences between male and female teachers who indicated Yes to Administrative Aspiration were not statistically significant, the differences were at least sufficient to flag an area for concern and further research. While both males and females (AA = Yes) rated male principals higher on mixed styles, female teachers (AA = Yes) were more pronounced in these ratings. Again, this might be less of a reflection of what others expect of female leaders and more of a reflection of what female leaders expect of themselves.

Sex was not an issue in the significant two-way interaction between Teacher Experience and Leadership Style. This interaction serves as a reminder that newer, less experienced teachers may have different needs than veteran staff. As was noted in the discussion, the exact source of this difference is difficult to determine. Those entering the profession now may have a greater expectation

for relationship behavior on the part of leaders. On the other hand, the differences may reflect a more personal need for support which diminishes as they gain confidence with experience.

Given the results of this study, it is not possible to dismiss sex as a variable of interest in the study of leadership style and effectiveness. Sex of the principal was significant at the  $p < .05$  level in the three-way interaction with teacher administrative aspiration and leadership style. Sex of the principal was significant at the  $p < .10$  level in the three-way interaction with teacher experience and leadership style. These findings at least suggest further study.

#### 5.4 Recommendations for Further Research

While no significant main effects were found in this study for Teacher Sex or Principal Sex on the effectiveness ratings of principals, the results offer interesting patterns which suggest additional research.

Relationships suggested by the data might become clearer given changes in design of the instrument as previously discussed. Greater sampling of male subjects is suggested.

Of special interest are results related to Teacher Experience and Teacher Administrative Aspiration. It should be noted that Principal Sex did enter into significant three-way interactions for Teacher Experience x Principal Sex x Leadership Style and Teacher Administrative

Aspiration x Principal Sex x Leadership Style. This would indicate that even if Teacher Sex is not relevant, Principal Sex does appear as a variable of interest in ratings of principal effectiveness.

Research which extends the sampling population to teachers, principals, and supervisors of principals, could open additional questions as to the interaction of sex, leadership style, and perceptions of effectiveness. In addition, methods which involve the effectiveness ratings of practicing principals may provide different results than those given the scenario principals in this study.

Future research may consider alternative models for leadership style. While the model used in this study is widely accepted and has been used for meta-analytic studies (Dobbins and Platz, 1986; Eagly and Johnson, 1990; and Eagly, Karau, and Johnson, 1992) other models are available in the literature. Examples of models found in previous studies include an autocratic/participative model (Griffen, 1992; Jago and Vroom, 1982; Sopasakis and Snodgrass, 1990), an autocratic/democratic model (Kushell and Newton, 1986), and an expert-power/reward-power model (Wiley and Eskilson, 1982).

The need for research regarding the dynamics and dimensions of sex differences and leadership has been noted in the literature (Adkison, 1981; Bass, 1990; Dobbins and Platz, 1986; Schmuck, 1987). The findings in this study

suggest several unanswered questions. Male and female teachers in this study did not differ significantly on their ratings of male and female principals. Does this represent a move away from the "masculine bias" of leadership toward wider acceptance of females in leadership positions? Is this same level of acceptance found in school systems in which females are not as evident in the role of principal? Significant differences were noted on the ratings made by teachers aspiring to be administrators. Does this indicate that administrators hold a different view of male and female leadership than do teachers in general? Are sex and gender an issue when principals are evaluated by other principals or supervisors? The need for additional research remains a strong one.

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APPENDIX A

Instrument Response Sheet

Male Principal Scenario

Dear Participant:

Your willingness to participate in this study is appreciated. Your responses are anonymous. It is very important that all items be completed in order to achieve meaningful results. Please check one response for each item in the survey section below. This survey section will be followed by a short descriptive scenario and further instructions.

**PARTICIPANT SURVEY**

<b>Age</b>	<b>Ethnicity</b>	<b>Years of Teaching Experience</b>
<input type="checkbox"/> 20-30 yrs	<input type="checkbox"/> African-American	<input type="checkbox"/> 1-5 yrs
<input type="checkbox"/> 31-40 yrs	<input type="checkbox"/> Hispanic	<input type="checkbox"/> 6-10 yrs
<input type="checkbox"/> 41-50 yrs	<input type="checkbox"/> Non-Hispanic White	<input type="checkbox"/> 11 yrs or more
<input type="checkbox"/> 51 or more yrs	<input type="checkbox"/> Other	
<b>Sex</b>	<b>Current Teaching Assignment</b>	<b>Do you anticipate seeking an administrative position in the future? (check one):</b>
<input type="checkbox"/> Male	<input type="checkbox"/> Elementary	<input type="checkbox"/> Yes
<input type="checkbox"/> Female	<input type="checkbox"/> Middle	<input type="checkbox"/> No
	<input type="checkbox"/> Senior	<input type="checkbox"/> Undecided

**SCENARIO**

Principal John Dawson

John Dawson has been a secondary principal for five years. He is married and has two children, one in elementary school and one in high school. His friends and colleagues describe him as reliable, sensitive to the needs of others, willing to take risks, conscientious, self-reliant, and understanding. John must frequently weigh the many pressures placed on him and attempt to respond in a way that will be effective as well as efficient. Given the many demands he faces, he knows that he does not always have time to provide a perfect solution, but he seeks to provide the best solution he can under the given circumstances.

**PERFORMANCE RATINGS**

You will be given situations in which John responded to a problem. Please read each situation and rate his performance in that situation on a scale from 1 to 5 using the following guideline:

- 1 Unacceptable performance (inadequate response)
- 2 Poor performance (response should have been better)
- 3 Adequate performance (response could have done better)
- 4 Good performance (acceptable response)
- 5 Excellent performance (effective and efficient response)

Using only the digits 1-5 and leaving no blanks, please record your ratings in the spaces below:

Situation #1
Situation #2
Situation #3

Situation #4
Situation #5
Situation #6

APPENDIX B

Instrument Response Sheet

Female Principal Scenario

Dear Participant:

Your willingness to participate in this study is appreciated. Your responses are anonymous. It is very important that all items be completed in order to achieve meaningful results. Please check one response for each item in the survey section below. This survey section will be followed by a short descriptive scenario and further instructions.

### **PARTICIPANT SURVEY**

<b>Age</b>	<b>Ethnicity</b>	<b>Years of Teaching Experience</b>
<input type="checkbox"/> 20-30 yrs	<input type="checkbox"/> African-American	<input type="checkbox"/> 1-5 yrs
<input type="checkbox"/> 31-40 yrs	<input type="checkbox"/> Hispanic	<input type="checkbox"/> 6-10 yrs
<input type="checkbox"/> 41-50 yrs	<input type="checkbox"/> Non-Hispanic White	<input type="checkbox"/> 11 yrs or more
<input type="checkbox"/> 51 or more yrs	<input type="checkbox"/> Other	
<b>Sex</b>	<b>Current Teaching Assignment</b>	<b>Do you anticipate seeking an administrative position in the future? (check one):</b>
<input type="checkbox"/> Male	<input type="checkbox"/> Elementary	<input type="checkbox"/> Yes
<input type="checkbox"/> Female	<input type="checkbox"/> Middle	<input type="checkbox"/> No
	<input type="checkbox"/> Senior	<input type="checkbox"/> Undecided

### **SCENARIO**

#### Principal Janet Dawson

Janet Dawson has been a secondary principal for five years. She is married and has two children, one in elementary school and one in high school. Her friends and colleagues describe her as reliable, sensitive to the needs of others, willing to take risks, conscientious, self-reliant, and understanding. Janet must frequently weigh the many pressures placed on her and attempt to respond in a way that will be effective as well as efficient. Given the many demands she faces, she knows that she does not always have time to provide a perfect solution, but she seeks to provide the best solution she can under the given circumstances.

### **PERFORMANCE RATINGS**

You will be given situations in which Janet responded to a problem. Please read each situation and rate her performance in that situation on a scale from 1 to 5 using the following guideline:

- 1 Unacceptable performance (inadequate response)
- 2 Poor performance (response should have been better)
- 3 Adequate performance (response could have done better)
- 4 Good performance (acceptable response)
- 5 Excellent performance (effective and efficient response)

Using only the digits 1-5 and leaving no blanks, please record your ratings in the spaces below:

Situation #1
Situation #2
Situation #3

Situation #4
Situation #5
Situation #6

APPENDIX C

Instrument Situations

Male Principal Scenario

Performance Rating Scale:

1	2	3	4	5
Unacceptable	Poor	Adequate	Good	Excellent

**SITUATION #1**

Problem:

A committee of staff members will be meeting to work on a school improvement plan to be submitted to the district for approval. Members are willing to work, but meetings take place at the end of the school day and frequent or lengthy meetings are an inconvenience. John is aware that there are district priorities which must be incorporated into the plan. John is considering what role he should play on this committee.

Response:

John chooses not to serve as chair of the committee. He does not want to unduly influence the committee's decisions. He determines that he will provide resources and information, but withhold personal opinion so that committee members will feel free to explore their own ideas. He realizes the process may take longer and the final plan may not reflect district priorities, but the staff will feel more involved.

**SITUATION #2**

Problem:

There is a teacher with a history of arriving late to school in the morning. John has conducted informal conferences in the past at which time the teacher offered varied excuses and promised to comply, but the results were always temporary. Other teachers are now complaining at having to cover for this teacher on a regular basis. John has arranged a formal conference which is usually followed by a written memorandum for the record summarizing the outcome of the conference. At the conference the teacher indicates that the recent tardiness is due to the illness of the teacher's mother.

Response:

John expresses sympathy for the problem and continues to assist the teacher by arranging coverage when needed. He will give the teacher additional time to resolve the problem before taking any further action.

**SITUATION #3**

Problem:

The custodians cannot agree on who should do each of the daily custodial assignments around the school. Each argues that the other does not do a fair share. John has asked them to resolve it between themselves, but they say they cannot resolve it and want John to give them their assignments.

Response:

John meets with both custodians and tells them that he will help them mediate a solution. After an hour of discussion, it becomes clear that they cannot compromise. John then takes into consideration the concerns expressed by each custodian and provides what he considers to be a fair distribution of the workload.

Performance Rating Scale:

1	2	3	4	5
Unacceptable	Poor	Adequate	Good	Excellent

**SITUATION #4**

Problem:

Several parents have called the school to complain that students have been given failing grades for the marking period and they had not been notified of this possibility during the marking period. These parents are aware of the district policy requiring such notification. The parents are insisting that the students receive passing grades. Several teachers are involved in this complaint. John knows that the faculty handbook clearly states this policy and it has been discussed at faculty meetings.

Response:

John tells each of the teachers involved to contact the parents individually and explain why the student received the failing grade. If the teacher cannot convince the parent that it was deserved, he will change the grade to a passing mark.

**SITUATION #5**

Problem:

John is working late on a required report that he will need to drop off early in the morning in order to meet a deadline. He remembers that he has not made arrangements for the usual refreshments which will be expected by a committee of other principals meeting at his school in the morning. The meeting is scheduled to begin at the start of the school day and he will just make it on time after his morning stop.

Response:

John considers calling another staff member for help, but instead chooses to make no arrangements for refreshments.

