

ABSTRACT

Title of Dissertation: A STUDY OF THE USE OF POWER BY
MIDDLE SCHOOL AND HIGH SCHOOL
PRINCIPALS AND ITS RELATIONSHIP TO
TEACHER SATISFACTION WITH WORK AND
WITH PRINCIPAL

Linda Warren Lymas, Doctor of Education, 1992

Dissertation directed by: Dr. Lawrence E. Leak
Assistant Professor
Education Policy, Planning,
and Administration

This study was undertaken to determine the power bases used by middle school and high school principals in the Baltimore City Public schools (BCPS), and how their use of power affects teachers' satisfaction with their work and their principal. The three research questions posed in this study were:

1. To what extent is there a correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of his/her principal's use of power?

2. To what extent is there congruence between the principal's self-perception of his/her use of power and the teacher's perception of the principal's use of power?

3. Are there differences in the middle school and high school principals' uses of power based on their teachers' perceived classifications?

The subjects for this study were middle school principals, middle school teachers, high school principals, and high school teachers in the BCPS. The middle school and high school principals completed the Power Perception Profile: Perception of Self (PPPS). The middle school and high school teachers completed the Power Perception Profile: Perception of Other (PPPO) and the Cornell Job Description Index (JDI). Of the 41 principals, 24 principals volunteered to participate. The middle school and high school tenured teachers numbered 922. Of the 922 tenured teachers, 387 tenured teachers returned the instrument.

The seven power bases measured by the PPPS and the PPPO were (a) coercive power, (b) connection power, (c) information power, (d) expert power, (e) legitimate power, (f) referent power, and (g) reward power. The subtests used to measure the teachers' level of satisfaction were (a) Supervision, and (b) Work on Present Job.

Based on the findings of this study, teacher dissatisfaction with principal or with work is associated with the principal's use of coercive power, connection power, and reward power. The principal's use of information

power did not appear to affect teacher satisfaction with work or supervisor. The relationship between the principal's use of legitimate power and teacher satisfaction with work and supervisor was inconclusive. The principal's use of expert power and referent power is associated with teacher satisfaction with work and with principal.

In addition, the findings indicated that the middle school principals' perceptions of their uses of power were not congruent with their teachers' perceptions. The high school principals' perceptions of their uses of power were congruent with the high school teachers' perceptions, with the exception of connection power.

An analysis of variance was done between the middle school teachers' ratings of the middle school principals' power styles and the high school teachers' ratings of the high school principals' power styles to determine if there were differences in the middle school and high school principals' uses of power. The results of the analyses indicated that the principals fell into three groups. The three groups were (a) positional power, (b) personal power, and (c) a combination of personal and positional power. The middle school principals used more positional power bases than personal power bases to induce compliance from or to influence their teachers. The high school principals used a combination of personal and positional power bases to induce compliance from or to influence their teachers.

The findings from this study, based on the teachers'

perceptions, indicate that middle school principals use (a) coercion, (b) their legitimate authority, and (c) the rewards that are available to them to induce compliance from or to influence their teachers. They use less referent power and expert power. The high school principals use more referent power and expert power than coercive power or reward power to induce compliance from or to influence their teachers.

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SCHOOL PRINCIPALS AND ITS RELATIONSHIP TO TEACHER
SATISFACTION WITH WORK AND WITH PRINCIPAL

by

Linda Warren Lymas

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Advisory Committee:

Assistant Professor Lawrence E. Leak, Chairman/Advisor
Professor James Dudley, Co-Chairman
Professor Gilbert R. Austin
Associate Professor James Henkelman
Visiting Professor J. Edward Andrews

*CI MD Dept. of Education Policy, Planning and
Administration*

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Chapter One

Introduction to the Study

For some years researchers have given much attention to the need and importance of improving public school education in America (Goodlad, 1984; Purkey & Smith, 1982; Saphier & King, 1985). Some individuals in this country have expressed a profound interest in the future of public schools. A great deal of debate still exists in the struggle to reach a clear consensus about what must be done to improve public school education (Education Commission of the States [ECS], 1983). Principals in particular are being challenged to become better and more accountable administrators. Lieberman and Miller (1990) contend that the concept of restructuring has evolved as a recognition of the need to make changes in American schools and to challenge principals to critically assess the structure of their schools.

One solution suggested for the improvement of public schools designated the principal as the responsible leader in creating an effective school (Goodlad, 1975). Asick (1984) concluded that schools cannot be effective without effective leadership. The research on effective schools emphasizes the correlation between the role and function of the principal and effective schools (Arnn & Mangieri, 1988; Austin & Holowenzak, 1985; Edmonds, 1979; Manasse, 1984; Sergiovanni, 1984). The leadership provided by the

individual school principal is believed to be key in the effort to improve public school education (ECS, 1983). Principals must spend more time managing education and less time managing items such as the building, grounds, paperwork, and other efforts that are indirectly related to teaching and learning if the schools are to improve (ECS, 1983).

In order to create and to maintain effective schools, many research studies identify behaviors that exemplify the essence of an effective principal (Austin & Holowenzak, 1985; Edmonds, 1979; Goodlad, 1984; Ogawa & Hart, 1985; Roberts, 1989). These behaviors are summarized as follows: (a) having high expectations of themselves, of their teachers, and of their students; (b) having a vision of what is taking place and what should be taking place in the school; (c) having the analytical skills that are needed to assist and offer advice; and (d) involving teachers and the community in decisions relating to goals established for the school.

Sizer (1984) asserted that teachers work best for principals they respect. Teachers who are effective have a high level of self-confidence and self-esteem and they expect reasonable autonomy. In order to enhance the effectiveness of schools, more power must be delegated by the principals to the teachers in making decisions about their schools. Moreover, principals must use their power to influence teachers to become active participants in the

decision-making process (Maeroff, 1988).

Power and Leadership Behavior

Power is viewed as the influence exerted by some people over others, and influence is the ability to produce some type of change (French & Raven, 1959). The success of a principal as the leader of his/her school is determined to a large extent by his/her level of influence (Gunn & Holdaway, 1986). This study is primarily based on the prominent typology of French and Raven's (1959) bases of power.

French and Raven's (1959) theory of social influence and power is described in terms of the influence exerted on a person, P, which is produced by a social agent, O. Briefly, they identified five bases of power: (a) reward power, based on the availability of rewards; (b) coercive power, based on fear; (c) legitimate power, based on position in the organization; (d) referent power, based on personal traits; and (e) expert power, based on the possession of expertise, skill, and knowledge in a particular job (French & Raven, 1959).

Two of the power bases employed in this study were added to the typology of French and Raven. Other researchers have identified two of the power bases that were used in this study. The two power bases are information power and connection power. Information power is based on the leader's possession of or access to valuable information (Raven & Kruglanski, 1975). Connection power refers to the leader's connections with influential or important persons

(Hersey & Goldsmith, 1972).

Because the use of the word power has suggested dominance and control over other people, its use is often thought of in a negative sense (Stimson & Appelbaum, 1988; Zalenick & Kets de Vries, 1975). Power has also been viewed, however, in a positive sense as a shared resource among colleagues (Herlihy & Herlihy, 1985; Stimson & Appelbaum, 1988). Adams and Bailey (1989) defined the power of principals as "the impetus for leadership in supervisory relationships" (p. 86). Traditionally, the power of principals to control educational affairs is believed to have derived from their formally designated positions, which is the legitimate power of the principal (Gunn, Holdaway, & Johnson, 1988). Some principals now realize, nevertheless, that any influence attempt to assign and confirm the principal's power, based on his/her position in the organization, is undesirable (Gunn et al., 1988). Kelly (1980) stated:

For too long now, the main tradition to authority has been structural in its broad assumptions. People ought to do what they are told to do.... Such structural mandates are incompatible with our moral attitudes and with the structural processes involved in the exercise of authority. (p. 420)

Recognizing the importance of any influence attempt, principals must be cognizant of appropriate leadership behaviors. In order to develop leadership behaviors that

would enhance a principal's ability to influence his or her staff, Isherwood (1973, p. 301) offered six suggestions:

1. The principal's leadership behavior should include a "service" to the staff element and a "leadership" element.
2. The principal should be non-authoritarian, and remain calm in dealing with teachers.
3. The principal should perform administrative tasks in a proficient manner.
4. The principal should provide resources to teachers beyond that which is normally expected.
5. The principal interacts with teachers in a tactful and understanding manner.
6. The principal should increase his/her informal authority rather than formal authority.

The relationship between leadership and power has long been recognized; therefore, principals need to have some perception of their use of power in order to be effective (Adams & Bailey, 1989; Giammateo & Giammateo, 1981; Herlihy & Herlihy, 1985; Isherwood, 1973). An awareness of the uses and abuses of power is crucial to the astute administrator (Giammateo & Giammateo, 1981). Roesner and Sloan's (1987) investigation of secondary school principals and their key subordinates concluded that "teachers and principals differ significantly in their descriptions of the real leadership behavior of principals" (p. 69). Because power must be used to influence teachers, it is imperative that principals understand their own use of power.

Statement of the Problem

The purpose of this study was to explore the use of power bases by middle school and high school principals. Specifically, the study examined the relationship between principals' uses of different power bases and their teachers' expressed level of satisfaction with their work and supervisor. The study attempted to determine the extent to which principals used position power compared to personal power. Position power refers to the power and authority that come with the position of principal in a school. Adams and Bailey (1989) stated, "In a school, the role of the principal is seen as a position of power. Principal power of this kind resides in status and legal authority" (p. 86). Personal power refers to the power that stems from the unique personal characteristics of a principal. Personal power is the source of power that is "entrusted to the role of the person who functions as the principal" (Adams & Bailey, 1989, p. 86).

The research questions associated with this study were as follows:

1. To what extent is there a correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of his/her principal's use of power?
2. To what extent is there congruence between the principal's self-perception of his/her use of power and the teacher's perception of the

principal's use of power?

3. Are there differences in the middle school and high school principals' uses of power based on their teachers' perceived classifications?

Significance of the Study

Because some source of power must be used to influence the behavior of teachers, principals must be knowledgeable about the uses and sources of power (Hersey, Blanchard & Natemeyer, 1988). Isherwood and Taylor (1978) maintained that teachers will no longer adhere to the traditional "paternalistic" behavior of principals. Within the next decade, as teachers enter the teaching profession prepared to implement a specific body of knowledge, it will be harder for administrators to maintain their accustomed status and authority through position power (Regan, 1988). Lieberman and Miller (1990) state that in order to create a new vision and a new structure for schools, principals and teachers must come together with a "shared" vision; this study corroborates that vision.

This research was designed to gain an overview of the power bases used by middle school and high school principals in the Baltimore City Public Schools (BCPS), and their teachers' expressed level of satisfaction with their work and supervisor. Second, a study of the use of power bases and job satisfaction has not been undertaken in the BCPS. Despite the growing pressures on principals, they have more power than teachers, and unless principals do more to

understand their use of power and to share some of their power with teachers, school reform will not be fully realized (Maeroff, 1988).

The data collected for this study will enhance the limited body of knowledge that is currently available on principals' use of power and its relationship to teachers' satisfaction with work and supervisor (Hornstein, Callahan, Fisch & Benedict, 1968; Natemeyer, 1975; Stimson, 1987). Much of the research on power and employee satisfaction has been done in large businesses and industries (Bachman, Bowers & Marcus, 1968; Bachman, Smith & Slesinger, 1966; Filley & Grimes, 1967; Ivancevich & Donnelly, 1970; Tannenbaum, 1962). This research documents the need for principals to consider using more personal power rather than position power to manage their schools and to curtail a top-down bureaucratic organization.

This study seeks to document the need for principals to empower teachers so that they become active participants in the decision-making process that affects their jobs. Empowerment requires principals to relinquish the idea of having to control teachers and to move toward a non-bureaucratic way of functioning. The literature on effective schools has not clearly linked the important relationship between teacher empowerment and job satisfaction in creating effective schools (Maeroff, 1988; Regan, 1988).

Maeroff (1988, p. 53) outlined three guiding principles to use when attempting to empower teachers: (a) boost the

status of public school teachers in order to overcome the low self-esteem that is currently prevalent among them; (b) provide teachers opportunities to become more knowledgeable in their subject areas, thereby enhancing the quality of their teaching; and (c) make teachers participants in the decision-making process, thereby building bonds that draw teachers closer to each other and to their principals.

A review of the literature reveals that principals who use personal power to influence their teachers are likely to involve teachers in the decision-making process (Lightfoot, 1986; Maeroff, 1988; Regan, 1988). Herlihy and Herlihy (1985) suggested that principals have power with their teachers, not power over their teachers. Finally, the BCPS teachers' perceptions of their principals' sources and uses of power must be communicated to the principals if they are to successfully influence the teachers' behavior.

Definition of Relevant Terms

Leadership - The process of influencing the activities of individuals and groups in efforts toward goal accomplishment (Hersey & Blanchard, 1988, p. 83).

Influence - The leader's ability to effectively use behaviors that will increase the probability that an individual or group will adopt the behavior preferred by the leader (Rogers, 1973, p. 1418).

Power - The leader's potential ability to exert influence over others (French & Raven, 1959, p. 2).

Empowerment - The opportunities an individual has for

autonomy, responsibility, choice, and authority (Lightfoot, 1986, p. 9).

Bases of Power - The relationship between O and P which is the source of the power (French & Raven, 1959, p. 155). In this research study, P refers to the teacher because this is the person upon whom the power is exerted. The social agent, O, is the principal, the person producing the influence attempt. The power bases used in this study are defined as follows:

1. *Reward Power* - O's ability to mediate rewards for P.
2. *Coercive Power* - The perception by P that O has the ability to mediate punishment for a person.
3. *Legitimate Power* - The perception by P that O has the right to prescribe behavior for him/her.
4. *Referent Power* - The perception by P that he or she identifies with O.
5. *Expert Power* - The perception by P that O has some special knowledge or expertness.
6. *Information Power* - The perception by P that O has information valuable to others.
7. *Connection Power* - The perception by P that O has connections with influential or "important" persons.