**SITUATION #6**

Problem:

The school student population is currently overcapacity. This has become especially evident during the passing of classes at which times hallways are extremely crowded. Teachers have been instructed to stand at their doorways during passing times, but compliance has been inconsistent. Discussions at faculty meetings produce only temporary improvement in compliance. John is concerned that an incident will be sparked by the tension of the hallway overcrowding.

Response:

John decides to personally walk the hallways for several days and make a note of each teacher who is not at the doorway during the passing of classes. He gives each of these teachers a written reprimand.

APPENDIX D

Instrument Situations

Female Principal Scenario

Performance Rating Scale:

1	2	3	4	5
Unacceptable	Poor	Adequate	Good	Excellent

**SITUATION #1**

Problem:

A committee of staff members will be meeting to work on a school improvement plan to be submitted to the district for approval. Members are willing to work, but meetings take place at the end of the school day and frequent or lengthy meetings are an inconvenience. Janet is aware that there are district priorities which must be incorporated into the plan. Janet is considering what role she should play on this committee.

Response:

Janet chooses not to serve as chair of the committee. She does not want to unduly influence the committee's decisions. She determines that she will provide resources and information, but withhold personal opinion so that committee members will feel free to explore their own ideas. She realizes the process may take longer and the final plan may not reflect district priorities, but the staff will feel more involved.

**SITUATION #2**

Problem:

There is a teacher with a history of arriving late to school in the morning. Janet has conducted informal conferences in the past at which time the teacher offered varied excuses and promised to comply, but the results were always temporary. Other teachers are now complaining at having to cover for this teacher on a regular basis. Janet has arranged a formal conference which is usually followed by a written memorandum for the record summarizing the outcome of the conference. At the conference the teacher indicates that the recent tardiness is due to the illness of the teacher's mother.

Response:

Janet expresses sympathy for the problem and continues to assist the teacher by arranging coverage when needed. She will give the teacher additional time to resolve the problem before taking any further action.

**SITUATION #3**

Problem:

The custodians cannot agree on who should do each of the daily custodial assignments around the school. Each argues that the other does not do a fair share. Janet has asked them to resolve it between themselves, but they say they cannot resolve it and want Janet to give them their assignments.

Response:

Janet meets with both custodians and tells them that she will help them mediate a solution. After an hour of discussion, it becomes clear that they cannot compromise. Janet then takes into consideration the concerns expressed by each custodian and provides what she considers to be a fair distribution of the workload.

Performance Rating Scale:

1  
Unacceptable

2  
Poor

3  
Adequate

4  
Good

5  
Excellent

**SITUATION #4**

Problem:

Several parents have called the school to complain that students have been given failing grades for the marking period and they had not been notified of this possibility during the marking period. These parents are aware of the district policy requiring such notification. The parents are insisting that the students receive passing grades. Several teachers are involved in this complaint. Janet knows that the faculty handbook clearly states this policy and it has been discussed at faculty meetings.

Response:

Janet tells each of the teachers involved to contact the parents individually and explain why the student received the failing grade. If the teacher cannot convince the parent that it was deserved, she will change the grade to a passing mark.

**SITUATION #5**

Problem:

Janet is working late on a required report that she will need to drop off early in the morning in order to meet a deadline. She remembers that she has not made arrangements for the usual refreshments which will be expected by a committee of other principals meeting at her school in the morning. The meeting is scheduled to begin at the start of the school day and she will just make it on time after her morning stop.

Response:

Janet considers calling another staff member for help, but instead chooses to make no arrangements for refreshments.

**SITUATION #6**

Problem:

The school student population is currently overcapacity. This has become especially evident during the passing of classes at which times hallways are extremely crowded. Teachers have been instructed to stand at their doorways during passing times, but compliance has been inconsistent. Discussions at faculty meetings produce only temporary improvement in compliance. Janet is concerned that an incident will be sparked by the tension of the hallway overcrowding.

Response:

Janet decides to personally walk the hallways for several days and make a note of each teacher who is not at the doorway during the passing of classes. She gives each of these teachers a written reprimand.

APPENDIX E

Leadership Style Item Analysis

## LEADERSHIP STYLE ITEM ANALYSIS

I appreciate your willingness to assist me in analyzing items which are part of a principal rating instrument to be used in doctoral dissertation research. The design of the instrument requires that the principal's responses reflect various degrees of Task and Relationship behavior.

Task and Relationship behaviors are two components of leadership style which have emerged in the work of several authors. There are similar behavioral clusters which appear in sociological studies. These have been variously termed, but taken together represent two identifiable clusters of behaviors:

<u>SOURCE</u>	<u>TASK BEHAVIOR</u>	<u>RELATIONSHIP BEHAVIOR</u>
<u>From Leadership Theory</u>		
Halpin and Winer (1957)	Initiating Structure	Consideration
Blake and Mouton (1964)	Concern for Production	Concern for People
Hersey and Blanchard (1969)	Task-Orientation	Relationship-Orientation
<u>From Sociology</u>		
Parson and Bales (1955)	Instrumental	Expressive
Bakan (1966)	Agentic	Communal

These clusters can be described as follows:

### TASK BEHAVIOR

Creating organizational patterns and methods, providing structures and procedures, establishing standards, assigning roles, defining goals, explaining activities

Coordination and adaptation to outside world, sustaining goal orientation, assertive activity, self-protection, self-expansion

### RELATIONSHIP BEHAVIOR

Expressing concern for others, establishing mutual trust, respect and warmth, expressing sympathy, understanding the needs of others

Maintenance and regulation of emotional needs, selflessness, contact, cooperation, and openness

Leadership style can exhibit high or low levels of Task Behavior and high or low levels of Relationship Behavior. As suggested by Hersey and Blanchard, these combinations result in four quadrants of basic leader behavior style:

		<u>LEADERSHIP STYLE QUADRANTS</u>	
Relationship Behavior	High	Quadrant 3 (LT/HR)	Quadrant 2 (HT/HR)
	Low	Quadrant 4 (LT/LR)	Quadrant 1 (HT/LR)
		Low	High
		Task Behavior	

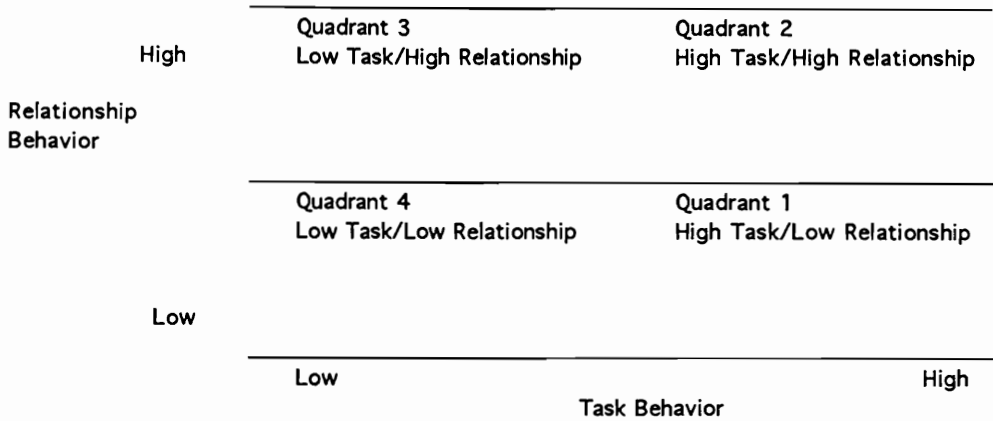
Name \_\_\_\_\_

Attached are a set of situations in which a principal faced a problem and responded. Please review the principal's response in each situation and rate each response as high or low on Task Behavior and as high or low on Relationship Behavior.

Item #	Task (High or Low)	Relationship (High or Low)
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____

After reviewing your responses above, place the item number in the appropriate quadrant below. Leave an item out only if you cannot reasonably assign it to a quadrant. When all items have been placed, please review the item again to determine if the quadrant seems appropriate. (There may or may not be equal numbers of items in each quadrant.)

**ITEMS ACCORDING TO LEADERSHIP STYLE**



If you wish to comment on specific items, please write directly on the item.

THANK YOU.

Shirley Beer  
 Doctoral Student  
 Educational Leadership

### **SITUATION #1**

Problem:

There is a teacher with a history of arriving late to school in the morning. The principal has conducted informal conferences in the past at which time the teacher offered varied excuses and promised to comply, but the results were always temporary. Other teachers are now complaining at having to cover for this teacher on a regular basis. The principal has arranged a formal conference which is usually followed by a written memorandum for the record summarizing the outcome of the conference. At the conference the teacher indicates that the recent tardiness is due to the illness of the teacher's mother.

Response:

The principal expresses sympathy for the problem and continues to assist the teacher by arranging coverage when needed. He will give the teacher additional time to resolve the problem before taking any further action.

### **SITUATION #2**

Problem:

The principal is working late on a required report that he will need to drop off early in the morning in order to meet a deadline. He remembers that he has not made arrangements for the usual refreshments which will be expected by a committee of other principals meeting at his school in the morning. The meeting is scheduled to begin at the start of the school day and he will just make it on time after his morning stop.

Response:

The principal considers calling another staff member for help, but instead chooses to make no arrangements for refreshments.

### **SITUATION #3**

Problem:

Several parents have called the school to complain that students have been given failing grades for the marking period and they had not been notified of this possibility during the marking period. These parents are aware of the district policy requiring such notification. The parents are insisting that the students receive passing grades. Several teachers are involved in this complaint. The principal knows that the faculty handbook clearly states this policy and it has been discussed at faculty meetings.

Response:

The principal tells each of the teachers involved to contact the parents individually and explain why the student received the failing grade. If the teacher cannot convince the parent that it was deserved, he will change the grade to a passing mark.

#### **SITUATION #4**

Problem:

The principal had assigned the assistant principal responsibility for submitting a grant application to provide additional funding for a special program at the school. Knowing that the deadline was approaching, the principal had reminded the assistant principal of the task and had been assured that it was being prepared. After an especially trying week of several serious disciplinary problems, the assistant principal tells the principal that the deadline has now passed, no application was filed, and the school cannot receive the additional funding.

Response:

The principal meets with the assistant principal and commends the effort and attention given to the events of the last week, but expresses mild disappointment with failure to make the grant deadline. The principal then discusses ways in which all of the assistant principal's responsibilities might have been met and suggests that he will be more forceful in a reprimand if a similar situation occurs in the future.

#### **SITUATION #5**

Problem:

A committee of staff members will be meeting to work on a school improvement plan to be submitted to the district for approval. Members are willing to work, but meetings take place at the end of the school day and frequent or lengthy meetings are an inconvenience. The principal is aware that there are district priorities which must be incorporated into the plan. The principal is considering what role he should play on this committee.

Response:

The principal chooses not to serve as chair of the committee. He does not want to unduly influence the committee's decisions. He determines that he will provide resources and information, but withhold personal opinion so that committee members will feel free to explore their own ideas. He realizes the process may take longer and the final plan may not reflect district priorities, but the staff will feel more involved.