Position Power - The ability to elicit compliance from others based on the use of one's position in the organizational structure (Hersey & Blanchard, 1988, p. 63;

Peabody, 1980, p. 469). The three positional power bases are (a) reward, (b) coercive, and (c) legitimate.

Personal Power - Influence derived from personality traits; it relies heavily on the relationship between the leader and his/her follower(s) (Hersey & Blanchard, 1988). The four personal power bases are (a) referent, (b) information, (c) expert, and (d) connection.

Legal Authority - The rights, duties, and/or responsibilities that are inherent in an individual's position in an organization.

Job Satisfaction - A pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (Locke, 1976, p. 1200).

Tenured Teacher - An individual who has completed two years of satisfactory teaching, has been recommended for tenure by his or her principal, and has been granted tenure by the Board of School Commissioners in the City of Baltimore.

Organization of the Study

The information presented in this study is organized into five chapters. Chapter One, an introduction to the research, includes the following sections: (a) a statement of the research problem, (b) the significance of the study, (c) the definition of relevant terms, (d) limitations of the study, and e) the organization of the study.

Chapter Two contains a review of the research literature on the use of power and job satisfaction. This chapter will

discuss the empirical and theoretical foundations of the research which led to this study.

Chapter Three provides an overview of the methodology and procedures used to undertake this study of power and job satisfaction. A description of the procedures used to examine the principal's use of power and the level of job satisfaction experienced by the teacher, a description of the sample population, and methods for distributing the survey instruments are included. The section on data analysis provides a description of how the data from the Power Perception Profiles and the Job Description Index were analyzed.

The findings from the three survey instruments are presented and analyzed in Chapter Four. Chapter Five presents a summary of the research findings and the conclusions. Recommendations for further study are also included in this chapter.

Limitations of the Study

1. Chronbach's Alpha test has been applied to determine the reliability of the Power Perception Profile instrument. Four of the seven power bases have shown high internal consistency, with three of the seven power bases showing low internal consistency. The four power bases having high internal consistency were connection power, coercive power, referent power, and expert power. Legitimate power, reward power, and information power have shown low internal consistency. The subjects were asked to complete the entire

survey instrument, and data for all seven of the power bases have been included. The conclusions, however, have been based primarily on the four power bases that have a high degree of reliability.

2. The teachers were asked to complete all of the subtests in the Cornell Job Description Index. Many of the conclusions were drawn based upon the teachers' responses to two of the subtests: Supervision and Work on Present Job.

3. Even though participation in this study was voluntary, it is possible that teachers were reluctant to respond to some of the questions for fear that the principal would find out their answers. The teachers were assured of complete anonymity in this research effort. Principals and teachers were instructed not to write their names on the instruments.

Chapter Two

Review of Related Literature

Introduction

This review of related literature presents definitions and categories of power and influence and develops a conceptual framework for them. In addition, this discussion examines theories about the relationship between job satisfaction and the use of power, and about the effect of empowerment on teacher satisfaction with work. Finally, this review of related literature will provide some concluding comments about the choice of power bases of principals and how these power bases affect teacher satisfaction.

Concepts of Power

The research on the concepts of power is filled with a variety of definitions and categorizations (Bacharach & Lawler, 1980; Etzioni, 1961; French & Raven, 1959; Weber, 1947). Muth (1984) affirmed this contention when he stated that "what power is and what power includes are the subjects of considerable debate" (p. 25). Dahl (1957) contended that a systematic study of power has recently been undertaken, specifically because it is only recently that rigorous efforts have been made to formulate concepts for systematic study. A discussion follows of some of the most widely used definitions and categorizations of power and influence.

Weber (1947) perceived power as being authoritarian and

coercive. He believed that individuals have the right, solely by virtue of their legitimate authority/power in the social organization, to make certain commands and that the commands should be followed. French and Raven's (1959) typology, however, suggests that five power bases derive from either an individual's legitimate authority in the social organization or from the individual's personal traits. Based on French and Raven's typology, the three power bases categorized as inherent by virtue of an individual's legitimate authority in a social organization are (a) legitimate power, (b) reward power, and (c) coercive power. Referent power and expert power bases are derived from an individual's personal characteristics.

French and Raven (1959) stressed the importance of understanding the difference between coercive power and reward power. Because the idea of sanctions tends to "lump" the two bases of power together, the two bases have opposite effects. The effects of coercive power will always be independent; whereas, the effects of reward power may only sometimes result in an independent system. For example, a leader may use the withholding of a reward as punishment or as coercion. If a leader does not use the withholding of a reward as a means of coercion, however, reward power and coercive power function independently.

Etzioni's (1961) discussion of power included power bases used as a result of an individual's position in the organization, although one power base identified behaviors

that were not necessarily inherent by virtue of an individual's legitimate authority. Etzioni's power typology consisted of three forms of power. These forms of power were coercive power, remunerative power, and normative power. An explanation of each power base follows:

1. *Coercive Power* refers to the application of physical sanctions such as inflicting pain, perpetrating deformity, or death; generating frustration through restriction of movement; or controlling through force the satisfaction of needs such as those for food, sex, and physical comfort.

2. *Remunerative Power* refers to the leader's control over material resources and rewards through allocation of salaries and wage, commissions and contributions, "fringe benefits," services, and commodities.

3. *Normative Power* rests on the allocation and manipulation of symbolic rewards and deprivations through employment of leaders, manipulation of mass media, allocation of esteem and prestige symbols, administration of ritual, and influence over the "distribution acceptance" and "positive response" (Etzioni, 1961, pp. 5-6).

Etzioni offered a very detailed explanation of each power base. According to Etzioni's discussion of normative power, a leader who uses normative power to influence another individual must use behaviors unique to his or her personality. Coercive power and remunerative power require the use of a leader's legitimate authority to influence the

behavior of others.

Filley and Grimes (1967) conducted a study in a non-profit professional organization with 44 employees to determine the power bases most often used in decision-making. The employees responded to a series of questions about two hypothetical problems. The first situation dealt with the role of an independent professional operating within his or her professional arena (i.e., informal setting); the second situation focused on the role of the professional in a bureaucratic system (i.e., formal setting). The participants' perceptions of the bases of power were analyzed in the informal and formal organizations. Based on the questions and the participants' responses in the informal and formal organizations, five bases of power were most frequently used. These power bases were (a) responsibility, (b) formal authority, (c) control of resources, (d) collegial, and (e) manipulation. Filley and Grimes' five bases of power were similar to the five bases of power identified in the French and Raven typology. Specifically, formal authority, control of resources, and manipulation parallel French and Raven's legitimate, reward, and coercive power in that these power bases are inherent in the individual's legitimate authority in the social organization.

Similarly, Muth (1984) developed three types of power bases, one of which described noncoercive behaviors. Muth's typology of power included: (a) coercion, the ability of an

actor to affect another's behavior, regardless of other's wishes; (b) authority, the legitimate right of an actor to affect another's behavior; and (c) influence, the ability of an actor, without recourse to force or legitimization, to affect another's behavior. Influence appears to directly relate to the referent power base and expert power base identified by French and Raven.

Researchers have identified, in some instances, different power types with similar meanings (Etzioni, 1961; Filley & Grimes, 1967; French & Raven, 1959; Muth, 1984). As indicated in Table 1, Etzioni's three bases of power relate to French and Raven's five bases of power, Filley and Grimes' three bases of power, and Muth's three bases of power.

Table 1

Comparison of Power Bases Identified by Etzioni, French & Raven, Filley & Grimes, and Muth

Researcher	<u>Types of Power Bases</u>		
		Positional	Personal
Etzioni	Coercive	Remunerative	Normative
Muth	Coercion	Authority	Influence
Filley & Grimes	Manipulative	Control of Resources	Responsibility
		Formal Authority	Collegial
French & Raven	Coercive	Reward	Expert
		Legitimate	Referent

Furthermore, Bacharach and Lawler's (1980) categorizations of power also correspond to French and Raven's bases of power. Bacharach and Lawler's perception of power, however, indicated a difference between bases of power and sources of power. The bases of power place more emphasis on rights of control or the authority of an individual to change behaviors (Bacharach & Lawler, 1980; French & Raven, 1959). Sources of power refer to the influence that individuals use in controlling their choice of a power base (Bacharach & Lawler, 1980).

Individuals must use their influence rather than their authority to bring about change in the organization (Bacharach & Lawler, 1980; French & Raven, 1959; Mitchell & Spady, 1983). An individual's use of authority demonstrates a form of positional power. Individuals' use of influence demonstrates personal power (Bacharach & Lawler, 1980; Mitchell & Spady, 1983).

Bacharach and Lawler's (1980) research on authority and influence highlights seven distinctions between positional power and personal power. These seven distinctions are summarized as follows:

1. Authority implies force; influence requires cleverness or skill in using different tactics to bring about change.
2. Authority is the formal aspect of power; influence is informal.
3. Authority refers to formal rights sanctioned by

the organization; influence is not sanctioned by the organization.

4. Authority implies involuntary submission; influence is voluntary.
5. Authority is centralized; influence is decentralized.
6. Authority is structural; influence is derived from personal characteristics.
7. Authority defines the limits for an individual; influence allows movement beyond limits.

In order for leaders to maximize their influence attempts, Katz and Kahn (1966) contend that the leader must move beyond certain bases of power. This movement is referred to as incremental influence. Katz and Kahn (1966) stated "the essence of organizational leadership is the influential increment over and above mechanical compliance with routine directives" (p. 528).

The relevance of the concept of incremental influence is two fold. First, expert and referent power, to the extent that they develop within a group, represent additions to the power available from the organizational stock of rewards and punishments. Secondly, expert and referent power are free of unintended and undesirable consequences. Individuals who use their expertise or referent power move beyond the routine directives of the formal organizational structures (Katz & Kahn, 1966).

The concepts of power explored in this review of the

literature often link power and influence (Bacharach & Lawler, 1980; French & Raven, 1959; Katz & Kahn, 1966). Bierstedt (1950) disagrees with the linkage made between power and influence. One reason cited for this distinction is that influence requires persuasion, while the use of power requires coercion (Bierstedt, 1950). Influence is viewed as an independent variable which does not require power, although power may be executed with influence.

Research studies have revealed that the use of personal power is imperative in any successful influence attempt (Fairholm & Fairholm, 1984; High & Achilles, 1986). Fairholm and Fairholm (1984) examined the frequency of the use of certain power tactics in attempting to influence the behavior of others. Sixteen power tactics were identified that could be used in influencing behavior. Although some of the power tactics defined routine managerial behaviors, five of the power tactics were power related. The five power-related tactics were (a) use of rewards, (b) legitimization, (c) use of expertise, (d) personality, and (e) public relations (Fairholm & Fairholm, 1984, p. 70).

Sixty secondary school administrators, including principals, assistant principals, and supervisors participated in the study. The participants completed a questionnaire to determine the frequency of use and other factors relating to the sixteen power tactics. The responses indicated that the principals, as a whole, rated themselves as using the personality tactic most often in

attempting to influence the behavior of their subordinates (Fairholm & Fairholm, 1984). The personality tactic involves the power user negotiating acceptance or compliance because of his or her personality (Fairholm & Fairholm, 1984).

High and Achilles (1986) also explored the behaviors used by principals in influencing their subordinates. The purpose of the study was to examine how principals in "effective" and in "other" schools gained influence over their teachers (High & Achilles, 1986). French and Raven's five bases of power and two additional power bases were used in the classification system of influence-gaining behaviors. The seven bases of influence-gaining behaviors analyzed were principal as (a) referent; (b) expert; (c) rewarder; (d) coercer; (e) legitimate authority; (f) involver; and (g) principal as a norm setter (High & Achilles, 1986, p. 112).

The participants in this study were from nine schools. Two elementary schools and one middle school were identified as effective schools and four elementary schools and two middle schools were designated as other. The data were collected from four sources: personal observation, an interview guide, and two questionnaires. Data from the principals' questionnaires and teachers' questionnaires were compared in four ways: (a) teacher perceptions between the two groups of schools; (b) teacher and principal perceptions within effective schools; (c) principal perception between two groups of schools; and (d) teacher and principal

perceptions within other schools (High & Achilles, 1986, p. 114).

Teachers in effective schools rated their principals significantly higher than teachers in other schools on six of the behaviors. The six behaviors rated highest by teachers in high achieving schools were (a) referent, (b) expert, (c) enabler, (d) coercer, (e) legitimate authority, and (f) norm setter. The differences between principals' perceptions and teachers' perceptions were significant with only two behaviors--referent and enabler.

Principals in effective schools consistently rated themselves higher on the influence-gaining behaviors than did principals in other schools. Three significant conclusions were drawn from this study. These conclusions are: (a) principals and teachers are aware of influence-gaining behaviors; (b) principals in effective schools tend to provide extensive leadership; (c) principals tend to use their "expertness" as a way of influencing teachers to change their behaviors (High & Achilles, 1986).

Theories of Job Satisfaction

Schmidt (1980) contends that concentrated power and centralization in public school education continues to add to the complexity of educators achieving job satisfaction. Concentrated power and centralization decrease the opportunity for individuals to interact and interrelate tasks, roles, and responsibilities.

Locke maintains that a job is not a single entity but

an interrelation of many entities. Specifically, a job is the interrelation of tasks, roles, responsibilities, interactions, incentives, and rewards. Job satisfaction is viewed as the feelings or positive emotional state that individuals have about facets of their job situation or job experiences (Locke, 1976; Smith et al., 1975).

The problems encountered in the measurement of job satisfaction are no different from the problems encountered in measuring any attitude (Smith et al., 1975). Smith (1975) believes, however, that studies of satisfaction are needed in order to understand the general psychology of motivation, preferences, and attitudes. Policy-makers and theoreticians are also interested in the underlying theories and determinants of job satisfaction because both groups are eager to understand the laws of human behavior (Smith, Kendall & Hulin, 1975). Sergiovanni and Starrett (1979) maintain that more research is needed in understanding more fully and updating existing data relating to human needs and teacher satisfaction.

A thorough understanding of the determinants of job satisfaction requires that the constituent elements of the job be analyzed (Locke, 1976). One common way of identifying these elements is factor analysis. In using factor analysis, employees are given an opportunity to respond to job attitude items. The responses are intercorrelated and grouped into "factors," each factor

consisting of items that highly correlate with each other (Locke, 1976, p. 1301). One common disadvantage of factor analysis, however, is that dimensions which are conceptually distinguishable and which might show different relationships to other variables are generally lumped together (Locke, 1976).

Thus, job dimensions can be isolated conceptually according to the goals established by the researcher (Locke, 1976). The job dimensions that were investigated in this study include: (a) work on present job, (b) supervision, (c) opportunities for promotion, (d) present pay, (e) co-workers, and (f) job in general (Smith et al., 1985).

Determinants of job satisfaction were explored by Gunn and Holdaway (1986). Gunn and Holdaway (1986) examined the job satisfaction of principals and its relationship to the principals' perception of their influence, their effectiveness, and their school's effectiveness. Based on the responses of 133 principals, three predictors of overall satisfaction were identified. The best predictors of job satisfaction for principals were: (a) sense of accomplishment as an administrator, (b) effect of the job on the principal's personal life, and (c) the principal's work relationship with teachers (Gunn & Holdaway, 1986, p. 54).

Some researchers contend that the predictors of job satisfaction should be based on a multivariate approach (Avi-Itzhak, 1988; Sweeney, 1981). These predictors should include the perceived needs of the individual,

organizational factors, and background variables. Research studies performed in educational settings strongly suggest that teachers are motivated by higher order needs (Avi-Itzhak, 1988; Schmidt, 1980; Sweeney, 1981). These higher order needs, developed by Maslow (1954), are esteem and self-actualization.

Avi-Itzhak (1988) used a multivariate approach to examine job satisfaction. The purpose of her study was to (a) identify and assess perceived professional needs of kindergarten teachers, (b) identify perceived professional needs, organizational factors and teachers' characteristics which significantly discriminate between "satisfied teachers" and "dissatisfied teachers," and (c) assess their relative contribution. Ninety-three female kindergarten teachers in a major city in Israel participated in this study.

As a result of the teachers' responses to a 13 item questionnaire structured to follow the Maslow-type hierarchy of needs, five need categories emerged (Avi-Itzhak, 1988). The data indicated that satisfied teachers tended to experience greater fulfillment of three higher order needs--esteem, autonomy, and self-actualization. The findings also suggest that the instrument that was used in this researcher's study is valid not only in the educational settings of the USA but also in Israel (Avi-Itzhak, 1988).

Brissie, Hoover-Dempsey and Bassler (1988) focused on the individual needs and environmental factors associated

with teacher satisfaction. Teacher burnout was identified as an environmental factor effecting teachers' level of job satisfaction. Teacher burnout is defined as behaviorally manifest emotional and physical exhaustion deriving from stressful situational events not adequately met by effective coping strategies (Brissie et al., 1988, p. 106).

Elementary teachers from eight school districts were subjects for this study.

The findings from this study indicate that teachers who feel supported by their principals are less likely to experience burnout (Brissie et al., 1988). Further, the study reemphasized the critical role of the principal in enhancing positive working conditions in the school (Brissie et al., 1988). Three suggestions were offered as a means of decreasing the likelihood of teacher burnout: (a) allow teachers to participate in setting goals for the school; (b) provide on-going professional support and have the principal offer strong and visible support, (c) structure the setting, through informative feedback or regular evaluation settings, so that teachers can perceive themselves as effective (Brissie et al., 1988, p. 112).

The major theories of job satisfaction were developed from theories of work motivation (Gunn & Holdaway, 1986; Miskel, Defrain, & Wilcox, 1980). Work motivation is viewed as a broad construct pertaining to the conditions and processes that account for arousal, direction, magnitude, and maintenance of effort in a person's job (Katzell &

Thompson, 1990). According to Katzell and Thompson (1990), job enrichment is one means of making jobs attractive, interesting, and satisfying.

In order to examine the relationship between job enrichment and work motivation, 90 clerical workers in a large quasi-federal agency served as participants for the study (Katzell & Thompson, 1990). The employees were divided into two groups. In one group, no changes were made in the jobs of the employees. In the second group, the jobs were enriched by increasing task identity and significance, feedback, and autonomy. Katzell & Thompson (1990) report that job attitudes were significantly better among employees whose jobs had been enriched. In addition, the absenteeism and turnover of employees in the experimental group declined.

Human problems such as lack of commitment to the job, lack of interest, absenteeism and militancy give rise to the need to study work motivation (Miskel et al., 1980). Miskel et al. (1980) investigated the relationship between job satisfaction and expectancy work motivation, central life interests, voluntarism, and personal and environmental characteristics.

The basic assumption of the expectancy motivation theory is that two components interact and influence each other, thus producing different behaviors together than alone. These two components are: (1) valence--the importance of an individual's feelings about reward and

incentives; (2) instrumentality--the probability that a reward with a particular valence will enhance a given performance (Miskel et al., 1980). Central life interests refer to the individual's preference for doing desired activities in a particular place. Volunteerism relates to an individual's perception of varied job opportunities and the freedom to work or not to work. Miskel et al. (1980) believe that work motivation and its components are significant predictors of job satisfaction and teacher performance.

Two samples of subjects were used to investigate the relationship between work motivation and its components and job satisfaction (Miskel et al., 1980). Twelve randomly selected teachers and 10 principals from 10 junior high schools were asked to complete a five item measure for assessing general feelings about their job. The second sample consisted of 24 randomly selected chairpeople from 67 departments in four colleges and universities.

Multiple regression analysis was used to test the hypotheses. The findings indicated that overall expectancy motivation, volunteerism, and central life interest variables were significant predictors of job satisfaction for both groups. The findings also indicated that the force of motivation variable was a significant predictor for job performance. Therefore, the researchers concluded that if an individual believes that successful performance will lead to important outcomes (e.g., the freedom to modify the job

situation), then the teachers' level of job satisfaction is greater (Miskel et al., 1980).

Erlandson and Pastor (1981) discussed certain needs of teachers that must be fulfilled in order to experience job satisfaction. These needs were identified as higher order need strengths. Teachers with higher order need strengths have a strong desire for freedom to take on the responsibility of their own goals (Erlandson & Pastor, 1981). The higher order need strengths of teachers were: (a) the desire to participate in decision-making, (b) the desire to use their skills and abilities, (c) freedom and independence, (d) challenge, (e) expression of creativity, and (f) an opportunity for learning (Erlandson & Pastor, 1981, p. 8).

Power and Job Satisfaction

The level of satisfaction experienced by teachers has been a persistent concern of educational researchers (Belasco & Alutto, 1972; Cox & Wood, 1980; Isherwood & Taylor, 1978). Belasco and Alutto (1972) maintain that teachers are dissatisfied with their lack of participation in the decision-making process. In addition, Cox and Wood (1980) believe that teachers become alienated when they are inactive participants in the decision-making process. Alienation is defined as the degree to which individuals feel powerless to achieve the role that they have determined to be rightfully theirs (Cox & Wood, 1980).

Cox and Wood (1980) identified five variables which

increase alienation among teachers: (1) infrequent participation in the decision-making process; (2) perception of the organizational hierarchy of authority as rigid; (3) a great degree of job codification; (4) rigid enforcement of rules; and (5) teachers' belief in an administrator's lack of willingness to consider teachers' views (Cox & Wood, 1980, p. 3). Data were collected from 278 teachers in order to measure these variables.

The findings from this study indicated that three organizational variables were positively associated with teacher alienation. The organizational variables positively associated with teacher alienation were hierarchy of authority, job codification, and rigidity of rule enforcement. The researchers emphasized that teachers are demanding greater professional autonomy and a larger voice in the decision-making process (Cox & Wood, 1980).

Duke, Showers, and Imber (1980) investigated teachers' perceptions of the costs and benefits of teacher involvement in decision-making. The 50 teachers participating in the study viewed the potential benefits of involvement as far exceeding the costs of involvement. Teachers' involvement in decision-making was significant in four ways. These ways included: (a) teachers are more likely to comply with decisions in which they are involved, (b) shared decision-making stimulates close relations among faculty members, (c) involvement in school decision-making could enhance a teacher's chances for career development, (d)

involvement in decision-making helps to create a greater appreciation for the complexities of running a school (Duke et al., p. 102).

Teachers want to have more control in their work place. Tannenbaum's (1962) study on control in organizations indicated that employees desire to have more control directly relates to higher degrees of satisfaction with their jobs and the organization.

In an attempt to improve teacher satisfaction with their job, Schmidt (1980) developed a model which outlined his assumptions of the complexities involved in achieving teacher satisfaction. The model outlined the following assumptions that relate to teacher satisfaction.

1. Educators want to make things happen and to be creative in their environment.
2. The organizational structure of education does not require the work of educators to be limiting or frustrating.
3. Educational work should be congenial, absorbing, motivating, and exciting.
4. Productivity is greater when educators have the power to set their goals, to regulate their working methods, and to have a role in determining their rewards.

More democratic bases of power must be implemented by leaders in order for educators to increase their participation in decision-making (Ivancevich & Donnelly,

1970; Schmidt, 1980). Using French and Raven's (1959) typology, Ivancevich and Donnelly (1970) explored the effectiveness of the more democratic bases of power. The study was conducted in a large firm selling food products. The sample population consisted of 394 salesmen from 31 different sales branches throughout the United States.

French and Raven's (1959) typology was divided by Ivancevich and Donnelly into "positional" (legitimate, coercive, and reward) and "incremental" (referent and expert) categories. As a result of their study, Ivancevich and Donnelly (1970) were able to make three conclusions. First, the use of legitimate power by branch managers may not be the most optimum in attempting to induce compliance. Secondly, coercive power did not appear to be related statistically to the differences in the performance of the salesmen. Third, a strategy that should be considered for inducing compliance with leader directives is one that focuses on expert and referent power (Ivancevich & Donnelly, 1970, p. 547).

Further, Bachman, Bowers, and Marcus (1968) conducted a study on subordinate satisfaction and the use of certain power styles. The study was conducted in five organizations. These organizational settings were 36 branch offices of salesmen, faculty members at 12 liberal arts colleges, life insurance agents in 40 agencies, and production workers in 40 work groups and semiskilled workers in a utility plant. The findings indicated that legitimate

power was the most often used basis of power. Nevertheless, legitimate power did not appear to enhance organizational effectiveness nor did it relate specifically to total amount of control (Bachman et al., 1968).

Bachman et al. (1966) examined the relationship between French and Raven's bases of power and the amount of control, performance, and satisfaction of employees. This study was conducted in a national firm that sells intangibles. The sample population consisted of 656 salesmen and 36 branch offices. The data from this study indicated that total control, satisfaction, and performance were highly correlated with office managers who relied heavily on expert power and referent power.

Stimson (1987) examined the relationship between teacher satisfaction and the principal's use of personal power bases and positional power bases. Twenty-five elementary school principals and 125 elementary teachers participated in this research effort. The study was conducted in the Anchorage School District. The data from this study indicated that teachers were more satisfied with principals who used expert and referent power (personal power). Teachers indicated less satisfaction with principals who used more coercive and legitimate power (positional power) (Stimson, 1987). However, the principals in this particular study used primarily a combination of personal and positional power.

Hornstein, Callahan, Fisch and Benedict (1968)

conducted a similar study in 14 schools. The sample population for this study was 325 primary teachers. The purpose of the study was to examine the relationship between shared influence, teacher satisfaction, and the teachers' ability to influence organizational decision-making. The researchers concluded that teachers experience their greatest satisfaction with their principals and their jobs when they are mutually influential (Hornstein et al., 1968).

Hoy and Sousa (1984) examined one aspect of decision-making--the extent to which principals delegated decisions to teachers. Using data collected from principals and teachers in 55 secondary schools, this research examined the relationship between delegated decision-making, loyalty, job satisfaction, and hierarchy of authority. In this study, three hypotheses were tested using analysis of variance procedures (Hoy & Sousa, 1984).

The first hypothesis asserted that the greater the tendency of the principal to delegate decision-making, the less teachers perceived a hierarchy of authority. Hierarchy of authority is referred to as the extent to which the decision-making is prestructured by the principal (Hoy & Sousa, 1984). Secondly, Hoy and Sousa (1984) contended that teachers experience a higher level of job satisfaction when principals delegate decision-making. Third, teachers were more loyal to principals who delegated decision-making.

Data were collected from principals and teachers in 11 counties in New Jersey (Hoy & Sousa, 1984). Given six

decision levels, principals were asked to identify the level at which decisions were made in their schools. Thirty-six principals indicated that no decision-making authority was delegated to teachers, and only 19 principals delegated some authority to the teachers.

Teachers were instructed to provide answers to questions on two research instruments. The responses were used to measure job satisfaction, loyalty to principal and hierarchy of authority. Three conclusions were drawn as a result of the teachers' responses. First, teachers are less likely to perceive a strong authoritarian structure when decision-making is shared. Second, teachers experience a greater level of job satisfaction when they are participants in the decision-making process. Third, teachers are more loyal to principals when decisions are shared. Hoy and Sousa (1984) concluded that, "delegation of decision-making maximizes participation; consultation minimizes participation" (p. 329).