#### **SITUATION #6**

Problem:

The custodians cannot agree on who should do each of the daily custodial assignments around the school. Each argues that the other does not do a fair share. The principal has asked them to resolve it between themselves, but they say they cannot resolve it and want the principal to give them their assignments.

Response:

The principal meets with both custodians and tells them that he will help them mediate a solution. After an hour of discussion, it becomes clear that they cannot compromise. The principal then takes into consideration the concerns expressed by each custodian and provides what he considers to be a fair distribution of the workload.

#### **SITUATION #7**

Problem:

The school clerk is in the middle of processing payroll. The principal needs copies of several purchase orders from the numerically sequenced notebook. The clerk hands the principal the notebook, he removes the pages he needs, make copies, and returns the loose pages to the clerk. The clerk expresses aggravation that the principal did not replace the pages.

Response:

The principal ignores the comment and returns to his work.

#### **SITUATION #8**

Problem:

The school student population is currently overcapacity. This has become especially evident during the passing of classes at which times hallways are extremely crowded. Teachers have been instructed to stand at their doorways during passing times, but compliance has been inconsistent. Discussions at faculty meetings produce only temporary improvement in compliance. The principal is concerned that an incident will be sparked by the tension of the hallway overcrowding.

Response:

The principal decides to personally walk the hallways for several days and make a note of each teacher who is not at the doorway during the passing of classes. He gives each of these teachers a written reprimand.

APPENDIX F

Data

Variable Coding Used in Statview Data Base

SCH (School)

A	Palmetto Middle School
B	Highland Oaks M. School
C	Norland Middle School
D	North Miami Middle School
E	T. Jefferson Middle School

AGE (Teacher Age)

A	20 - 30 Years
B	31 - 40 Years
C	41 - 50 Years
D	51 or More Years

ETH (Teacher Ethnicity)

W	Non Hispanic White
H	Hispanic
B	African American
O	Other

EXP (Teacher Experience)

A	1 - 5 Years
B	6 - 10 Years
C	Over 10 Years

AA (Teacher Administrative Aspiration)

Y	Yes
N	No
U	Undecided

TEACH (Teacher Sex)      TF      Female

TM      Male

PRIN (Principal Sex)      PF      Female

PM      Male

STYLE (Leadership Style)

(Treated as a "compact" variable in Statview.)

HT/HR(3)      Item 3: High Task/High Relationship

HT/LR(4)      Item 4: High Task/Low Relationship

LT/HR(2)      Item 2: Low Task/High Relationship

LT/LR(5)      Item 5: Low Task/Low Relationship

Additional Items      Item 1      "Filler item"

Item 6      "Filler item"

FACTORS FOR REPEATED MEASURES

2 Between:      Teach Sex, Prin Sex

1 Within:      Style (Items 2-5)

Table F-1

Attribute Pane for

Dataset Using

Statview 4.02

	SCH	AGE	ETH	EXP	AA	TEACH	PRIN	ITEM 1	ITEM 6	STYLE				AVE 1-6	AVE 2-5
										LT/HR(2)	HT/HR(3)	HT/LR(4)	LT/LR(5)		
▶ Type:	Cat...	Cat...	Cat...	Cat...	Cat...	Categ...	Cate...	Real	Real	Real	Real	Real	Real	Real	Real
▶ Source:	Use...	Use...	Use...	Use...	Use...	User E...	User...	User E...	User ...	User Ent...	User Ent...	User Ent...	User En...	Dynami...	Dynami...
▶ Class:	Nb...	Nb...	Nb...	Nb...	Nb...	Nominal	Norri...	Contin...	Contin...	Continuo...	Continuo...	Continuo...	Continu...	Continu...	Continu...
▶ Format:	•	•	•	•	•	•	•	Free F...	Free F...	Free For...	Free For...	Free For...	Free Fo...	Free Fo...	Free Fo...
▶ Dec. Places:	•	•	•	•	•	•	•	1	1	1	1	1	1	3	3
▶ Mean:	•	•	•	•	•	•	•	3.3	3.0	2.7	4.1	2.9	2.2	3.016	2.949
▶ Std. Deviation:	•	•	•	•	•	•	•	9.7E-1	1.2	1.2	9.1E-1	1.2	9.5E-1	.532	.630
▶ Std. Error:	•	•	•	•	•	•	•	6.9E-2	8.8E-2	8.8E-2	6.5E-2	8.2E-2	6.8E-2	.038	.045
▶ Variance:	•	•	•	•	•	•	•	9.4E-1	1.5	1.5	8.3E-1	1.3	9.1E-1	.283	.397
▶ Coeff. of Variation:	•	•	•	•	•	•	•	2.9E-1	4.2E-1	4.6E-1	2.2E-1	.4	4.4E-1	.176	.214
▶ Minimum:	A	A	H	A	Y	TM	PM	1.0	1.0	1.0	1.0	1.0	1.0	1.500	1.250
▶ Maximum:	E	D	B	C	U	TF	PF	5.0	5.0	5.0	5.0	5.0	5.0	4.500	4.750
▶ Range:	4.0...	3.0...	3.0...	2.0...	2.0...	1.000	1.000	4.0	4.0	4.0	4.0	4.0	4.0	3.000	3.500
▶ Count:	197	197	195	197	197	197	197	197	197	197	197	197	197	197	197
▶ Missing Cells:	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
▶ Sum:	•	•	•	•	•	•	•	658.0	583.0	524.0	805.0	564.0	431.0	594.167	581.000
▶ Sum of Squares:	•	•	•	•	•	•	•	2382.0	2021.0	1692.0	3453.0	1874.0	1121.0	1847.5...	1791.3...

Table F-2

Dataset Using Statview 4.02

	SCH	AGE	ETH	EXP	AA	TEACH	PRIN	ITEM 1	ITEM 6	STYLE				AVE 1-6	AVE 2-5	Input Column
										LT/HR(2)	HT/HR(3)	HT/LR(4)	LT/LR(5)			
1	A	C	W	C	N	TF	PM	3.0	4.0	1.0	4.0	3.0	2.0	2.833	2.500	
2	A	B	B	C	Y	TF	PM	4.0	5.0	5.0	3.0	4.0	2.0	3.833	3.500	
3	A	B	W	B	N	TF	PM	4.0	4.0	3.0	5.0	4.0	2.0	3.667	3.500	
4	A	A	W	A	Y	TF	PM	2.0	3.0	2.0	5.0	4.0	3.0	3.167	3.500	
5	A	B	H	B	Y	TF	PM	3.0	5.0	2.0	4.0	3.0	2.0	3.167	2.750	
6	A	A	W	A	U	TF	PM	3.0	1.0	5.0	3.0	1.0	2.0	2.500	2.750	
7	A	A	W	B	N	TF	PM	3.0	3.0	2.0	4.0	2.0	1.0	2.500	2.250	
8	A	A	B	A	U	TF	PM	4.0	5.0	4.0	5.0	1.0	3.0	3.667	3.250	
9	A	C	W	C	N	TF	PM	3.0	3.0	2.0	4.0	4.0	3.0	3.167	3.250	
10	A	D	W	C	N	TF	PM	4.0	2.0	3.0	5.0	2.0	3.0	3.167	3.250	
11	A	D	W	C	N	TF	PM	4.0	2.0	2.0	4.0	3.0	2.0	2.833	2.750	
12	A	B	H	C	N	TF	PM	5.0	1.0	2.0	5.0	5.0	2.0	3.333	3.500	
13	A	C	W	C	N	TF	PM	5.0	2.0	2.0	2.0	2.0	2.0	2.500	2.000	
14	A	D	W	C	U	TF	PM	1.0	5.0	3.0	4.0	4.0	2.0	3.167	3.250	
15	A	C	B	C	N	TF	PM	2.0	1.0	1.0	5.0	2.0	1.0	2.000	2.250	
16	A	C	W	B	U	TF	PM	3.0	5.0	4.0	5.0	5.0	2.0	4.000	4.000	
17	A	A	H	A	N	TF	PM	2.0	5.0	1.0	4.0	1.0	1.0	2.333	1.750	
18	A	C	O	C	Y	TF	PF	2.0	5.0	2.0	3.0	4.0	2.0	3.000	2.750	
19	A	A	B	A	U	TF	PF	5.0	1.0	3.0	2.0	4.0	5.0	3.333	3.500	
20	A	D	*	C	N	TF	PF	4.0	5.0	4.0	5.0	1.0	2.0	3.500	3.000	
21	A	A	W	A	Y	TF	PF	3.0	3.0	1.0	3.0	2.0	1.0	2.167	1.750	
22	A	A	W	B	U	TF	PF	4.0	5.0	2.0	5.0	4.0	3.0	3.833	3.500	
23	A	A	B	B	U	TF	PF	4.0	3.0	5.0	5.0	1.0	3.0	3.500	3.500	
24	A	C	W	C	N	TF	PF	3.0	3.0	5.0	5.0	5.0	3.0	4.000	4.500	
25	A	C	O	C	N	TF	PF	4.0	2.0	5.0	5.0	3.0	2.0	3.500	3.750	
26	A	A	H	A	Y	TF	PF	2.0	2.0	4.0	5.0	2.0	1.0	2.667	3.000	
27	A	D	W	C	N	TF	PF	3.0	3.0	1.0	3.0	2.0	1.0	2.167	1.750	
28	A	A	B	B	Y	TF	PF	4.0	4.0	3.0	4.0	3.0	3.0	3.500	3.250	
29	A	B	W	A	N	TF	PF	4.0	4.0	1.0	5.0	2.0	2.0	3.000	2.500	
30	A	D	W	C	N	TF	PF	2.0	3.0	3.0	5.0	4.0	2.0	3.167	3.500	
31	A	C	H	C	N	TF	PF	5.0	3.0	3.0	5.0	5.0	4.0	4.167	4.250	
32	A	A	B	A	U	TF	PF	3.0	3.0	1.0	4.0	5.0	2.0	3.000	3.000	
33	A	D	W	C	N	TF	PF	2.0	3.0	2.0	5.0	5.0	1.0	3.000	3.250	
34	A	A	W	A	N	TF	PF	4.0	4.0	4.0	5.0	2.0	2.0	3.500	3.250	
35	A	C	H	C	N	TM	PM	3.0	4.0	4.0	4.0	4.0	4.0	3.833	4.000	
36	A	C	W	C	N	TM	PM	4.0	4.0	3.0	3.0	3.0	3.0	3.333	3.000	
37	A	D	W	C	N	TM	PM	4.0	4.0	2.0	4.0	3.0	2.0	3.167	2.750	
38	A	C	W	C	N	TM	PM	4.0	5.0	3.0	4.0	3.0	2.0	3.500	3.000	
39	A	A	H	A	N	TM	PM	3.0	2.0	3.0	5.0	2.0	2.0	2.833	3.000	
40	A	D	W	A	N	TM	PM	4.0	4.0	1.0	3.0	2.0	2.0	2.667	2.000	

	SCH	AGE	ETH	EXP	AA	TEACH	PRIN	ITEM 1	ITEM 6	STYLE				AVE 1-6	AVE 2-5	Input Column
										LT/HR(2)	HT/HR(3)	HT/LR(4)	LT/LR(5)			
41	A	A	O	B	N	TM	PF	5.0	5.0	1.0	2.0	4.0	4.0	3.500	2.750	
42	A	D	W	C	N	TM	PF	2.0	3.0	3.0	4.0	3.0	2.0	2.833	3.000	
43	A	C	W	C	N	TM	PF	4.0	2.0	1.0	5.0	2.0	2.0	2.667	2.500	
44	A	C	B	C	N	TM	PF	2.0	4.0	3.0	4.0	3.0	3.0	3.167	3.250	
45	A	C	B	C	N	TM	PF	3.0	4.0	1.0	3.0	2.0	2.0	2.500	2.000	
46	A	D	O	C	U	TM	PF	4.0	5.0	5.0	5.0	3.0	2.0	4.000	3.750	
47	A	D	W	B	N	TM	PF	4.0	3.0	2.0	3.0	1.0	2.0	2.500	2.000	
48	B	C	B	B	N	TF	PF	3.0	1.0	3.0	3.0	1.0	2.0	2.167	2.250	
49	B	B	W	B	U	TF	PF	3.0	1.0	1.0	4.0	4.0	3.0	2.667	3.000	
50	B	D	W	C	N	TF	PF	4.0	2.0	2.0	4.0	4.0	2.0	3.000	3.000	
51	B	C	W	C	N	TF	PF	4.0	3.0	4.0	5.0	2.0	2.0	3.333	3.250	
52	B	A	B	A	Y	TF	PF	3.0	3.0	1.0	4.0	2.0	3.0	2.667	2.500	
53	B	A	W	B	N	TF	PF	5.0	2.0	5.0	5.0	3.0	1.0	3.500	3.500	
54	B	C	W	C	U	TF	PF	5.0	1.0	3.0	4.0	2.0	1.0	2.667	2.500	
55	B	C	W	C	N	TF	PF	3.0	2.0	1.0	3.0	1.0	2.0	2.000	1.750	
56	B	C	W	C	N	TF	PF	4.0	2.0	3.0	4.0	2.0	2.0	2.833	2.750	
57	B	C	B	C	U	TF	PF	2.0	4.0	4.0	4.0	4.0	3.0	3.500	3.750	
58	B	A	H	A	U	TF	PF	3.0	3.0	2.0	4.0	2.0	2.0	2.667	2.500	
59	B	B	B	C	Y	TF	PF	3.0	3.0	1.0	4.0	2.0	2.0	2.500	2.250	
60	B	D	W	C	N	TF	PF	4.0	1.0	3.0	4.0	4.0	1.0	2.833	3.000	
61	B	C	W	C	N	TF	PF	4.0	2.0	3.0	5.0	5.0	2.0	3.500	3.750	
62	B	B	B	A	U	TF	PF	3.0	2.0	4.0	5.0	1.0	1.0	2.667	2.750	
63	B	D	O	C	N	TF	PF	1.0	2.0	5.0	5.0	4.0	2.0	3.167	4.000	
64	B	C	B	B	Y	TF	PF	3.0	2.0	1.0	4.0	2.0	1.0	2.167	2.000	
65	B	D	W	C	N	TF	PF	4.0	2.0	3.0	2.0	2.0	1.0	2.333	2.000	
66	B	C	W	C	N	TF	PF	1.0	3.0	2.0	4.0	4.0	1.0	2.500	2.750	
67	B	D	W	C	N	TF	PF	2.0	3.0	4.0	5.0	3.0	2.0	3.167	3.500	
68	B	A	H	A	N	TF	PM	3.0	2.0	1.0	3.0	1.0	2.0	2.000	1.750	
69	B	C	B	C	N	TF	PM	4.0	2.0	1.0	5.0	4.0	4.0	3.333	3.500	
70	B	B	W	B	N	TF	PM	4.0	1.0	2.0	5.0	4.0	2.0	3.000	3.250	
71	B	A	W	A	U	TF	PM	3.0	1.0	3.0	4.0	3.0	2.0	2.667	3.000	
72	B	C	W	C	N	TF	PM	4.0	1.0	1.0	5.0	1.0	1.0	2.167	2.000	
73	B	C	W	C	N	TF	PM	4.0	3.0	3.0	4.0	2.0	3.0	3.167	3.000	
74	B	C	W	C	N	TF	PM	4.0	2.0	2.0	2.0	2.0	2.0	2.333	2.000	
75	B	B	W	B	N	TF	PM	3.0	2.0	3.0	4.0	2.0	2.0	2.667	2.750	
76	B	C	B	C	U	TF	PM	2.0	2.0	4.0	5.0	2.0	1.0	2.667	3.000	
77	B	C	W	C	U	TF	PM	3.0	5.0	5.0	5.0	4.0	1.0	3.833	3.750	
78	B	C	B	C	Y	TF	PM	3.0	3.0	5.0	3.0	4.0	3.0	3.500	3.750	
79	B	C	W	C	N	TF	PM	4.0	3.0	3.0	5.0	4.0	3.0	3.667	3.750	
80	B	C	W	B	N	TF	PM	3.0	4.0	2.0	5.0	4.0	2.0	3.333	3.250	

Table F-2 (continued)

	SCH	AGE	ETH	EXP	AA	TEACH	PRIN	ITEM 1	ITEM 6	STYLE				AVE 1-6	AVE 2-5	Input Column
										LT/HR(2)	HT/HR(3)	HT/LR(4)	LT/LR(5)			
81	B	D	W	C	N	TF	PM	3.0	2.0	3.0	4.0	2.0	2.0	2.667	2.750	
82	B	D	W	C	N	TF	PM	3.0	4.0	4.0	5.0	1.0	4.0	3.500	3.500	
83	B	B	O	A	U	TF	PM	5.0	2.0	5.0	3.0	4.0	1.0	3.333	3.250	
84	B	C	B	A	U	TF	PM	2.0	2.0	4.0	4.0	3.0	2.0	2.833	3.250	
85	B	C	W	C	N	TF	PM	3.0	1.0	4.0	3.0	4.0	5.0	3.333	4.000	
86	B	D	W	C	N	TF	PM	4.0	3.0	1.0	4.0	2.0	3.0	2.833	2.500	
87	B	B	W	B	N	TM	PF	4.0	2.0	3.0	4.0	5.0	3.0	3.500	3.750	
88	B	D	W	C	N	TM	PF	5.0	3.0	3.0	4.0	1.0	3.0	3.167	2.750	
89	B	D	W	C	N	TM	PF	4.0	3.0	2.0	4.0	2.0	4.0	3.167	3.000	
90	B	C	W	A	N	TM	PF	3.0	2.0	4.0	4.0	4.0	2.0	3.167	3.500	
91	B	C	W	C	N	TM	PF	5.0	1.0	2.0	4.0	4.0	2.0	3.000	3.000	
92	B	A	H	A	Y	TM	PF	2.0	2.0	3.0	4.0	2.0	1.0	2.333	2.500	
93	B	A	W	B	Y	TM	PF	3.0	3.0	1.0	4.0	2.0	2.0	2.500	2.250	
94	B	C	H	C	N	TM	PF	3.0	5.0	4.0	4.0	2.0	4.0	3.667	3.500	
95	B	D	W	C	N	TM	PF	4.0	1.0	3.0	4.0	2.0	2.0	2.667	2.750	
96	B	D	B	C	N	TM	PF	2.0	2.0	4.0	5.0	5.0	1.0	3.167	3.750	
97	B	A	H	A	Y	TM	PF	2.0	3.0	3.0	4.0	1.0	1.0	2.333	2.250	
98	B	B	W	B	U	TM	PF	2.0	5.0	1.0	4.0	3.0	2.0	2.833	2.500	
99	B	B	W	A	Y	TM	PM	4.0	4.0	3.0	2.0	5.0	4.0	3.667	3.500	
100	B	B	W	A	N	TM	PM	2.0	3.0	5.0	4.0	2.0	3.0	3.167	3.500	
101	B	C	O	B	N	TM	PM	3.0	2.0	2.0	4.0	4.0	4.0	3.167	3.500	
102	B	B	W	B	N	TM	PM	4.0	1.0	2.0	5.0	4.0	1.0	2.833	3.000	
103	B	C	O	C	N	TM	PM	2.0	3.0	1.0	5.0	1.0	2.0	2.333	2.250	
104	B	A	O	A	Y	TM	PM	5.0	3.0	4.0	3.0	3.0	3.0	3.500	3.250	
105	B	B	B	C	U	TM	PM	2.0	3.0	1.0	4.0	3.0	2.0	2.500	2.500	
106	B	C	W	C	N	TM	PM	5.0	2.0	4.0	5.0	4.0	4.0	4.000	4.250	
107	B	C	B	B	U	TM	PM	3.0	5.0	4.0	5.0	4.0	2.0	3.833	3.750	
108	B	B	H	A	Y	TM	PM	5.0	3.0	2.0	4.0	3.0	2.0	3.167	2.750	
109	B	B	O	B	U	TM	PM	3.0	5.0	1.0	3.0	4.0	1.0	2.833	2.250	
110	B	A	B	A	N	TM	PM	4.0	3.0	3.0	4.0	3.0	1.0	3.000	2.750	
111	B	D	W	C	N	TM	PM	5.0	4.0	2.0	4.0	4.0	5.0	4.000	3.750	
112	B	C	W	A	N	TM	PM	3.0	2.0	4.0	4.0	2.0	2.0	2.833	3.000	
113	C	D	W	C	Y	TM	PF	4.0	1.0	2.0	5.0	3.0	2.0	2.833	3.000	
114	C	B	B	A	U	TM	PF	2.0	3.0	3.0	3.0	3.0	2.0	2.667	2.750	
115	C	B	W	A	U	TM	PF	4.0	4.0	2.0	3.0	2.0	2.0	2.833	2.250	
116	C	D	W	C	N	TM	PF	1.0	1.0	5.0	1.0	1.0	1.0	1.667	2.000	
117	C	A	B	A	Y	TM	PF	2.0	5.0	2.0	4.0	2.0	3.0	3.000	2.750	
118	C	B	W	A	U	TM	PF	2.0	2.0	4.0	5.0	2.0	1.0	2.667	3.000	
119	C	A	W	A	U	TM	PM	4.0	2.0	2.0	3.0	3.0	3.0	2.833	2.750	
120	C	A	O	A	U	TM	PM	3.0	3.0	2.0	5.0	2.0	2.0	2.833	2.750	

Table F-2 (continued)