Belasco and Alutto (1972) examined the relationship between the levels of satisfaction experienced by teachers and their state of decisional participation. In this study, job satisfaction was viewed as the willingness to remain in the current school situation despite inducement to leave. Decisional participation was defined as the discrepancy between current and preferred levels of participation (Belasco & Alutto, 1972, p. 44).

The sample population for this study consisted of

teachers employed in two school districts in Western New York. Questionnaire survey techniques were used to collect the data for this study. Belasco and Alutto (1972) measured three levels of decisional participation. The three levels of decisional participation measured were (a) decisional deprivation (participation in fewer decisions than preferred), (b) decisional equilibrium (participation in as many decisions as preferred), and (c) decisional saturation (participation in more decisions than preferred) (Belasco & Alutto, 1972, p. 47). Using factor analysis, four items were identified by respondents as satisfaction levels--a slight increase in status, a position allowing more creativity, and a position in which individuals were more friendly (Belasco & Alutto, 1972, p. 48).

The findings clearly indicated that there are significant systematic relationships between individual member satisfaction levels and the state of decisional participation. For example, teachers who were decisional deprived reported significantly lower satisfaction levels than teachers who were decisional saturated or at equilibrium. In addition, the results of this study suggest that educational organizations must be concerned with both the attraction and retention of teachers and the performance of their interrelated role activities (Belasco & Alutto, 1972).

The concept of decisional participation was further explored by Isherwood and Taylor (1978). This study sought

to determine the decision items in which the school council should be participating based on the perceptions of the principal, teacher members of the school council, and the remaining teachers. A second purpose of the study was to determine if congruency between items in which the staff council should be participating and the items in which they were participating related to job satisfaction for the principal, school council, and remaining teachers (Isherwood & Taylor, 1978).

Data were collected from the principal, school council members, and remaining teachers from 48 secondary schools in Quebec. The findings indicated that, between all pairs of groups, there was a strong agreement as to the extent of participation. On 8 of the 64 items relating to decision-making, the three groups disagreed on the extent of participation of the school council. Based on the findings of this study, Isherwood and Taylor (1978) stressed the importance of extensive participation of teachers in order to increase their level of job satisfaction. Recognizing the importance of the relationship between employee participation and job satisfaction, principals must be able to determine those conditions conducive to effective participation of teachers (Bridges, 1967).

The Effect of Empowerment on Teacher Satisfaction With Work

Principals who take the authoritarian approach to leadership neglect to realize that their teachers, like themselves, have needs for power (Herlihy & Herlihy, 1985).

Teachers need to have a role in the decisions affecting their work. Principals must choose a leadership approach that will satisfy power needs for both the principal and the teacher. Herlihy and Herlihy (1985) described this approach as an empowering approach.

Teacher empowerment has its beginnings in the literature on teacher dissatisfaction, autonomy, professionalization, and shared decision-making. Teachers are demanding greater participation in decision-making. Therefore, it is incumbent upon the principals to make the necessary changes in the structure of their school organizations. First, principals must proceed with caution in making changes since all teachers will not be prepared to readily become involved in the decision-making process. Second, principals must structure their schools such that hierarchical differences are diminished (Erlandson & Bifano, 1987).

Empowerment is the sharing of power by individuals in leadership positions (Herlihy & Herlihy, 1985; Stimson, 1987). Principals must decide whether the power of decision-making is being shared in meaningful ways. Moreover, principals must be aware of and have an understanding of the use of personal power in order to empower their teachers.

In order to maximize their referent power, which is personality based, principals must be cognizant of the personal and social aspects of the principal/teacher

relationship. Principals can maximize their expert power by modeling their expertise and assisting teachers whose performance needs improvement (Herlihy & Herlihy, 1985).

A leader increases his or her referent power by empowering others. Kanter stated that, "if a leader wants to have far-reaching influence he/she must make his followers feel powerful, and able to accomplish things on their own" (p. 173).

Kanter (1982) stressed three dominant themes in the sharing of power. First, organizational power can grow, in part, by being shared. Second, the delegation of power does not mean abdication. Third, leaders who feel secure about their own outward power - their lines of supply, information, and support - can see empowering subordinates as a gain rather than a loss (Kanter, 1976, p. 73).

Lightfoot (1986) revealed three assumptions regarding empowerment in action. These assumptions were: (a) the earlier one begins to practice empowerment, the better; (b) the expression of empowerment in schools needs to be felt at every level - students, teachers, and administrators; and (c) empowerment reflects a dynamic process not a static final statement.

In a study on goodness in schools, Lightfoot expounded upon the themes of empowerment that were prevalent in each of the schools. Six high schools across the country, all of which had a reputation of being good, were visited. Methods for describing the goodness in each school included: (a)

observations, (b) interviews, (c) careful reviews of public and private school documents, and (d) "hanging out" both inside the school and the surrounding community.

In each of the schools, Lightfoot (1986) contended that there was a clear recognition of enhancing empowerment. Efforts were made to give all members of the school's community an active role and a sense of responsibility involving decisions affecting the school.

Karant's (1989) study indicated that teacher empowerment and supervision are compatible concepts. Specifically, the study investigated programs in which differentiated staffing was being implemented and collaboration among teachers was evident on certain educational policies within the schools. The sample population consisted of teachers and administrators from three secondary schools--a midwestern high school, an inner-city high school, and a suburban/rural high school.

In each of the three schools, teachers were assigned to supervisory positions. Teachers were challenged to make certain instructional and managerial decisions (Karant, 1981). The teachers were able to share governance and benefit from their experiences. Principals were facilitators of shared governance, who played the role of a partner in the decision-making process. More importantly, principals benefited from the idea of shared governance.

The principals in this study benefited from shared governance in two significant ways. First, the principals

gained more competent teachers. Second, the principals had the time to redirect their energies into other responsibilities (Karant, 1989). Thus, Karant (1989) states that, "supervision can be dynamic in empowered situations if administrators are philosophically committed to the concept" (p. 29).

Summary

This review of the literature highlights the variety of definitions and categorizations of power. The concepts of leadership and power have generated lively interest, debate, and occasionally confusion throughout the evolution of management thought (Hersey et al., 1988). The complexities involved in arriving at a consistent and coherent definition of power are apparent. In any organizational structure, leaders cannot escape the use of power. Dahl's (1957) concept of power expressed the discomfort that individuals often encounter when attempting to explain power and influence:

If so many people at so many different times have felt the need to attach the label power, or some thing like it to some Thing they believe they have observed, one is tempted to suppose that the Thing must exist; and not only exist, but exist in a form capable of being studied more or less systematically ... a Thing to which people attach many labels with subtly or grossly different ways in many different cultures is probably not a Thing at all but many things. (p. 201)

Principals occupy powerful positions. They are the sole evaluators of their teachers. Principals can recommend the retention or firing of teachers and make teacher assignments. Because principals occupy powerful positions, it is imperative that they join forces with teachers to combine their powers for the good of the schools.

Under constant pressure to produce quick results, principals are sometimes tempted to use an autocratic approach to impose change and reform. Such an approach may accomplish the task in an expedient manner, but ultimately the approach is self-defeating (Herlihy & Herlihy, 1985). Moreover, teachers have expressed dissatisfaction with having little or no input into the decisions which affect their work environment. Based on the findings of research studies, the use of personal power is the most effective means of inducing change (Bacharach & Lawler, 1980; Bachman et al., 1966; Hornstein et al., 1968; Stimson, 1987).

The theories of job satisfaction emphasize the need to understand human relationships. One explanation for this need is due largely to the human problems which plague today's work organizations (Miskel et al., 1980). Examples of these human problems are absenteeism, militancy, and lack of commitment to the job itself.

The measurement of job satisfaction and job-related stress must be taken into consideration for the well-being of classroom teachers (Pelsma, Richard, Harrington & Burry, 1989). The stressful situations that teachers experience

should not be ignored.

Individuals in leadership positions may positively or negatively affect the level of job satisfaction of employees. Therefore, principals, as leaders of their schools, must have a clear understanding of power bases and how these power bases can affect teacher satisfaction. Peters and Waterman (1982) pointed out that:

Leadership over human beings is exercised when persons with certain motives and purposes mobilize, in competition or conflict with others, institutional, political, psychological and other resources so as to arouse, engage and satisfy the motives of followers. Leadership, unlike naked power wielding, is thus inseparable from followers' needs and goals. (p. 83)

Chapter Three

Methodology

Introduction

This chapter provides an overview of the methodology and procedures used to examine the use of power bases by middle school and high school principals and how these power bases affect teachers' satisfaction with their work and supervisor. A description of the survey instruments used is included. Further, a description of the survey population and the methods for distributing the survey instruments has also been included. Finally, the section on data analysis provides a description of how the data from the survey instruments were analyzed.

In order to determine whether a principal's power style affects the level of satisfaction of his or her teachers, survey research was used to collect the necessary data. Survey research is frequently used to collect data regarding opinions and exploring the relationship between variables (Borg & Gall, 1983). Babbie (1973) contends that one of the main purposes of survey research is to make some descriptive statements about a specific population. In this study, some descriptive assertions are made regarding the relationship between the level of satisfaction of middle school and high school teachers and their principal's use of power. The study was conducted in the Baltimore City Public School System (BCPS).

Procedures

The procedures for collecting data for this study included: (a) distribution of survey instruments to 14 high school principals and 27 middle school principals, and (b) the distribution of survey instruments to 754 teachers--270 middle school teachers and 484 high school teachers. The survey instruments were distributed to principals before they were distributed to teachers for two reasons. First, the principals had to agree to participate before the tenured teachers in the respective schools could be asked to participate. Second, the principals' perception of their use of power had to be determined. Next, two surveys were distributed to tenured teachers in order to determine the teachers' perception of their principal's use of power and to determine the teachers' level of satisfaction with their principal's power style and with their work.

In order to conduct this study in the Baltimore City Public Schools (BCPS), permission was obtained from Mr. Lawrence Howe, Director of Research and Evaluation. Due to the confidentiality of the responses given by the participants and the number of participants involved in the study, final approval had to be granted by the Superintendent of Public Instruction for Baltimore City Public Schools. In March 1990, the researcher received a letter from Dr. Richard Hunter, Superintendent of the BCPS at the time this study was conducted, granting permission to conduct the study in this school system (see Appendix A).

Upon receiving final approval from the Superintendent, the researcher was able to obtain from the Division of Human Resources and Labor Relations address data on the principals and their respective schools.

After receiving the address data, each middle school and high school principal was sent a questionnaire package through the interoffice mail service. The questionnaire package included the following items: (a) a questionnaire to be completed by each participant (see Appendix B), (b) a cover letter (see Appendix C) explaining the survey instruments, how to return them when finished, a number to call if there were problems, and a thank you note, (c) a stamped envelope addressed to the researcher, and (d) two survey instruments. In addition, the cover letter indicated that principals were being asked to participate with the understanding that if they agreed to participate, the tenured teachers on their faculty would also be asked to participate.

Survey Instruments

For the purposes of this study, three survey instruments were used to collect data about the power bases used by the principals and the teachers' level of satisfaction. These instruments included (a) the Power Perception Profile: Perception of Self version (PPPS) (see Appendix D); (b) the Power Perception Profile: Perception of Other version (PPPO) (see Appendix E); and (c) the Cornell Job Description Index (JDI) (see Appendix F). A description

of the surveys and issues regarding the validity and reliability of the instruments are presented below.

Power Perception Profile. The Power Perception Profile (PPP) included 21 pairs of responses which were developed by Hersey et al. (1988). The PPP was based in large part on Natemeyer's dissertation (1975). Natemeyer's classification of power styles was based on French and Raven's model of the classifications of power. As a part of his study, Natemeyer paired one of French and Raven's five power bases with each of the remaining four, to yield 10 possible combinations (Natemeyer, 1975, p. 49). The purpose of this paired-comparison method was to force a choice between pairs of reasons for compliance with authority, based on the reason that is perceived as being more important to the respondent.

In the PPP used for this study, the seven power bases yielded 21 possible pairs of reasons given by people when they were asked why they do the things their leaders suggested or wanted them to do (Hersey et al., 1988). Two versions of the instrument were used for the present analysis. The principals were asked to complete the PPPS. The PPPS was used to determine the principal's perception of his or her use of power. The teachers were asked to complete the PPPO. The PPPO was used to determine the teacher's perception of their principal's use of power. Therefore, the power bases used most often by principals were determined based on responses from the principal and the tenured teachers in his or her school. Each statement

in the PPP reflects one of the seven power bases.

The respondents were given specific instructions for completing the instruments. First, the respondents were to consider the importance of each alternative and to make their judgment based on the importance of each alternative. Secondly, the respondents were asked to allocate three points between the two alternatives given in each pair. For example, the teachers were told:

Allocate three points between A and B.

- A. ____ This person can administer sanctions and punishments to those who do not cooperate.
- B. ____ I like this person and want to do the things that please.

The responses were tallied so that each power base had a raw score. The range of scores was from 0-18. After all responses were tallied, the raw scores for each of the power bases were compared. Consequently, the researcher was able to identify the power bases used most often by each principal based on his or her perception and the perception of tenured teachers in his or her school.

The PPP was developed as a result of substantial research using the French and Raven model. In a telephone conversation with trainers from Natemeyer's office in Houston, Texas and Hersey's office in Escondido, California, the researcher was informed that the PPP is currently used in management development training. The researcher was also informed that over 1,000 managers and/or supervisors

participate in the training sessions each year. The instrument has been revised within the past four years, which indicates that it provides an up-to-date method for gathering data about power types.