	SCH	AGE	ETH	EXP	AA	TEACH	PRIN	ITEM 1	ITEM 6	STYLE				AVE 1-6	AVE 2-5	Input Column
										LT/HR(2)	HT/HR(3)	HT/LR(4)	LT/LR(5)			
121	C	A	H	A	Y	TM	PM	3.0	2.0	2.0	4.0	3.0	2.0	2.667	2.750	
122	C	D	W	C	N	TM	PM	3.0	4.0	1.0	1.0	2.0	1.0	2.000	1.250	
123	C	B	B	C	U	TM	PM	3.0	3.0	2.0	4.0	3.0	2.0	2.833	2.750	
124	C	D	B	A	N	TM	PM	2.0	4.0	1.0	4.0	1.0	1.0	2.167	1.750	
125	C	B	B	B	Y	TF	PF	3.0	3.0	2.0	5.0	5.0	4.0	3.667	4.000	
126	C	D	B	C	N	TF	PF	4.0	4.0	4.0	4.0	2.0	3.0	3.500	3.250	
127	C	B	W	A	U	TF	PF	2.0	2.0	2.0	4.0	2.0	2.0	2.333	2.500	
128	C	B	W	B	N	TF	PF	3.0	5.0	3.0	5.0	2.0	1.0	3.167	2.750	
129	C	B	B	B	N	TF	PF	3.0	3.0	4.0	4.0	2.0	2.0	3.000	3.000	
130	C	B	B	B	U	TF	PF	4.0	3.0	4.0	5.0	5.0	2.0	3.833	4.000	
131	C	B	W	A	N	TF	PF	4.0	3.0	1.0	4.0	2.0	2.0	2.667	2.250	
132	C	B	B	C	N	TF	PM	5.0	1.0	1.0	4.0	1.0	1.0	2.167	1.750	
133	C	C	W	C	N	TF	PM	4.0	2.0	2.0	3.0	4.0	1.0	2.667	2.500	
134	C	C	W	A	N	TF	PM	4.0	4.0	2.0	5.0	4.0	2.0	3.500	3.250	
135	C	C	W	C	N	TF	PM	5.0	2.0	3.0	4.0	2.0	1.0	2.833	2.500	
136	C	C	W	C	N	TF	PM	4.0	2.0	2.0	4.0	3.0	2.0	2.833	2.750	
137	C	D	B	C	U	TF	PM	3.0	3.0	4.0	5.0	4.0	2.0	3.500	3.750	
138	C	C	B	C	N	TF	PM	4.0	2.0	3.0	4.0	1.0	1.0	2.500	2.250	
139	C	C	W	C	N	TF	PM	4.0	2.0	2.0	5.0	3.0	2.0	3.000	3.000	
140	D	D	B	C	N	TM	PM	3.0	3.0	3.0	3.0	3.0	3.0	3.000	3.000	
141	D	A	B	A	Y	TM	PM	3.0	3.0	2.0	4.0	1.0	3.0	2.667	2.500	
142	D	D	W	C	N	TM	PM	2.0	5.0	4.0	4.0	2.0	1.0	3.000	2.750	
143	D	A	H	B	N	TM	PM	4.0	5.0	3.0	5.0	4.0	1.0	3.667	3.250	
144	D	C	W	B	Y	TM	PM	3.0	4.0	2.0	4.0	3.0	2.0	3.000	2.750	
145	D	C	B	A	N	TM	PM	4.0	4.0	5.0	5.0	4.0	5.0	4.500	4.750	
146	D	B	W	A	U	TM	PF	1.0	1.0	1.0	3.0	2.0	1.0	1.500	1.750	
147	D	A	B	A	Y	TM	PF	3.0	3.0	2.0	4.0	3.0	3.0	3.000	3.000	
148	D	D	W	C	N	TM	PF	4.0	5.0	2.0	5.0	3.0	3.0	3.667	3.250	
149	D	C	B	C	Y	TM	PF	4.0	2.0	2.0	5.0	2.0	2.0	2.833	2.750	
150	D	A	H	A	U	TM	PF	4.0	4.0	2.0	5.0	3.0	2.0	3.333	3.000	
151	D	B	B	B	U	TM	PF	3.0	2.0	4.0	3.0	3.0	2.0	2.833	3.000	
152	D	C	B	C	N	TM	PF	4.0	3.0	4.0	4.0	4.0	3.0	3.667	3.750	
153	D	B	B	C	U	TF	PM	5.0	4.0	4.0	5.0	3.0	1.0	3.667	3.250	
154	D	C	W	C	N	TF	PM	3.0	4.0	1.0	2.0	3.0	2.0	2.500	2.000	
155	D	C	W	C	N	TF	PM	3.0	4.0	4.0	4.0	4.0	2.0	3.500	3.500	
156	D	C	W	C	U	TF	PM	3.0	5.0	3.0	5.0	4.0	4.0	4.000	4.000	
157	D	C	H	C	N	TF	PM	4.0	5.0	3.0	5.0	4.0	4.0	4.167	4.000	
158	D	C	W	C	N	TF	PM	4.0	3.0	1.0	5.0	3.0	2.0	3.000	2.750	
159	D	C	W	B	N	TF	PM	3.0	4.0	2.0	4.0	3.0	1.0	2.833	2.500	
160	D	C	B	C	N	TF	PM	3.0	2.0	3.0	4.0	2.0	2.0	2.667	2.750	

Table F-2 (continued)

Table F-2 (continued)

	SCH	AGE	ETH	EXP	AA	TEACH	PRIN	ITEM 1	ITEM 6	STYLE				AVE 1-6	AVE 2-5	Input Column
										LT/HR(2)	HT/HR(3)	HT/LR(4)	LT/LR(5)			
161	D	B	B	A	U	TF	PM	5.0	3.0	1.0	5.0	3.0	1.0	3.000	2.500	
162	D	C	O	C	U	TF	PM	3.0	3.0	1.0	3.0	3.0	2.0	2.500	2.250	
163	D	B	W	C	N	TF	PM	3.0	3.0	4.0	5.0	2.0	2.0	3.167	3.250	
164	D	A	W	A	U	TF	PM	4.0	1.0	2.0	5.0	2.0	3.0	2.833	3.000	
165	D	D	W	C	N	TF	PM	4.0	2.0	4.0	5.0	3.0	3.0	3.500	3.750	
166	D	C	B	C	N	TF	PM	4.0	3.0	5.0	2.0	1.0	3.0	3.000	2.750	
167	D	C	W	C	N	TF	PM	3.0	3.0	3.0	4.0	2.0	2.0	2.833	2.750	
168	D	D	B	C	U	TF	PF	3.0	4.0	2.0	4.0	3.0	1.0	2.833	2.500	
169	D	C	B	B	Y	TF	PF	4.0	3.0	2.0	4.0	2.0	4.0	3.167	3.000	
170	D	C	B	C	N	TF	PF	4.0	4.0	4.0	5.0	3.0	2.0	3.667	3.500	
171	D	D	W	C	N	TF	PF	5.0	1.0	1.0	2.0	1.0	2.0	2.000	1.500	
172	D	B	B	C	N	TF	PF	3.0	4.0	2.0	3.0	4.0	2.0	3.000	2.750	
173	D	A	W	B	N	TF	PF	3.0	5.0	1.0	5.0	4.0	1.0	3.167	2.750	
174	D	C	B	A	N	TF	PF	1.0	5.0	5.0	2.0	3.0	4.0	3.333	3.500	
175	D	C	O	B	N	TF	PF	3.0	1.0	2.0	3.0	3.0	2.0	2.333	2.500	
176	D	C	W	C	N	TF	PF	2.0	2.0	4.0	4.0	4.0	1.0	2.833	3.250	
177	D	D	W	C	N	TF	PF	4.0	4.0	2.0	4.0	3.0	3.0	3.333	3.000	
178	D	C	B	C	N	TF	PF	4.0	4.0	2.0	5.0	5.0	2.0	3.667	3.500	
179	D	C	H	C	N	TF	PF	4.0	5.0	3.0	5.0	5.0	3.0	4.167	4.000	
180	D	B	H	C	U	TF	PF	3.0	3.0	4.0	5.0	2.0	1.0	3.000	3.000	
181	D	C	W	A	N	TF	PF	3.0	4.0	1.0	4.0	3.0	2.0	2.833	2.500	
182	D	C	B	C	N	TF	PF	4.0	3.0	5.0	3.0	4.0	1.0	3.333	3.250	
183	E	C	W	A	N	TM	PM	2.0	3.0	1.0	5.0	4.0	3.0	3.000	3.250	
184	E	C	O	C	N	TM	PM	4.0	2.0	2.0	3.0	3.0	2.0	2.667	2.500	
185	E	A	W	A	Y	TM	PM	3.0	3.0	3.0	4.0	1.0	2.0	2.667	2.500	
186	E	B	B	C	U	TF	PM	4.0	2.0	3.0	5.0	4.0	3.0	3.500	3.750	
187	E	C	B	C	Y	TF	PM	2.0	3.0	2.0	4.0	4.0	2.0	2.833	3.000	
188	E	B	O	A	N	TF	PM	3.0	3.0	1.0	2.0	2.0	2.0	2.167	1.750	
189	E	A	W	A	Y	TF	PM	2.0	2.0	3.0	4.0	2.0	2.0	2.500	2.750	
190	E	C	W	C	N	TF	PM	4.0	3.0	2.0	4.0	2.0	2.0	2.833	2.500	
191	E	C	W	C	N	TM	PF	4.0	3.0	3.0	5.0	3.0	2.0	3.333	3.250	
192	E	A	B	A	Y	TM	PF	1.0	5.0	2.0	5.0	3.0	2.0	3.000	3.000	
193	E	A	H	A	Y	TF	PF	3.0	1.0	3.0	4.0	1.0	2.0	2.333	2.500	
194	E	C	O	B	U	TF	PF	4.0	4.0	2.0	5.0	5.0	5.0	4.167	4.250	
195	E	B	O	C	N	TF	PF	4.0	2.0	1.0	5.0	2.0	2.0	2.667	2.500	
196	E	C	B	C	U	TF	PF	3.0	1.0	2.0	5.0	3.0	2.0	2.667	3.000	
197	E	A	B	A	N	TF	PF	4.0	1.0	3.0	4.0	3.0	2.0	2.833	3.000	

APPENDIX G

Frequency of Item Ratings (Histograms)

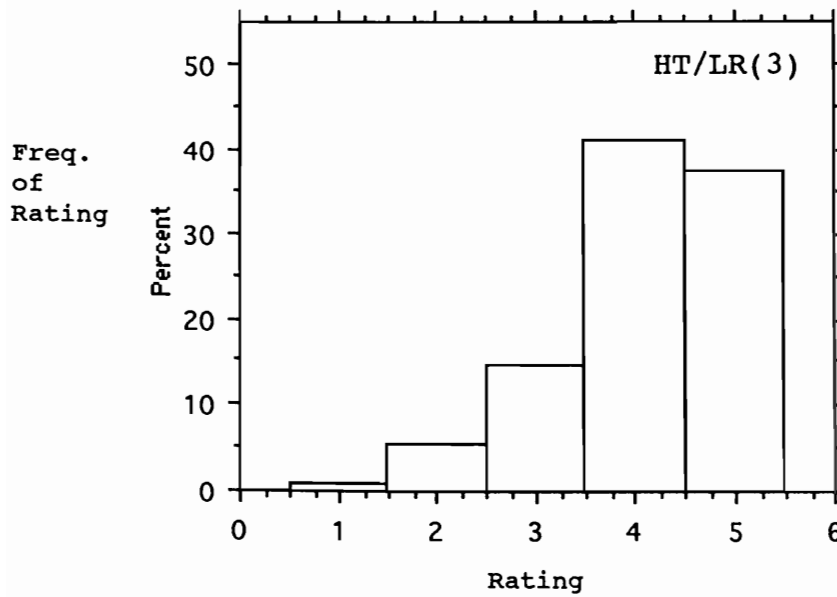


Figure G-1. Frequency of ratings for HT/HR(3).