The trainers were unable to provide statistical data relative to the reliability of the instrument. However, the Chronbach Alpha test for internal consistency has been applied to determine reliability. The Chronbach Alpha showed high internal consistency on four of the seven power bases, and low internal consistency on three of the seven power bases. Coercive Power (.87), Connection Power (.78), Expert Power (.85), and Referent Power (.82) were the four subtests that showed high internal consistency (Stimson, 1987, p. 50). Three of the power bases (i.e., coercive, expert, referent) that resulted in high internal consistency were developed by French and Raven. The three power bases that did not meet the Chronbach Alpha test standard for internal consistency were Legitimate Power (.40), Information Power (.58), and Reward Power (.36) (Stimson, 1987, p. 50). The analysis presented in this research is based heavily on the power bases showing high internal consistency.

To obtain information about the content validity of the PPP, the developers of the instrument have used additional instruments to gain information from their trainees. The readiness scale (Readiness Scale--Staff Member Rating Scale and Readiness Scale--Manager Rating Scale) is used to gather

information about an individual's job readiness (ability) and psychological readiness (willingness). The Lead-Self instrument is used to provide information about an individual's self-perception of his or her leadership style and the Lead-Other is used to provide information about others' perception of their leader's style (Hersey et al., 1988). The information obtained from responses on these instruments indicates that there is a relationship between (a) leadership style, (b) power bases used by the leader, and (c) the readiness of the followers. For example, leaders who engage in a "telling" leadership style tend to use more coercive power than leaders who engage in a "delegating" style of leadership. Leaders who engage in a "delegating" style use their referent power or expert power to influence behavior (Hersey et al., 1988). Leaders who use their referent power or expert power to induce compliance from or to influence others are highly effective with followers of high readiness. The developers of the PPP, based on substantial use of the instrument with their trainees, have agreed that the Power Perception Profile does ask questions and provide answers about the information that is desired.

Cornell Job Description Index. The Cornell Job Description Index (JDI) used in this study was developed by Smith et al. (1975). The instrument was used in this study to examine the teacher's level of satisfaction with their principals and work. The JDI consists of five subtests.

The subtests measure five areas of job satisfaction. These areas are: (a) the work itself; (b) the supervision; (c) the opportunities for promotion; (d) the pay; and (e) the co-workers. A sixth measure, the job in general (JIG) may be used to determine whether overall satisfaction is related to such behaviors as quitting the job, seeking a career change, or other long term actions.

In this study, the researcher focused specifically on two of the subtests, although all of the subtests were completed by the respondents. These subtests were (a) Supervision, and (b) Work on Present Job. The other subtests were not relevant to the teacher's degree of satisfaction with his or her principal. For example, the pay scale in the BCPS for teachers is a scale negotiated by three groups: the Baltimore Teachers' Union, the Board of School Commissioners, and the City of Baltimore. The principal is not involved in the negotiations.

The respondents were asked to respond to a series of short statements and adjectives in each of the job satisfaction areas. The answers were marked yes if it applied, no if it did not apply, and a ? if the respondent was undecided.

Smith et al. (1975) cite three distinct reasons for using the JDI in measuring satisfaction. These advantages are as follows:

1. The JDI is directed toward specific areas of satisfaction rather than global satisfaction.

2. The verbal level required to answer the JDI is quite low. The respondent does not have to make abstractions or understand long, vague sentences.
3. The JDI does not ask the respondent directly how satisfied he is with his work, but rather it asks him to describe his work.

The JDI subtests are discriminately different. The subtests have high reliabilities as well as discriminant and convergent validity. Critical-incident interviews and job attitude literature were used to develop each subtest. Preliminary studies of split-half estimates of internal consistency of both the direct and triadic JDI scales yielded an average corrected reliability estimate of .79 for the JDI Direct scales and .74 for the JDI Triad scales using 168 Cornell students as subjects (Smith et al., 1975). Smith et al. (1975) report that the estimated split-half internal consistencies for the final revised JDI scales, using a sample of 80 male employees from two electronic plants, have estimates over .80.

Survey Population

Baltimore City has a population of 740,000, ranking eleventh in U.S. cities (Maryland School Performance Program [MSPP], 1990). The Baltimore City Public School System has 27 middle schools, 14 senior high schools, and 118 elementary schools (MSPP, 1990). For the purpose of this study, two groups from the BCPS were invited to participate, principals from the middle schools and senior high schools

and all of the tenured teachers from middle schools and senior high schools in which principals agreed to participate.

Principals

Of the 27 middle school principals in the BCPS invited to participate, 12 principals--four females and eight males--returned the survey. One middle school principal died before the end of the school year, leaving an incomplete survey form. Three middle school principals indicated that they were retiring before the end of the school year and preferred not to participate. Of the 14 high school principals, invited to participate, 12--four females and eight males--agreed to do so.

Tenured Teachers

Two hundred seventy middle school teachers volunteered to participate in this study. These teachers were from schools in which principals had also volunteered to participate. Of the 270 volunteer participants, 148 middle school teachers returned their questionnaires. High school teachers who volunteered to participate in the study numbered 484. Of the 484, 239 teachers returned the questionnaires. The total response for tenured teachers was 387.

Distribution of Survey Instruments

A discussion of the methods used to distribute the survey instruments follows. This includes methods used to distribute the PPS, PPO, and the JDI to study the

populations.

Power Perception Profile: Perception of Self

The principals' questionnaire package was mailed to middle school and high school principals on October 15, 1990. The principals were asked to complete and return the instruments within one week of receipt. The Director of Research and Evaluation in the BCPS signed the cover letter indicating that approval had been granted from the BCPS (see Appendix C). The cover letter stated the purpose of the study and the importance of principals' participation. In addition, the cover letter sought to assure the participants of complete anonymity. During the first week of November, 1990, a second letter was mailed to principals who had not responded to the first request. Principals were asked to return the questionnaires by November 30, 1990. The third and final notice, a postcard, to remind principals to return questionnaires by the end of the month, was mailed to principals on November 25, 1990.

Table 2 depicts the numbers of questionnaire packages mailed and their rates of return.

Table 2

Number of Power Perception Profiles (Self Version)
Distributed and Returned

PRINCIPAL	DISTRIBUTED	RETURNED	% RETURNED
Middle School	27 ^a	12	48%
High School	14	12	85%
TOTAL	41	24	65%

^a One principal died during the school year and three principals retired.

On January 15, 1991, the researcher began telephoning principals who had participated in the study. The purpose of the telephone call was to thank each principal for his or her participation and to arrange to meet with each principal at his or her earliest convenience.

The purpose of this meeting was to ask permission to make a brief presentation at a faculty meeting to explain the study to tenured teachers. The researcher also requested permission to distribute questionnaire packages to tenured teachers who agreed to participate.

Power Perception Profile: Perception of Other

In the oral presentation to teachers, the following information was provided: (a) the purpose of the study, (b) that tenured teachers were invited to participate, (c) teachers' participation was voluntary, (d) contents of the

questionnaire package, and (e) a brief explanation on how the PPPO and JDI would be used in this study.

The researcher reassured teachers that their responses would remain confidential. Prior to distributing questionnaires to the teachers who volunteered to participate, the researcher reminded teachers that: (a) tenured teachers were being asked to participate, and (b) tenured teachers are those who have completed at least two years of satisfactory teaching in the BCPS, been recommended for tenure by their principal, and granted tenure by the Board of School Commissioners.

The teacher's questionnaire package contained the following items: (a) a cover letter explaining the study, (b) a questionnaire to be completed by each teacher, (c) copies of the PPPO and the JDI, and (d) a stamped self-addressed envelope. Teachers were told not to write their names on the survey instruments. They were also told that the responses to the questionnaire would be used to gain some relevant information about the respondent. For example, teachers were asked to indicate their status by placing a check next to the words tenured or non-tenured.

Table 3 depicts the distribution of questionnaire packages to teachers who volunteered to participate and the numbers of survey instruments completed and returned.

Table 3

Number of Teacher Responses to the Power Perception Profile
(Perception of Other Version) and the JDI

TEACHERS	NUMBER OF TENURED TEACHERS	RETURNED	% RETURNED
Middle School	387	148	38%
High School	535	239	45%
TOTAL	922	387	42%

Research Questions

In the discussion below, the research questions addressed by this study are presented, along with the concepts that were incorporated into the survey items to collect data needed to present the findings of this research effort.

Research Question 1. To what extent is there a correlation between teacher satisfaction with work and supervisor and the teacher's perceived classification of his or her principal's use of power?

To collect data for research question 1, the PPPO contained items used to identify the power bases most often used by the principal (i.e., expert, referent, legitimate, reward, connection, coercive, and information). Using the PPPO, the principal's reliance on a particular power base

was based on the teachers' perceptions of their principal's use of power. The teachers' perceptions of the principal's use of power is considered the most objective for this research question because the teachers' perceptions determine their reason for cooperating with the principal.

The JDI completed by teachers contained subtests used to measure the teacher's level of satisfaction with his or her supervisor and his or her work. On this instrument, the scores could range from 0 to 54, with 54 being the maximum score.

Research Question 2. To what extent is there congruence between the principal's self-perception of his or her use of power and the teacher's perception of the principal's use of power?

Using the items encompassed by the PPPO, the researcher was able to explore the relationship between the principal's perception of his or her use of power and the teacher's perception of his or her principal's use of power and determine the degree of congruence. The teacher's responses on the PPPO, the principal's responses on the PPS were used to determine whether congruence exists between the teachers' perception and the principals' perception.

Research Question 3. Are there differences in the middle school and high school principals' uses of power based on their teachers' perceived classifications?

In order to collect data for research question 3, the PPS and the PPPO contained items used to explore the

principal's use of power bases. The responses given by teachers and principals on the PPP allows the researcher to compare the principals' perception of their use of the seven power bases to how the teachers, as a group, perceive their principals' use of the seven power bases. Based on the responses of the principals and the teachers, the researcher was able to group the power bases most often identified by principals and teachers into three categories. These categories are positional power (i.e., coercive, legitimate, and reward), personal power (i.e., expert, referent, information, and connection), and a combination of personal and positional power.

Data Analysis

A discussion of the data analysis methods that were used to conduct this study and the data analysis procedures used for the survey instruments follows.

The survey instruments were analyzed with the assistance of computer support personnel in the Center for Educational Research and Development (CERD), located at the Baltimore County Campus of the University of Maryland. The responses of all candidates were coded on optical scan answer sheets and entered into the computer to conduct data tabulations and other data analysis procedures. In order to further maintain the confidentiality of the survey responses, no one except this researcher and statisticians from CERD handled the survey answer sheets.

The summary data from the survey instruments were

analyzed using descriptive statistics. These descriptive statistics included the mean (i.e., measures of central tendency); range and standard deviation (i.e., measures of central dispersion); and number (i.e., tallies, frequencies, and percentages).

For hypotheses based on two-variable relationships (1.1-1.7), Pearson Product-Moment Correlations were calculated for the Principal Power Base-Teacher Satisfaction relationships. In addition, an independent t test was performed on selected groups to determine if statistically significant mean differences existed between the responses on certain survey instrument items. With the exception of research question 1, an independent t test was run on the data set for each research question.

Summary

This chapter contained an overview of the design for this study of power bases and teacher satisfaction. Survey research was used to collect the necessary data to determine the power bases most often used by the principals and to determine the teachers' level of satisfaction about their work and supervisor. The procedures for data collection included the distribution of three instruments. Prior to distributing the instruments, permission was obtained from the Superintendent of Public Schools in the BCPS. An explanation of how the instruments were scored and the statistical analyses are included.

Chapter Four

Findings

Introduction

The purpose of this descriptive study was to explore the use of power by middle school and high school principals in the BCPS. Specifically, the study was conducted to examine the relationship between principals' use of power bases and their teachers' levels of satisfaction with their work and supervisor.

Survey Findings

The findings of this study are the result of the following analyses: (a) an analysis of the responses provided by 12 middle school and 12 high school principals on the Power Perception Profile: Perception of Self (PPPS); (b) an analysis of the responses provided by 148 middle school teachers and 239 high school teachers on the Power Perception Profile: Perception of Other (PPPO); (c) an analysis of the responses provided by 148 middle school teachers and 239 high school teachers on the Cornell Job Description Index (JDI).

All mean values discussed in the findings associated with the PPPS and PPPO were based on a range of 0 to 18. The mean values for the JDI were based on a range of 0 to 54. For each research question, with the exception of research question 1, an independent t test was run on the data set. The statistical hypotheses and findings are

presented for each research question.

Research Question 1

To what extent is there a correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of his or her principal's use of power?

Statistical Hypothesis 1.1

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *coercive power*.

Statistical Hypothesis 1.2

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *connection power*.

Statistical Hypothesis 1.3

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *expert power*.

Statistical Hypothesis 1.4

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *information power*.

Statistical Hypothesis 1.5

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *legitimate power*.

Statistical Hypothesis 1.6

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *referent power*.

Statistical Hypothesis 1.7

There is no statistically significant correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of their principal's use of *reward power*.

Table 4

Correlation Between Middle School Principal's Power Base and Middle School Teacher's Level of Satisfaction as Measured by the PPPO and JDI

Level	Power Base	Supervisor Satisfaction	Work Satisfaction
Middle School	Coercive	-.6308 P=.001	-.6242 P=.001
	Connection	-.3658 P=.001	-.3202 P=.001
	Expert	.7191 P=.001	.5920 P=.001
	Information	.0762 P=.358	.1970 P=.016
	Legitimate	-.4767 P=.001	-.3360 P=.001
	Referent	.6461 P=.001	.4730 P=.001
	Reward	-.3264 P=.001	-.2162 P=.008

N = 148

P = < .01

The findings leading to the rejection or acceptance of statistical hypotheses 1.1 to 1.7 were based, first, on responses given by middle school teachers on the PPPO and two of the subtests on the JDI. The two subtests were Supervision and Work on Present Job. The correlations for the middle school respondents are shown in Table 4. A negative correlation between the principal's use of a specific power base and teachers' satisfaction with work and supervisor indicates that the teachers were dissatisfied

with their principal's use of the power base. A positive correlation between the principal's use of a specific power base and teacher satisfaction with work and supervisor indicates that there was a level of satisfaction with the principal's use of the power base.

Findings. There was a statistically significant negative correlation between the middle school principal's use of coercive power and the middle school teachers' satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.1 was rejected.*

There was a statistically significant negative correlation between the middle school principal's use of connection power and the middle school teachers' satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.2 was rejected.*

There was a statistically significant positive correlation between the middle school principal's use of expert power and middle school teachers' satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.3 was rejected.*

There was no statistically significant correlation between the middle school principal's use of information power and the middle school teachers' satisfaction with work and supervisor. Because information power is categorized as a personal power base (see Chapter 1), the positive correlation is in the expected direction; nevertheless, the correlation is weak and not significant. Therefore,

statistical hypothesis 1.4 was accepted.

There was a statistically significant negative correlation between the middle school principal's use of legitimate power and the middle school teachers' satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.5 was rejected.*

There was a statistically significant positive correlation between the middle school principal's use of referent power and the middle school teachers' satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.6 was rejected.*

There was a statistically significant negative correlation between the middle school principal's use of reward power and the middle school teachers' satisfaction with supervisor. Therefore, with respect to supervisor satisfaction, *statistical hypothesis 1.7 was rejected.* The negative correlation between the middle school principal's use of reward power and the teachers' work satisfaction was not significant. Therefore, with respect to work satisfaction, *statistical hypothesis 1.7 was accepted.*

The findings leading to the rejection or acceptance of statistical hypothesis 1.1 to 1.7 were based, secondly, on responses given by high school teachers on the PPPO and the two subtests on the JDI. The correlations for high school respondents are shown in Table 5.

Table 5

Correlation Between High School Principal's Power Base and High School Teacher's Level of Satisfaction as Measured by the PPPO and JDI

Level	Power Base	Supervisor Satisfaction	Work Satisfaction
High School	Coercive	-.4859 P=.001	-.3866 P=.001
	Connection	-.3182 P=.001	-.2359 P=.001
	Expert	.5211 P=.001	.4236 P=.001
	Information	.0284 P=.662	.1374 P=.034
	Legitimate	-.1421 P=.028	-.1273 P=.049
	Referent	.4566 P=.001	.2510 P=.001
	Reward	-.1886 P=.003	-.1033 P=.111

N = 239

P = < .01

Findings. There was a statistically significant negative correlation between the high school principal's use of coercive power and the high school teachers' satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.1 was rejected.*

There was a statistically significant negative correlation between the high school principal's use of connection power and the high school teachers' satisfaction

with work and supervisor. Therefore, *statistical hypothesis 1.2* was rejected.

There was a statistically significant positive correlation between the high school principal's use of expert power and teacher satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.3* was rejected.

There was no statistically significant correlation between the principal's use of information power and teacher satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.4* was accepted.

There was no statistically significant correlation between the high school principal's use of legitimate power and teacher satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.5* was accepted.

There was a statistically significant positive correlation between the high school principal's use of referent power and teacher satisfaction with work and supervisor. Therefore, *statistical hypothesis 1.6* was rejected.

There was a statistically significant negative correlation between the high school principal's use of reward power and teacher satisfaction with supervisor. The correlation between the high school principal's use of reward power and teacher satisfaction with work was not significant. Therefore, *statistical hypothesis 1.7* was rejected, with respect to teacher satisfaction with

supervisor. *Statistical hypothesis 1.7* was accepted with respect to teacher satisfaction with work.

Research Question 2

To what extent is there congruence between the principal's self-perception of his or her use of power and the teacher's perception of the principal's use of power?

Statistical Hypothesis 2.1

There is no statistically significant difference in the means of the teachers' perception of their principal's use of power and the principal's self-perception of his or her use of power.

Table 6

Independent t-Test Between Middle School Principals' Self-Perception of Their Use of Power and Middle School Teachers' Perception of Their Principal's Use of Power for Research Question 2

Power Base	Group Means		df	t Test
	I	II		
Coercive	8.85	6.41	158	2.47*
Connection	7.00	4.58	158	2.89*
Expert	9.66	12.25	158	-2.71*
Information	8.70	9.16	158	- .64
Legitimate	12.33	12.16	158	.21
Referent	5.88	7.33	158	-1.24
Reward	10.47	10.91	158	- .74

N = 148 Middle School Teachers (Group I)

N = 12 Middle School Principals (Group II)

P = < .05

Findings. There were differences in the means of the middle school teachers' perception of their principal's use of power and the middle school principal's self-perception of his or her use of power. Statistically significant differences in the means were found with (a) coercive power, (b) connection power, and (c) expert power. Therefore, statistical hypothesis 2.1 was rejected.

Table 7

Independent t-Test Between High School Principals' Self-Perception of Their Use of Power and High School Teachers' Perception of Their Principal's Use of Power for Research Question 2

Power Base	Group Means		df	t Test
	I	II		
Coercive	7.96	8.33	249	- .33
Connection	6.28	3.91	249	2.56*
Expert	11.39	13.00	249	-1.60
Information	9.01	8.91	249	.13
Legitimate	11.90	11.16	249	1.05
Referent	6.56	8.58	249	-1.85
Reward	9.75	9.16	249	.94

N = 239 High School Teachers (Group I)

N = 12 High School Principals (Group II)

p = < .05

Findings. There was a statistically significant difference in means between the high school principal's self-perception of his or her use of power and the high school teachers' perception of their principal's use of power with only one power base. This power base was connection power. Therefore, statistical hypothesis 2.1 was accepted for high school principals.

Research Question 3

Are there differences in the middle school and high

school principals' uses of power based on their teachers' perceived classifications?

Statistical Hypothesis 3.1

There is no statistically significant difference in the means between the principals classified as using personal power, those who use positional power, and those who use a combination of personal and positional power. Tables 8 and 9 present the analysis of the data for the middle school principals. Tables 11 and 12 present the analysis of the data for high school principals.

Table 8

Analysis of Variance Between Middle School Teacher Ratings of Principals' Power Styles
for Research Question 3

Power Base	Group	N	Source	SS	df	MS	F	P
Coercive	Positional	91	Main Effects	218.61	2	109.30	11.38	.001
	Personal	50						
	Personal/Positional	7						
Connection	Positional	91	Main Effects	90.71	2	45.35	6.61	.002
	Personal	50						
	Personal/Positional	7						
Expert	Positional	91	Main Effects	154.99	2	77.49	7.79	.001
	Personal	50						
	Personal/Positional	7						
Information	Positional	91	Main Effects	.940	2	.470	.077	.926
	Personal	50						
	Personal/Positional	7						
Legitimate	Positional	91	Main Effects	145.61	2	72.80	10.98	.001
	Personal	50						
	Personal/Positional	7						

Table 8 (Continued)

Analysis of Variance Between Middle School Teacher Ratings of Principals' Power Styles
for Research Question 3A

Power Base	Group	N	Source	SS	df	MS	F	P
Referent	Positional	91	Main Effects	360.63	2	180.32	13.57	.001
	Personal	50						
	Personal/Positional	7						
Reward	Positional	91	Main Effects	45.81	2	22.90	6.31	.002
	Personal	50						
	Personal/Positional	7						

Findings. An analysis of variance indicates that the middle school principals fell into three groups based on the middle school teachers' perceptions of their principal's use of the power bases. The groups were positional power, personal power, or a combination of personal and positional power. The comparisons between the three groups were significant for (a) coercive power, (b) connection power, (c) expert power, (d) legitimate power, (e) referent power, and (f) reward power. Therefore, statistical hypothesis 3.1 can be rejected for these comparisons. For the power bases in which the null hypothesis was rejected, independent t tests were performed to determine where the differences existed between the three groups. Table 9 presents the independent t tests where the significant differences in the means are identified.

Table 9
Independent t-Test Between Power Groups for Middle School
Teachers

Power Base	Group	Group Means		df	t Test
Coercive	I v. II	9.78	7.54	97	4.06*
	II v. III	7.54	6.25	56	1.06
	I v. III	9.78	6.25	139	3.21*
Connection	I v. II	6.89	6.68	139	.45
	II v. III	6.68	10.25	56	-3.12*
	I v. III	6.89	10.25	97	-3.92*
Expert	I v. II	9.13	11.08	139	-3.44*
	II v. III	11.08	7.75	56	2.69*
	I v. III	9.13	7.75	97	1.25*
Information	I v. II	8.71	8.74	139	-.06
	II v. III	8.74	8.37	.56	.735
	I v. III	8.71	8.37	97	.42
Legitimate	I v. II	12.87	11.02	139	4.00*
	II v. III	11.02	14.38	16.65	-3.22*
	I v. III	12.87	14.38	139	4.00*
Referent	I v. II	4.86	8.04	139	-4.85*
	II v. III	8.04	3.88	97	5.48*
	I v. III	4.86	3.88	139	2.08*
Reward	I v. II	10.68	9.84	97	2.47*
	II v. III	9.84	12.13	19.29	-4.97*
	I v. III	10.68	12.13	139	-2.18*

Note. I = Principals who rely on positional power, II = Principals who rely on personal power, III = Principals who rely on a combination of personal and positional power.

Findings. There was a statistically significant difference in the means between the power groups for (a) coercive power, (b) connection power, (c) expert power, (d) legitimate power, (e) referent power, and (f) reward power. As indicated in Table 9, there does not appear to be a consistent pattern between the three groups for coercive power, and connection power. However, the three groups are significantly different from each other for legitimate power, referent power, reward power, and expert power. Therefore, statistical hypothesis 3.1 can be rejected consistently for legitimate power, referent power, reward power, and expert power.

Table 10

Analysis of Variance Between High School Teacher Ratings of Principals' Power Styles for Research Question 3

Power Base	Group	N	Source	SS	df	MS	F	P
Coercive	Positional	89	Main Effects	164.75	2	82.37	6.03	.003
	Personal	95						
	Personal/Positional	55						
Connection	Positional	89	Main Effects	18.50	2	9.25	.932	.395
	Personal	95						
	Personal/Positional	55						
Expert	Positional	89	Main Effects	78.61	2	39.30	3.43	.034
	Personal	95						
	Personal/Positional	55						
Information	Positional	89	Main Effects	5.07	2	2.53	.379	.685
	Personal	95						
	Personal/Positional	55						
Legitimate	Positional	89	Main Effects	164.75	2	82.37	6.03	.003
	Personal	95						
	Personal/Positional	55						

Table 10 (Continued)

Analysis of Variance Between High School Teacher Ratings of Principals' Power Styles
for Research Question 3

Power Base	Group	N	Source	SS	df	MS	F	P
Referent	Positional	89	Main Effects	234.07	2	117.03	8.95	.001
	Personal	95						
	Personal/Positional	55						
Reward	Positional	89	Main Effects	40.62	2	20.31	4.62	.011
	Personal	95						
	Personal/Positional	55						

Findings. The comparison between the power groups for high school principals was significant for five power bases: (a) coercive power, (b) expert power, (c) legitimate power, (d) referent power, and (e) reward power. Statistical hypothesis 3.1 can be rejected for these comparisons for the high school principals. Independent t tests were performed to determine where the differences existed between the three groups. Table 11 presents the results of the independent t tests for high school principals. The significant differences in the means are indicated for the power groups.

Table 11

Independent t-Test Between Power Groups for High School Teachers for Research Question 3

Power Base	Group	Group Means		df	t Test
Coercive	I v. II	8.75	7.00	181	3.19*
	II v. III	7.00	8.47	148	-2.44*
	I v. III	8.75	8.47	141	.45
Connection	I v. II	6.16	6.61	181	-1.00
	II v. III	6.61	5.93	148	1.18
	I v. III	6.16	5.93	141	.46
Expert	I v. II	11.72	11.65	181	.15
	II v. III	11.65	10.33	148	2.24*
	I v. III	11.72	10.33	141	2.40*
Information	I v. II	8.84	9.05	181	-.53
	II v. III	9.05	9.21	148	-.38
	I v. III	8.84	9.21	141	-.90
Legitimate	I v. II	12.15	11.66	181	1.48
	II v. III	11.66	11.96	87.85	-.65
	I v. III	12.15	11.96	141	.42
Referent	I v. II	5.36	7.62	181	-4.45*
	II v. III	7.62	6.71	148	1.41
	I v. III	5.36	6.71	93.29	-2.04*
Reward	I v. II	9.86	9.30	177.42	1.82*
	II v. III	9.30	10.36	148	-2.80*
	I v. III	9.86	10.36	141	-1.49

Note. I = Principals who rely on positional power, II = Principals who rely on personal power, III = Principals who rely on a combination of personal and positional power.

Findings. There was a significant difference in the means between the power groups for (a) coercive power, (b) referent power, (c) expert power, and (d) reward power. The use of the independent t test did not produce any consistent pattern. Groups I and II were consistently different for (a) coercive power, (b) referent power, and (c) reward power. Groups II and III were consistently different for (a) coercive power, (b) expert power, and (c) reward power. Based on the data analysis just presented for middle school and high school principals, we can reject statistical hypothesis 3.1. There is, however, little consistency within the groups on which the rejection was based.

Summary

The findings associated with this study were presented in this chapter. An explanation of the analyses for each instrument preceded the research questions undertaken in this study. Based on the respondents' responses on the Power Perception Profile: Perception of Self, Power Perception Profile: Perception of Other, and the Cornell Job Description Index, the findings for each statistical hypothesis are provided.

Chapter Five

Summary, Conclusions, and Recommendations

Introduction

This chapter provides a summary of the study on middle school and high school principals' uses of power and how their use of power bases affects teacher satisfaction. The summary includes (a) an overview of the problem, (b) the research questions, (c) the research methodology and design, and (d) the findings for each research question. The summary is followed by conclusions and recommendations.