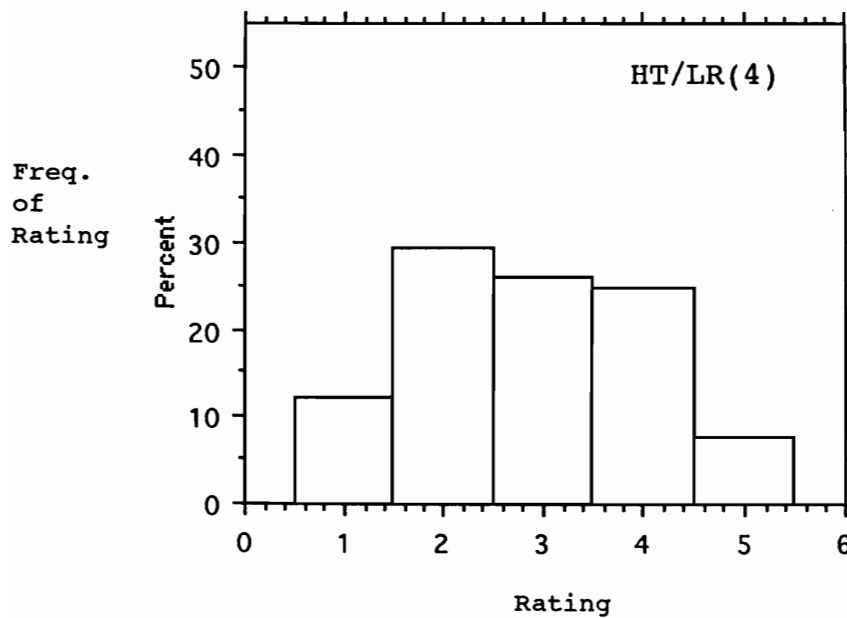


Figure G-2. Frequency of ratings for HT/LR(4).

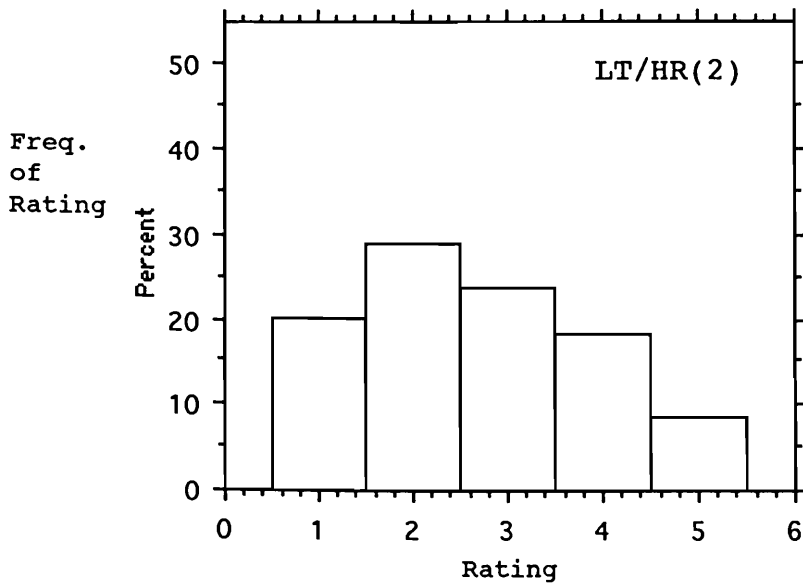


Figure G-3. Frequency of ratings for LT/HR(2).

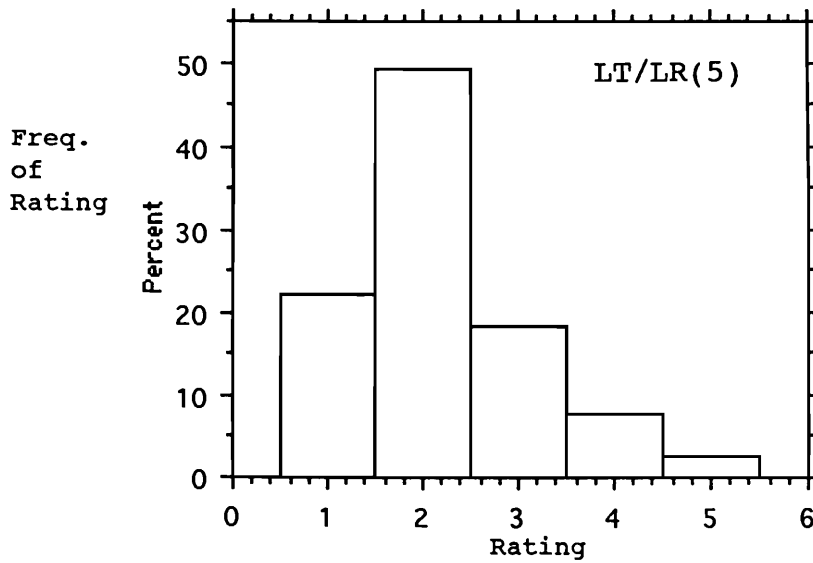


Figure G-4. Frequency of ratings for LT/LR(5).

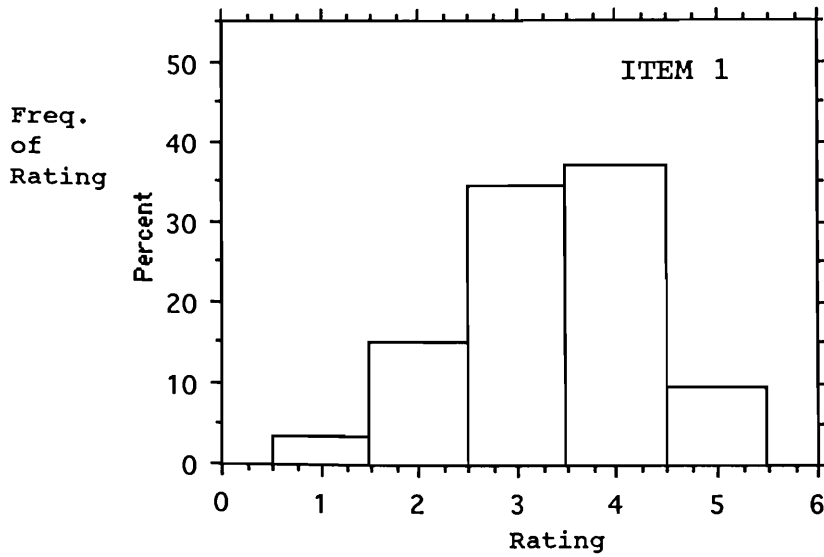


Figure G-5. Frequency of ratings for Item 1.

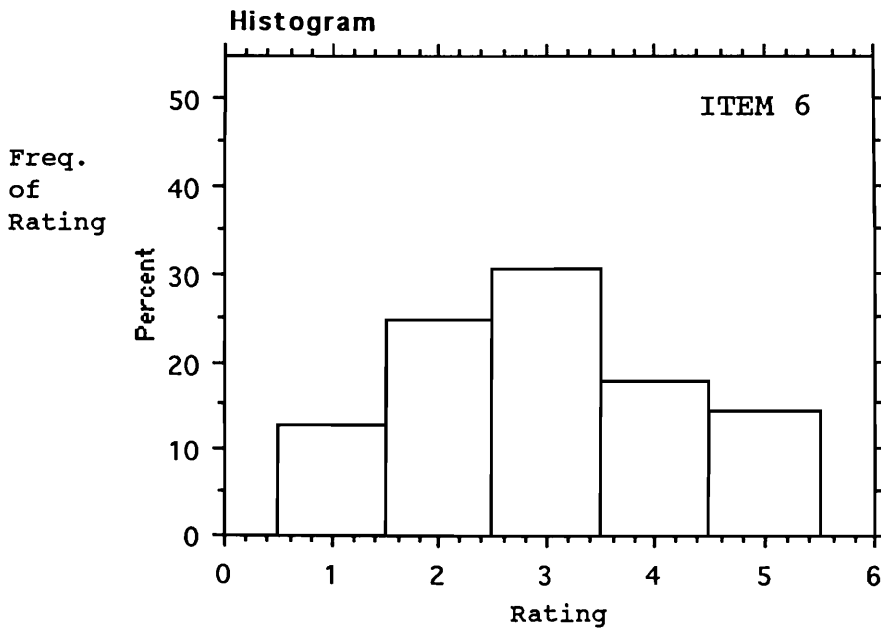


Figure G-6. Frequency of ratings for Item 6.

APPENDIX H

Graphs of Item Means (Line Graphs)

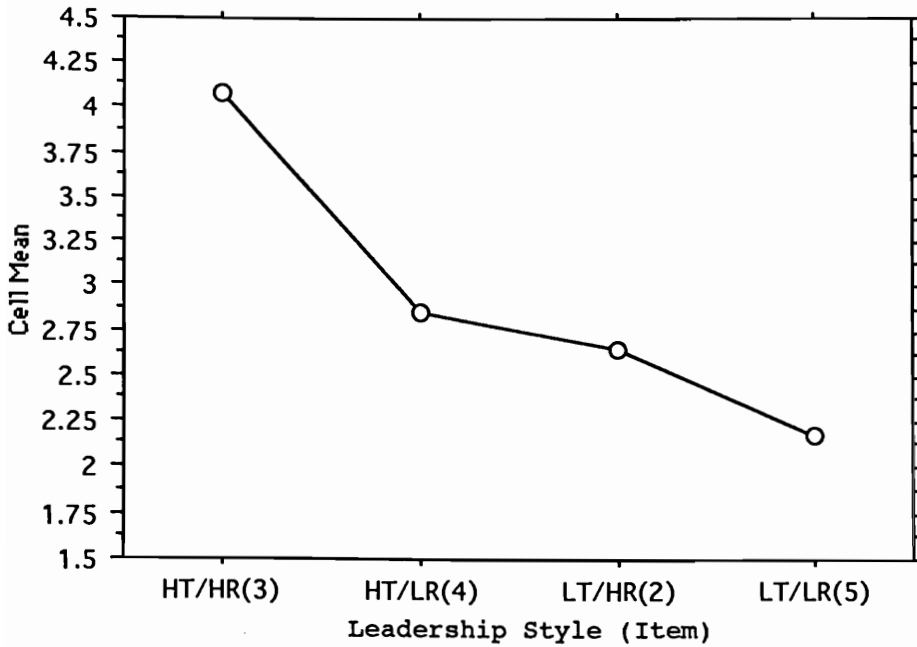


Figure H-1. Overall item means.

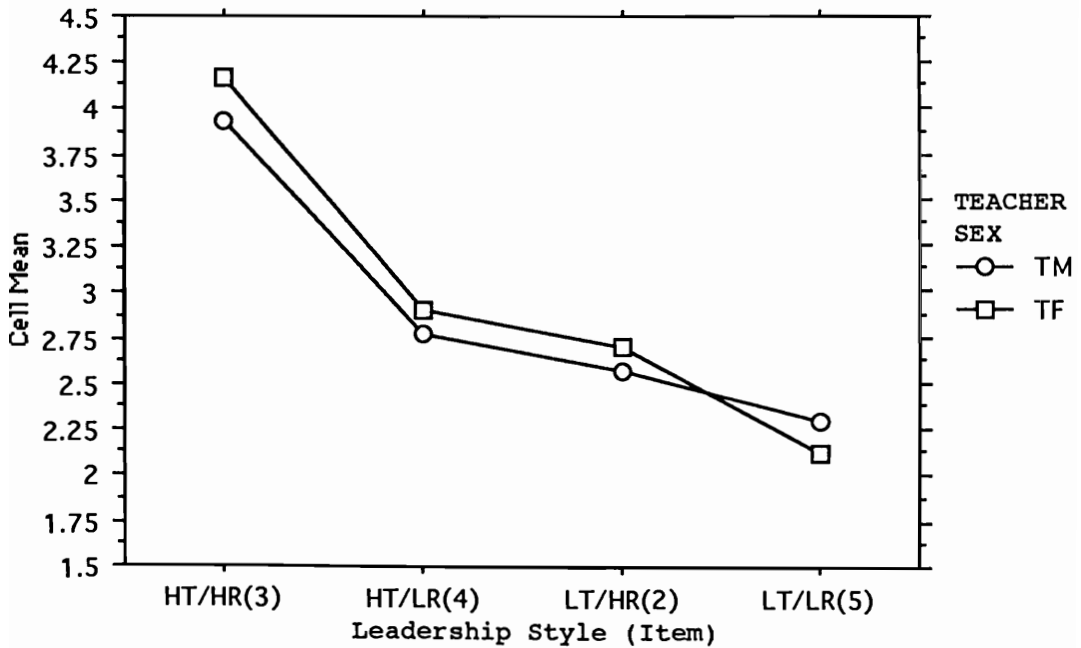


Figure H-2. Item means by Teacher Sex.

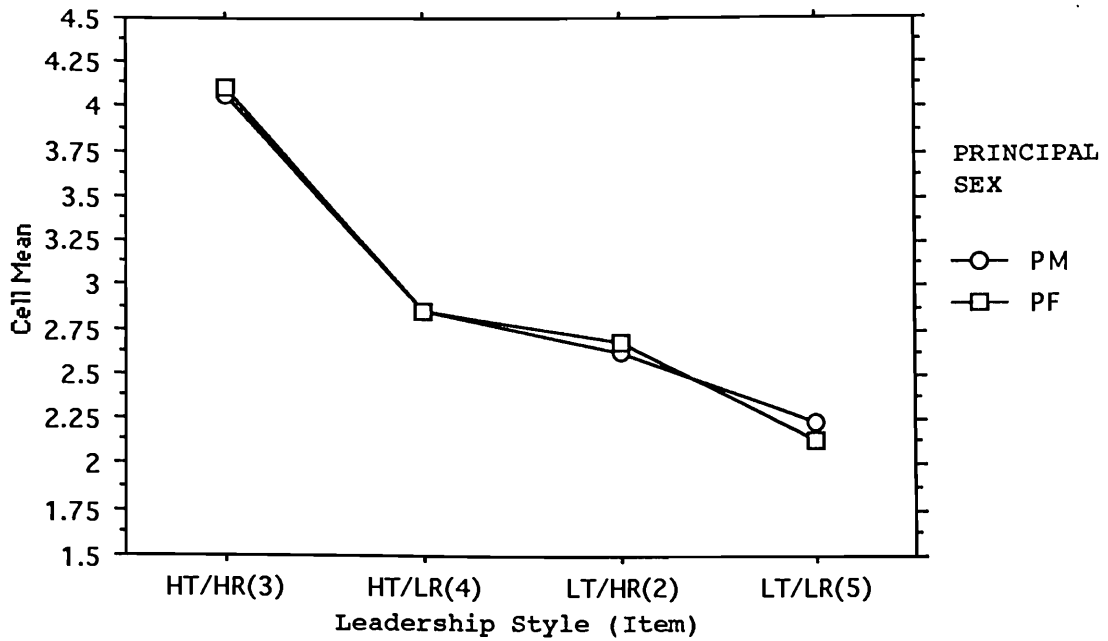


Figure H-3. Item means by Principal Sex.

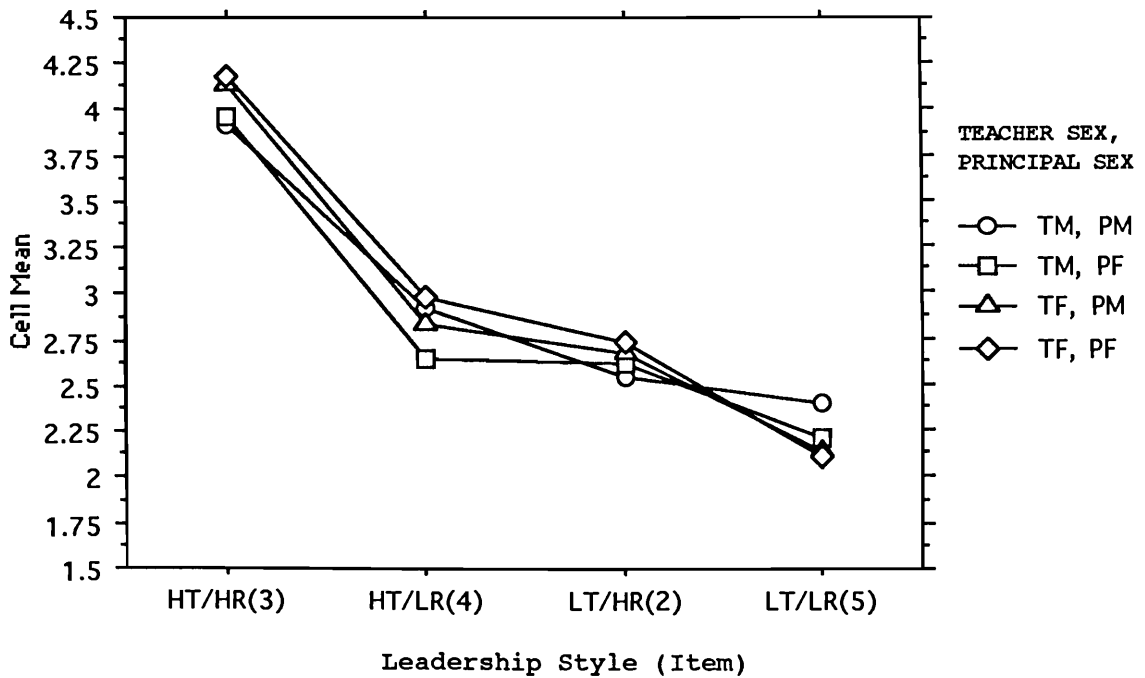


Figure H-4. Item means by Teacher Sex by Principal Sex.

APPENDIX I

Graphs of Item Means by Demographic Variable (Line Graphs)

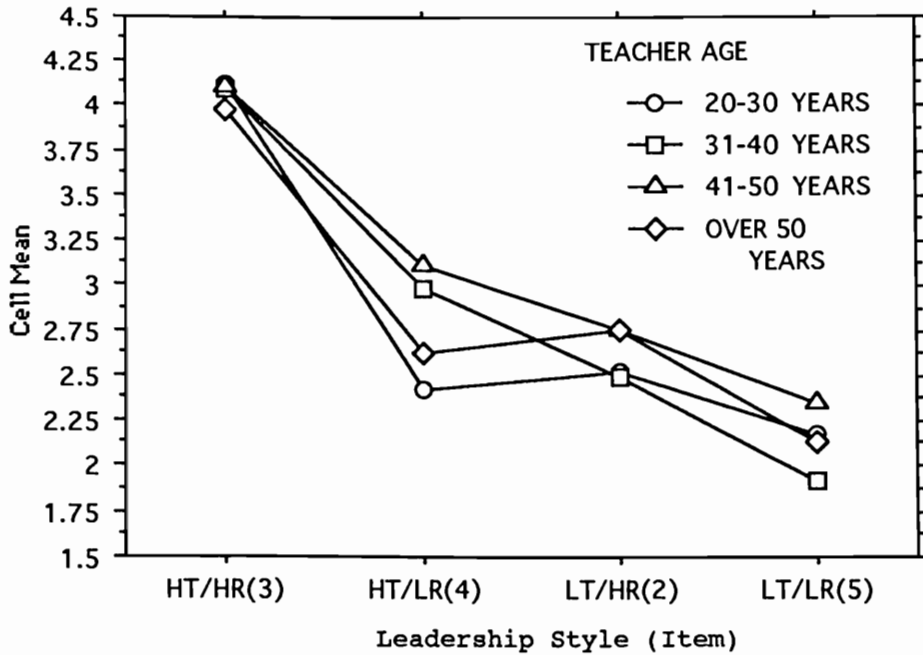


Figure I-1. Item means by teacher Age.

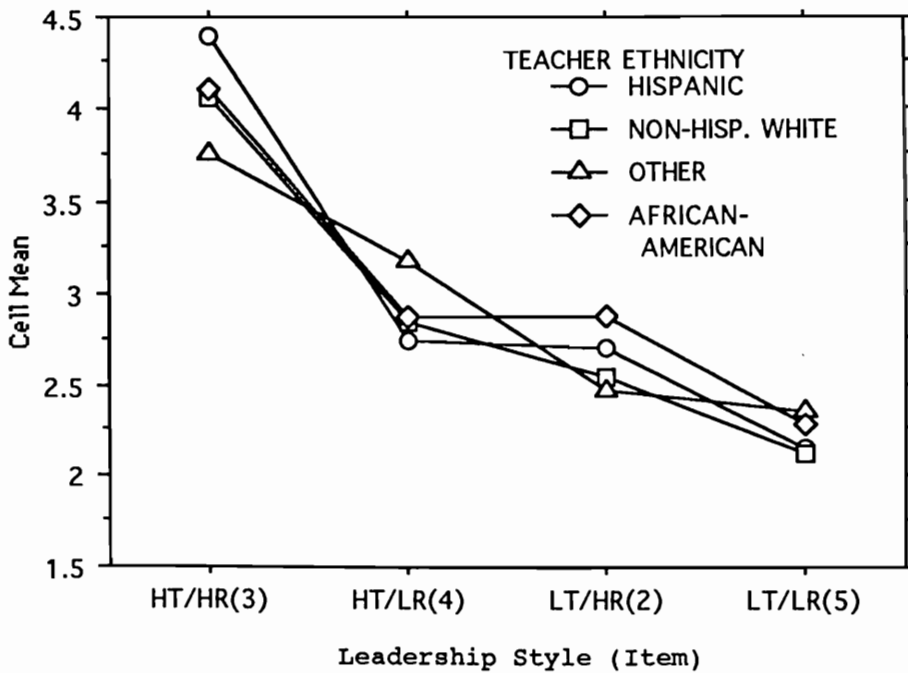


Figure I-2. Item means by teacher Ethnicity.