Summary

Statement of the Problem

The purpose of this descriptive study was to explore the use of power bases by middle school and high school principals in the BCPS. Specifically, the study was conducted to examine the relationship between the principals' use of power bases and their teachers' expressed level of satisfaction with work and supervisor. Three research questions associated with power bases and teacher satisfaction with work and supervisor were investigated in the study. The research questions are presented below.

Research Question 1. To what extent is there a correlation between teacher satisfaction with work and supervisor, and the teacher's perceived classification of his or her principal's use of power?

Research Question 2. To what extent is there

congruence between the principal's self-perception of his or her use of power and the teachers' perception of their principal's use of power?

Research Question 3. Are there differences in the middle school and high school principals' uses of power based on their teachers' perceived classifications?

Research Methodology

This descriptive study was conducted by means of survey research. The population for the descriptive study included (a) middle school principals, (b) middle school teachers, (c) high school principals, and (d) high school teachers in the BCPS.

The principals' self-perception of their uses of power and the teachers' perceptions of their principals' uses of power were needed to identify the power bases used most often by the principals. The PPPS was used to gather data about each principal's self-perception of his or her use of power. The PPPO was used to gather data about the teachers' perceptions of their principals' use of the power bases. Two sub-tests on the JDI were used to gather data about the teachers' level of satisfaction with their work and principal. The two sub-tests were (a) Supervision and (b) Work on Present Job.

The analyses used to determine the relationship between the principal's use of the power bases and teacher satisfaction with work and supervisor were (a) an analysis of the responses of 148 middle school teachers on the PPPO

and JDI, and (b) an analysis of the responses of 239 high school teachers on the PPPO and JDI.

The principals' responses on the PPS and the teachers' responses on the PPPO were used to determine the extent of congruence between teachers' perceptions of their principals' uses of power and the principals' self-perception of their own uses of power. An analysis of 24 principals' responses and 387 teachers' responses was done to determine the extent of congruence between the two groups' perceptions. The 24 principals and 387 teachers were from middle schools and high schools in the BCPS.

The principals were categorized as positional or personal based on the power bases they used most to induce compliance from or influence the behavior of their teachers. The results of the analysis of variance revealed three categories: (a) positional, (b) personal, and (c) personal and positional.

The combination of the personal and positional power category indicates that the scores were equal on two or more of the personal power bases and the positional power bases. The personal and positional category was included, therefore, to lessen the degree of error in the analysis.

Summary of Findings for Research Questions

A summary of the findings for the research questions under investigation in this study are presented below.

Research Question 1

To what extent is there a correlation between

satisfaction with work and supervisor, and the teacher's perceived classification of his or her principal's use of power?

Middle School Teachers. The middle school teachers' responses on the PPPO and the JDI revealed that there were negative correlations between the middle school principal's use of *coercive power*, *connection power*, and *legitimate power* and their teachers' expressed level of satisfaction with work and supervisor. There was a statistically significant negative correlation between the middle school principal's use of *reward power* and their teachers' satisfaction with supervisor. The correlation between the principal's use of *reward power* and teacher satisfaction with work was also a negative correlation. The correlation was in the expected direction; however, the correlation was not significant. Reward power, coercive power, and legitimate power are positional power bases. *Connection power* is in the personal power category; nevertheless, the middle school teachers' responses indicate that they were dissatisfied with the principal's use of connection power.

There were statistically significant positive correlations between the middle school principal's use of *expert power* and *referent power* and the teacher's expressed level of satisfaction with work and supervisor. Referent power and expert power are classified as personal power bases. The positive correlation between *information power* and teacher satisfaction with work and supervisor was in the

expected direction, because information power is classified as a personal power base. The correlation, however, was not significant.

High School Teachers. The high school teachers' responses on the PPPO and the JDI revealed that there were statistically significant negative correlations between the high school principal's use of *coercive power* and *connection power* and the teacher's expressed level of satisfaction with work and supervisor. There was a statistically significant negative correlation between the principal's use of *reward power* and teacher satisfaction with supervisor. The negative correlation between the principal's use of *reward power* and teacher satisfaction with work was in the expected direction. The correlation was not significant. Legitimate power is classified as a positional power base; therefore, the negative correlation between the principal's use of the *legitimate power* base and teacher satisfaction with work and supervisor was in the expected direction. The correlation was not significant.

There were statistically significant positive correlations between the principal's use of *expert power* and *referent power* and their teachers' expressed level of satisfaction with work and supervisor. The positive correlation between the principal's use of *information power* was in the expected direction, because information power is classified as a personal power base. The positive correlation was not significant based on the high school

teachers' responses.

Research Question 2

To what extent is there congruence between the principal's self-perception of his or her use of power and the teacher's perception of the principal's use of power?

Middle School Principals and Teachers. There were statistically significant differences in the means of the middle school teachers' perceptions of their principal's use of power and the middle school principals' self-perception of their use of power with (a) coercive power, (b) connection power, and (c) expert power. There were differences in the means with the four remaining power bases, i.e., information power, legitimate power, referent power, and reward power; however, the differences in the means were not significant.

High School Principals and Teachers. There was a statistically significant difference in the means between the high school principals' self-perception of their uses of connection power and the high school teachers' perception.

Research Question 3

Are there differences in the middle school and high school principals' uses of power?

Middle School Principals. There were statistically significant differences in the means between the middle school principals' use of positional power, personal power, and a combination of personal and positional power with (a) coercive power, (b) connection power, (c) expert power, (d)

legitimate power, (e) referent power, and (f) reward power.

High School Principals. There were statistically significant differences in the means between the high school principals' use of positional power, personal power, and a combination of personal and positional power with (a) coercive power, (b) expert power, (c) legitimate power, (d) referent power, and (e) reward power.

Conclusions

Based on this study, the following conclusions were drawn about the middle school and high school principal's use of power and teacher satisfaction with work and supervisor.

A leader's use of coercive power is viewed as inducing compliance from or influencing others through the use of force or punishment (French & Raven, 1959; Hersey & Natemeyer, 1988).

Conclusion 1. The principal's use of coercive power is associated with teacher dissatisfaction about their principal and their work.

This conclusion was reached as a result of the statistically significant negative correlation between the principal's use of coercive power and teacher satisfaction with work and supervisor for middle school and high school teachers in the BCPS. Consistent with the findings of other research studies, there is a negative correlation between a leader's use of coercive power and subordinate satisfaction with work and supervisor (Natemeyer, 1975; Stimson, 1987).

Connection power is based on the leader's "connections" with influential or important persons "inside" or "outside" the organization (Hersey & Goldsmith, 1972; Hersey & Natemeyer, 1988). A leader's reliance on his or her connections to induce compliance from or influence others is an indication that the leader wants to please persons who are perceived as powerful individuals.

Conclusion 2. The principal's use of connection power is associated with teacher dissatisfaction about their principal and their work.

This conclusion is supported with the statistically significant negative correlation between the principal's use of connection power and the middle school and high school teachers' dissatisfaction with their work and principal. The negative correlation between the principal's use of connection power and teacher satisfaction with work and supervisor is opposite the expected direction. It was believed that teachers would view their principals' connections as a form of power that could benefit the teachers and the students.

The connections with influential or powerful people, however, are not inherent in the position of principal. The connections are gained from the principal's use of his or her personal traits. The middle school and high school teachers in the BCPS apparently do not value their principal's connections with "powerful" people inside or

outside the organization. It is also apparent that principals who are perceived as being "well-connected" with other people do not increase their power to influence or gain compliance from their teachers. Connection power, therefore, has little value in teachers' satisfaction with their work and their principal.

Expert power is based on a leader's possession of expertise, skill, knowledge, judgment, and experience (French & Raven, 1959; Hersey & Natemeyer, 1988). A leader's use of expert power is viewed as inducing compliance or influencing others through the leader's use of his or her expertise, skill, and knowledge about their job and the organization.

Conclusion 3. The principal's use of *expert power* is associated with teacher satisfaction about their principal and their work.

There was a positive correlation between the principal's use of expert power and teacher satisfaction with work and supervisor for middle school and high school teachers in the BCPS. The findings from other studies have indicated that satisfaction and performance are highly correlated with leaders who rely on their expertise, skill, and knowledge in attempts to influence behavior (Bachman et al., 1966; Isherwood, 1973; Ivancevich & Donnelly, 1970). The findings of this study indicate that teachers in the BCPS are more satisfied with their jobs and leader if influence attempts are the result of their principal's

expertise, skill, and knowledge rather than his or her use of coercion and connections.

Information power is based on the leader's possession of or access to information that is perceived as valuable to others (Hersey & Nagemeyer, 1988; Raven & Kruglanski, 1975). The principal's use of information power indicates that the principal uses his or her information to induce compliance from or to influence the behavior of teachers.

Conclusion 4. The use of *information power* by principals does not appear to affect teachers' satisfaction with their work and principal.

The fact that principals are able to use information power to influence teachers implies that teachers want to know "what is going on" in their school or school system, regardless of whether it directly affects them (Stimson, 1987). Information power was one of the power bases with low reliability; therefore, the researcher was cautious in drawing conclusions.

The positive correlations between the middle school and high school principals' use of information power and the middle school and high school teachers' satisfaction with work and supervisor were in the expected direction, although the correlations were weak and not significant.

Teachers feel a need to have information shared with them so that they can actively participate in the decision-making process (Belasco & Alutto, 1972; Duke et al., 1980).

Teachers want to believe that their principal cares about them and supports their efforts. Some information that is shared with teachers enhances their desire to become more effective.

The manner in which principals share information affects the teachers' perceived value of this power base. Information that is shared by principals must be communicated effectively. The principal must also decide if certain information should be shared with his or her teachers. For example, the principal's use of information power is more valuable to teachers if the information improves the personal relationship between the principal and the teacher. The interpretations of the usefulness of this power could vary among teachers, thereby contributing to its low internal reliability.

Legitimate power is based on the position held by the leader in the organization (French & Raven, 1959; Hersey & Natemeyer, 1988). A leader high in legitimate power induces compliance from or influences others because they feel that the leader has the right by virtue of position in the organization to expect that suggestions will be followed.

Conclusion 5. The association between principal's use of legitimate power and teacher satisfaction with work and their principal is inconclusive.

There was a statistically significant negative correlation between the middle school principals' use of

legitimate power and the middle school teachers' satisfaction with work and supervisor. There was no statistically significant correlation between the high school principals' use of legitimate power and the high school teachers' satisfaction with work and supervisor. These findings must be interpreted cautiously because the legitimate power base has also shown low internal reliability (See Chapter Three).

The findings of Cox and Wood (1980) indicate that teachers become alienated when they perceive that the organizational hierarchy of authority is rigid and that the degree of job codification is high. Teachers want to have some degree of control in their organization (Cox & Wood, 1980; Tannenbaum, 1962). Hornstein et al. (1968) concluded that teachers experience their greatest satisfaction with their principals and their jobs when they are mutually influential. Teachers are less likely to perceive a strong authoritarian structure when decision-making is shared (Hoy & Sousa, 1984). The middle school principal's reliance on legitimate power, however, may create a perception among middle school teachers that their feelings or ideas are of little concern. Once teachers perceive that their opinions are not considered in the decisions made that affect them, they are almost sure to become alienated.

Research studies have shown that a leader's use of legitimate power may not be the optimum choice when attempting to induce compliance and that the use of

legitimate power does not enhance organizational effectiveness (Bachman et al., 1968; Ivancevich & Donnelly, 1970).

Teachers do not want to become involved in all of the decisions made by the principals; consequently, principals must be able to determine the conditions conducive to effective participation of teachers (Bridges, 1967). Teachers are satisfied, however, with principals who make an effort to use their legitimate power less to induce compliance from teachers or to influence their behavior.

Based on their teachers' perceptions, the differences in the means between the middle school principals' use of legitimate power (12.33) and the high school principals' use of legitimate power (11.90) are not statistically significant. The differences in the means between the middle school principals' use of expert power (9.66) and the high school principals' use of expert power (11.39) are statistically significant. Based on their teachers' perceptions, the high school principals rely more on expert power than middle school principals. Teachers are apparently more tolerant of the principal's use of legitimate power if the principal is perceived by his or her teachers as an expert.

A leader's use of referent power indicates that he or she induces compliance from or influences the behavior of others because they like, admire, or respect the leader (French & Raven, 1959; Hersey et al., 1988).

Conclusion 6. The principal's use of referent power is associated with teacher satisfaction about their supervisor and work.

There was a statistically significant positive correlation between the principals' use of referent power and teacher satisfaction with work or supervisor. Satisfaction and performance, based on previous research studies, are highly correlated with expert power and referent power (Bachman et al., 1966; Ivancevich & Donnelly, 1970). Leaders should, therefore, focus on their use of expert power and referent power to induce compliance or to influence behavior. Research studies have also indicated that if teachers are to be involved in the decision-making process, the principal's use of personal power is imperative (Fairholm & Fairholm, 1984; High & Achilles, 1986; Lightfoot, 1986; Maeroff, 1988; Regan, 1988). A leader's personal power comes from his or her personal traits.

Reward power is based on the leader's ability to provide rewards for other people (French & Raven, 1959; Hersey et al., 1988). Principals are able to provide certain kinds of rewards to their teachers. Some of the rewards are (a) an additional planning period, (b) recognition for outstanding performance, (c) opportunities to leave school before the end of the school day, or (d) more attention given to their opinions/ideas.

Conclusion 7. The principal's use of reward power is associated with teacher dissatisfaction

about their principal and has an insignificant effect on their satisfaction with their work.

Some rewards are available to principals due to their legitimate power that comes with the position held by the principal (Bachman et al., 1966; High & Achilles, 1986; Natemeyer, 1975). Principals in the BCPS do not negotiate salaries; however, the principals can assist teachers in gaining promotions and, in some instances, provide opportunities for teachers to earn additional income.