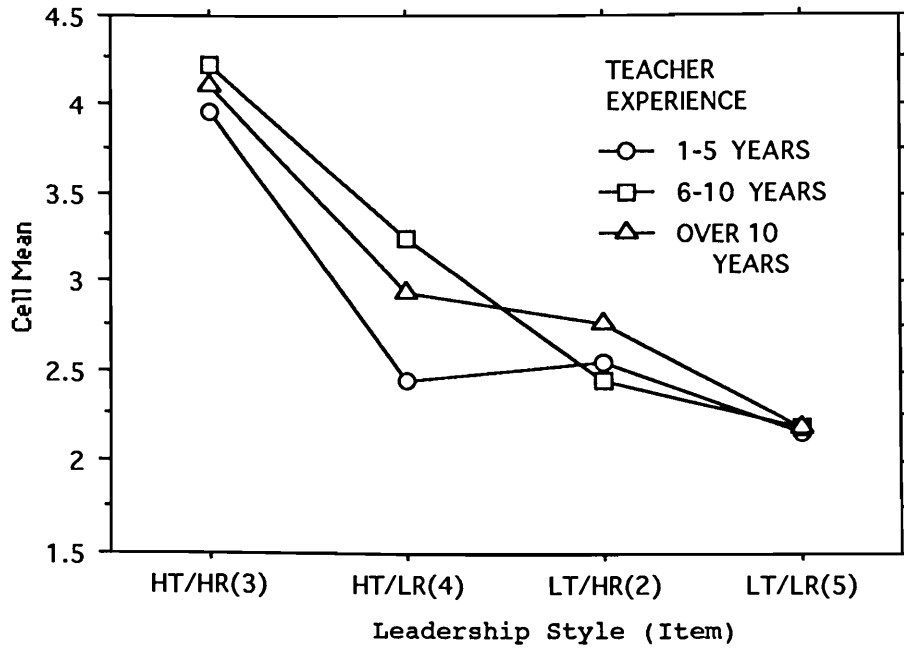


Figure I-3. Item means by teacher Experience.

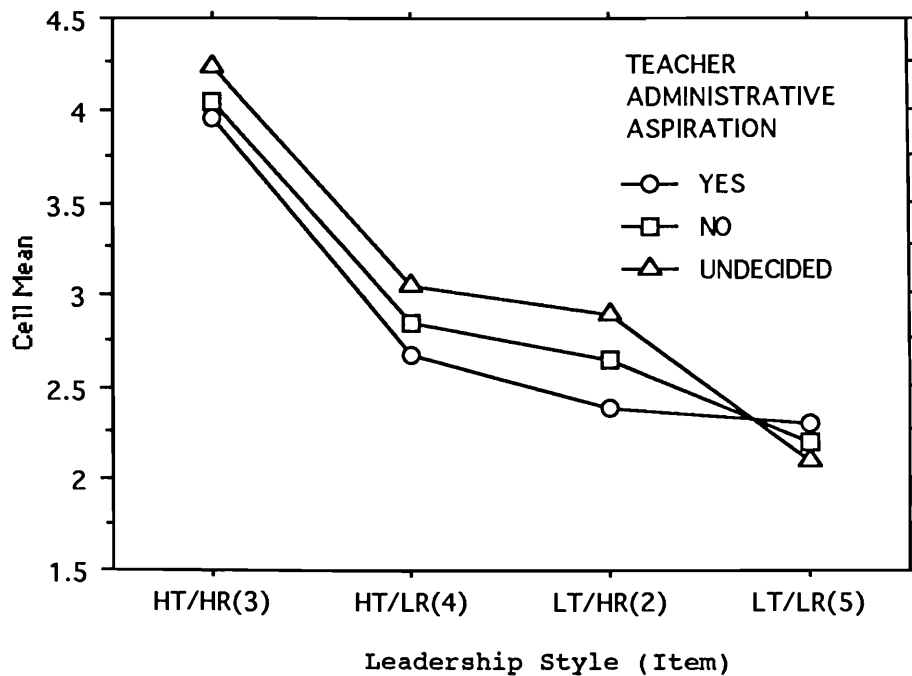


Figure I-4. Item means by teacher Administrative Aspiration.

APPENDIX J

Analyses of Variance

Table J-1

Analysis Of Variance of Performance Ratings

by Teacher Age, Principal Sex, and Leadership Style

Source	df	Sum of Squares	Mean Square	F Value	P Value
Age (AGE)	3	11.510	3.837	2.427	0.0669
Principal Sex (PS)	1	0.139	0.139	0.088	0.7669
AGE x PS	3	1.708	0.569	0.360	0.7819
Subject (Group)	189	298.739	1.581		
Leadership Style (LS)	3	356.433	118.811	119.129	0.0001
LS x AGE	9	14.105	1.567	1.571	0.1204
LS x PS	3	0.670	0.223	0.224	0.8798
LS x AGE x PS	9	7.562	0.840	0.842	0.5772
LS x Subject(Group)	567	565.485	0.997		

Note. Abbreviations used in the table are AGE for Age, PS for Principal Sex, and LS for Leadership Style.

Table J-2

Analysis Of Variance of Performance Ratings  
by Teacher Ethnicity, Principal Sex, and Leadership Style

Source	df	Sum of Squares	Mean Square	F Value	P Value
Ethnicity (ETH)	3	3.401	1.134	0.712	0.5461
Principal Sex (PS)	1	2.940	2.940	1.846	0.1759
ETH x PS	3	10.315	3.438	2.158	0.0944
Subject (Group)	187	297.915	1.593		
Leadership Style (LS)	3	225.091	75.030	75.210	0.0001
LS x ETH	9	9.033	1.004	1.006	0.4338
LS x PS	3	1.099	0.366	0.367	0.7766
LS x ETH x PS	9	9.391	1.043	1.046	0.4018
LS x Subject(Group)	561	559.661	0.998		

Note. Abbreviations used in the table are ETH for Teacher Ethnicity, PS for Principal Sex, and LS for Leadership Style.

APPENDIX K

Subject Cell Breakdown:

Teacher Sex x Principal Sex x Administrative Aspiration

Table K-1

Subject Cell Breakdown:

Teacher Sex x Principal Sex x Administrative Aspiration

TEACHER SEX	PRINCIPAL SEX		TOTAL
	Male (PM)	Female (PF)	
<u>Male (TM)</u>			
Yes	7	8	15
No	22	18	40
Undecided	6	8	14
TOTAL	35	34	69
<u>Female (TF)</u>			
Yes	6	10	16
No	42	39	81
Undecided	16	15	31
TOTAL	64	64	128

Note. N = 197.

APPENDIX L

Analysis of Variance of Performance Ratings  
by Teacher Sex, Principal Sex, and Leadership Style When  
Administrative Aspiration is Yes

Table L-1

Analysis Of Variance of Performance Ratings  
by Teacher Sex, Principal Sex, and Leadership Style  
When Administrative Aspiration is Yes

Source	df	Sum of Squares	Mean Square	F Value	P Value
Teacher Sex (TS)	1	0.990	0.990	1.052	0.3142
Principal Sex (PS)	1	3.440	3.440	3.655	0.0666
TS x PS	1	0.858	0.858	0.912	0.3480
Subject (Group)	27	25.412	0.941		
Leadership Style (LS)	3	49.656	16.552	20.158	0.0001
LS x TS	3	1.462	0.487	0.593	0.6211
LS x PS	3	7.885	2.628	3.201	0.0276
LS x TS x PS	3	1.950	0.650	0.791	0.5022
LS x Subject(Group)	81	66.510	0.821		

Note. Abbreviations used in the table are TS for Teacher Sex, PS for Principal Sex, and LS for Leadership Style. Only subjects who answered Yes to Administrative Aspiration are included.

APPENDIX M

DCPS: Permission to Conduct Research

# DADE COUNTY PUBLIC SCHOOLS

OFFICE OF EDUCATIONAL ACCOUNTABILITY • 1500 BISCAYNE BOULEVARD, SUITE 225 • MIAMI, FLORIDA 33132

OCTAVIO J. VISIEDO  
SUPERINTENDENT OF SCHOOLS

HERBERT F. WEINFELD  
DISTRICT DIRECTOR  
OFFICE OF EDUCATIONAL ACCOUNTABILITY  
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DADE COUNTY SCHOOL BOARD  
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DR. MICHAEL KROP  
MS. JANET R. McALLILEY  
MR. ROBERT RENICK  
MS. FEDERICA S. WILSON

September 6, 1995

Ms. Shirley Hill Beer  
10055 S. W. 156 Avenue  
Miami, Florida 33196

Dear Ms. Beer:

I am pleased to inform you that the Research Review Committee of the Dade County Public Schools (DCPS) has approved your request to conduct the study, "The Effects of Sex of Teacher, Sex of Scenario Principal, and Leadership Style on the Performance Ratings of Scenario Principals by Teachers." The approval is granted with the following conditions:

1. Participation of a school in the study is at the discretion of the principal. A copy of this approval letter must be presented to the principal.
2. Teacher participation is voluntary. It must occur during planning or other non-teaching time, and will not exceed 20 minutes per teacher.
3. The anonymity and confidentiality of all subjects must be assured.
4. The study will involve no more than 240 DCPS teachers.
5. Disruption of the school's routine by the data collection activities of the study must be kept at minimum.
6. The DCPS internal school mail system cannot be used in conducting the study.

It should be emphasized that the approval of the Research Review Committee does not constitute an endorsement of the study. It is simply a permission to request the voluntary cooperation in the study of individuals associated with the DCPS. It is your responsibility to ensure that appropriate procedures are followed in requesting an individual's cooperation, and that all aspects of the study are conducted in a professional manner. With regard to the latter, make certain that all documents and instruments distributed within the DCPS as a part of the study are carefully edited.

The approval number for your study is 421. This number should be used in all communications to clearly identify the study as approved by the Research Review Committee. The approval expires on April 30, 1996. During the approval period, the study must adhere to the design,

procedures and instruments which were submitted to the Research Review Committee. If there are any changes in the study as it relates to the DCPS, it may be necessary to resubmit your request to the committee. Failure to notify me of such a change may result in the cancellation of the approval.

If you have any questions, please call me at (305) 995-7501. Finally, remember to forward an abstract of the study when it is complete. On behalf of the Research Review Committee, I want to wish you every success with your study.

Sincerely,

Joseph J. Gomez, Ph.D.  
Chairperson  
Research Review Committee

JJG/pw

APPROVAL NUMBER: 421

APPROVAL EXPIRES: 4/30/96

## VITA

November 22, 1950      Born, Chincoteague, VA

1972      B.Ed., Mathematics  
University of Miami

1972-1976      Mathematics Teacher  
Palmetto Senior High School  
Miami, FL

1975      M.S., Administration and  
Supervision  
Florida International University  
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1976-1986  
1982-1986      Mathematics and Computer Teacher  
Mathematics Department Head  
Miami Southridge Senior High  
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1985      Ed.S., Computer Education  
Barry University  
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1987-1988      Curriculum Coordinator  
North Area Office  
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1988-1996      Assistant Principal  
John F. Kennedy Middle  
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