The principals' reliance on this power base, however, can be misleading or counterproductive. Principals who consistently give rewards to teachers without specific criteria for doing so diminish the effectiveness of the use of reward power.

Based on the findings of this study, the middle school teachers and high school teachers in the BCPS expressed dissatisfaction with their principal's use of reward power. Access to some rewards can be useful to principals in gaining compliance or influencing their teachers' behavior. Reward power has shown low reliability; therefore, it is difficult to determine how valuable this power base is to teachers.

Conclusion 8. The middle school principals' perceptions of their own uses of power and the teachers' perceptions of their principal's use of power were not

congruent.

The subject of congruence relating to statistical hypothesis 2.1 was discussed in the findings of several researchers mentioned in Chapter 2. Roesner and Sloan (1987) concluded that principals and teachers differ significantly in their descriptions of the principal's leadership behavior. An investigation of the extent of congruency between decision items in which the staff council participated and the items in which they should participate (based on the perceptions of the principal, teacher members of the school council, and the remaining teachers) revealed that there was congruency between the groups' perceptions about their participation (Isherwood & Taylor, 1978). Isherwood and Taylor concluded that extensive participation of teachers increases the teachers' level of job satisfaction. Argyris (1982) contends that administrators are usually unable to recognize the way that their subordinates perceive their management style. Stimson (1987) agrees that there is some relationship between congruent perceptions and satisfaction with supervisors.

Middle school teachers in the BCPS view their principals as significantly more coercive, more connected, and less expert than the principals view themselves. It is also noteworthy that the middle school teachers perceive that their principals use less referent power, which is classified as a personal power base, than principals themselves perceive.

Conclusion 9. The high school principals' perceptions of their own uses of power and the teachers' perceptions of their principal's use of power were congruent.

High school teachers view their principals as using more connection power than do high school principals. The lack of difference between the high school teachers' perceptions of their principal's use of the power bases and the high school principals' perceptions of their use of the remaining power bases has little significance.

The correlation between the middle school teachers' satisfaction with their principal and work and the middle school principals' use of the positional power bases (e.g., coercive power, legitimate power, and reward power) were stronger than the correlation between the high school teachers' perceptions of their principal's use of the positional power bases and their level of satisfaction with their principal and work.

The correlation between the middle school teachers' perceptions of their principal's use of referent power and the middle school teachers' satisfaction with principal and work is stronger than the correlation between high school teachers' perception and their level of satisfaction with work and supervisor for the referent power base. It seems that middle school teachers are less satisfied with their work and principal than the high school teachers, which corroborates the assertions of other researchers (Argyris,

1982; Isherwood & Taylor, 1978; Stimson, 1987).

Conclusion 10. Middle school principals rely on the use of their positional power to induce compliance or to influence the behavior of their teachers.

The differences in the means between the power groups (e.g., positional power, personal power, a combination of personal and positional) were statistically significant for each power base, with the exception of information power. The middle school principals in the BCPS rely on (a) coercion, (b) their legitimate authority, and (c) the rewards that are available to them to influence the behavior of their teachers. They use less referent power and expert power. Middle school teachers expressed a level of dissatisfaction with their principal's use of connection power, although connection power was classified as a personal power base.

Research studies indicate that the principal's use of his or her positional power in any attempts to influence teachers is oftentimes not effective (Adams & Bailey, 1989; Gunn et al., 1988). Isherwood (1973) offers six suggestions in his description of the advantages of a principal's use of personal power over positional power. Several researchers have indicated that the use of personal power is imperative in any influence attempts (Fairholm & Fairholm, 1984; High & Achilles, 1986; Isherwood & Taylor, 1978).

Conclusion 11. High school principals rely on the use

of a combination of personal and positional power bases to induce compliance from their teachers or to influence the behavior of their teachers.

The differences in the means between power groups were statistically significant for (a) coercive power, (b) expert power, (c) referent power, and (d) reward power. The comparison between the three power groups indicates that the high school principals in the BCPS use a combination of personal and positional power. The analysis indicates that the high school principals use coercion and rewards to influence; however, high school principals use more expert power and referent power than middle school principals use.

Recommendations

This study supports the beliefs of many researchers who assert that the leadership provided by the principal is crucial in the development of effective schools. The need to involve teachers in the decision-making process is also key if public school reform is to become a reality. Principals must, therefore, have an understanding of their uses of power. They must also understand their teachers' perceptions of their uses of power. Thus, the following recommendations are offered:

Recommendation #1

Provide leadership training workshops for principals that will assist them in developing a leadership style

and the power bases that enhance shared decision-making within their schools.

Rationale. Principals have been trained to use power in the traditional sense which makes it difficult for them to change their traditional ways of influencing others (Gunn et al., 1988; Liebermann & Miller, 1990). Principals must be trained to use their power in a positive sense as a shared resource among colleagues (Herlihy & Herlihy, 1985; Stimson & Appelbaum, 1988). Principals must also be able to assess the readiness skills (ability and willingness) of their staff in their effort to restructure their schools.

Recommendation #2

Conduct a study to determine if the degree of congruence between principals' self-perceptions of their use of power and the teachers' perceptions of their principal's use of power affects the teacher's level of satisfaction with work and supervisor.

Rationale. The findings in this study suggest that when congruence exists between the principal's self-perception of their use of power and the teachers' perceptions of their principal's use of power, teachers have a higher level of satisfaction with their supervisor. Moreover, principals and teachers need to understand the importance of shared decision-making in order to create effective schools.

Recommendation #3

Conduct a study to determine the degree to which

supervisor satisfaction relates to work satisfaction.

Rationale. It is possible for teachers to be happy with their principal and not be completely satisfied with their work. Teachers tend to put forth more effort if they respect, admire, and care about the leader.

Recommendation #4

Explore the relationship between supervisor satisfaction and satisfaction with co-workers, pay, opportunities for promotions, and overall satisfaction.

Rationale. This information could be helpful in determining whether satisfaction with supervisor is the most important factor when employees assess their overall satisfaction.

Recommendation #5

Explore the relationship between the principal's uses of power and the unique cultures of the school.

Rationale. The principal's use of particular power bases is sometimes contingent upon the readiness of his or her staff to participate in the decision-making process. Principals often use positional power in an attempt to challenge teachers to become more accountable and responsible individuals. Personal power bases can be used effectively with teachers who have a shared vision for their schools and their students.

APPENDIX A

PERMISSION LETTER FROM DR. HUNTER

CITY OF BALTIMORE

KURT L. SCHMOKE, Mayor



DEPARTMENT OF EDUCATIO

 RICHARD C. HUNTER
 Superintendent of Public Instruction
 200 E. North Avenue
 Baltimore, Maryland 21202

March 9, 1990

 Ms. Linda W. Lymas
 2039 McCulloh Street
 Baltimore, Maryland 21217

Dear Ms. Lymas:

Your proposed doctoral research "A Study of the Leadership Styles of Principals and the Affect on Teacher Satisfaction" is approved.

Mr. Larry Howe, Director of the Department of Research and Evaluation, will provide a cover letter advising principals and teachers that your project has been approved for their voluntary participation. This cover letter must accompany any requests to principals or teachers to participate in your survey. You may contact Mr. Howe at 396-8950.

Thank you for your interest in Baltimore City Public Schools.

Sincerely,

 Richard C. Hunter
 Superintendent

/mmh

 cc: Dr. Norman J. Walsh
 Dr. Denise G. Borders
 Mr. Larry Howe

APPENDIX B
QUESTIONNAIRE

Please provide the following information before completing the instrument.

1. School # _____
(check one)
2. Level of School
 _____ Middle
 _____ Senior
3. Position in School
 _____ Teacher
 _____ Principal
4. Status (N/A for Principal)
 _____ Tenured
 _____ Non-tenured
5. Sex
 _____ Male
 _____ Female

APPENDIX C
COVER LETTERS FOR PRINCIPALS AND TEACHERS

200 Font Hill Avenue
 Baltimore, Maryland 21223
 September, 1990

Dear Teacher:

I am writing this letter requesting your participation in a research study that will be conducted in the Baltimore City Public Schools (BCPS) this month. This research study has been approved by Dr. Richard Hunter and is being conducted to fulfill the dissertation requirement for completion of my doctoral studies at the University of Maryland - College Park. A letter from Dr. Hunter indicating approval of this research study is attached.

The purpose of this research is to explore the use of power bases by middle school and high school principals and their affect on teacher satisfaction. Specifically, the study will examine the principal's self-perception of his/her use of power, the teacher's perception of the principal's use of power, and the principal and teacher's level of satisfaction with certain aspects of the job. If you agree to participate, you will be asked to provide answers to questions in two instruments which should take no longer than 20 minutes. The instruments are the Power Perception Profile for Other and the Cornell Job Description Index (JDI). The Power Perception Profile is used to explore the teacher's perception of the principal's use of power. The JDI is used to examine the teacher's level of satisfaction with certain aspects of the job. Please complete the attached instruments within one week and return them to me through the inter-office mail. The completed instruments should be returned to my attention at Southwestern High School.

Your participation in this study is needed and will be highly appreciated. I assure you that the participants in this study, both principals and teachers, will remain anonymous and the data collected will remain confidential. Your participation in this research effort is voluntary. If you have questions you may contact me at 396-1421 (work) or 728-4359 (home).

Thanks for your assistance in this matter. I am hopeful that your response will be a positive one.

Sincerely,

Linda W. Lyman

Linda W. Lyman

LWL/bm

Approved:

Lawrence Howe

Mr. Lawrence Howe

Director of Research and Evaluation

200 Font Hill Avenue
 Baltimore, Maryland 21223
 September, 1990

Dear Principal:

I am writing this letter requesting your participation in a research study that will be conducted in the middle schools and senior high schools of the Baltimore City Public Schools. This research study has been approved by Dr. Richard Hunter and is being conducted to fulfill the dissertation requirement for completion of my doctoral studies at the University of Maryland - College Park. A letter from Dr. Hunter granting approval of this research is attached.

The purpose of this research study is to explore the use of power bases by middle school and senior high school principals and their affect on teacher satisfaction. Specifically, the study will examine the principal's self-perception of his/her use of power, the teacher's perception of the principal's use of power, and the principal and teacher's level of job satisfaction. If you agree to participate, you will be asked to complete two instruments which should take no longer than 20 minutes. You will be asked to complete the Power Perception Profile for Self (PPPS) which will be used to explore the principal's perception of his/her use of power and the Cornell Job Description Index (JDI). The JDI is used to examine your level of job satisfaction. The assistant principal(s) and a selected group of tenured teachers from your school will also be asked to participate. Please complete the attached instruments within one week and return them to me through inter-office mail. The instruments should be sent to my attention at Southwestern High School.

The success of this research effort is contingent upon each participant being assured of complete anonymity. Your participation in this research effort is voluntary. When the results are completed, I will be more than happy to share the findings with you and discuss your interests at your request. If you have any questions, please contact me at 728-4359 or 396-1421.

Thanks for your assistance with this effort. I am hopeful that your response will be a positive response.

Sincerely,

Linda W. Lyman
 Linda W. Lyman

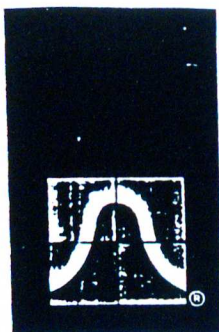
LWL/bm

Approved:

Lawrence Howe
 Mr. Lawrence Howe

Director of Research and Evaluation

APPENDIX D
POWER PERCEPTION PROFILE: PERCEPTION OF SELF



POWER PERCEPTION PROFILE

Perception of Self

Developed by Paul Hersey and Walter E. Natemeyer

Your Name: _____

PURPOSE

This instrument is designed to provide you with some important information about utilization of various types of power as the basis of your leadership attempts.

PART I: Instructions for completing the profile

- Listed below are 21 pairs of reasons often given by people when they are asked why they do the things the leader suggests or wants them to do.
- Allocate 3 points between the two alternative reasons in each pair. Base your point allocation on your judgment of each alternative's relative importance as a reason for others' compliance to you.
- Allocate the points between the first item and the second item based on perceived importance as shown in the ex-

amples below, making sure that the numbers assigned each pair add up to 3:

3 ^A	2 ^C	1 ^E	0 ^C
0 ^B	1 ^D	2 ^F	3 ^F

- After you have completed this profile, use the "Power Perception Profile Work Sheet" to relate the data gathered to various levels of follower readiness.

Others respond to my leadership attempts because:

1.	A	I can administer sanctions and punishment to those who do not cooperate with me.
	B	They realize that I have connections with influential and important persons.
2.	C	They respect my understanding, knowledge, judgment, and experience.
	D	I possess or have access to information that is valuable to others.
3.	E	My position in the organization provides me with the authority to direct their work activities.
	F	They like me personally and want to do things that will please me.
4.	G	I can provide rewards and support to those who cooperate with me.
	A	I can administer sanctions and punishment to those who do not cooperate with me.
5.	B	They realize that I have connections with influential and important persons.
	C	They respect my understanding, knowledge, judgment, and experience.
6.	D	I possess or have access to information that is valuable to others.
	E	My position in the organization provides me with the authority to direct their work activities.
7.	F	They like me personally and want to do things that will please me.
	G	I can provide rewards and support to those who cooperate with me.

8.	A	I can administer sanctions and punishment to those who do not cooperate with me.
	C	They respect my understanding, knowledge, judgment, and experience.
9.	B	They realize that I have connections with influential and important persons.
	D	I possess or have access to information that is valuable to others.
10.	C	They respect my understanding, knowledge, judgment, and experience.
	E	My position in the organization provides me with the authority to direct their work activities.
11.	D	I possess or have access to information that is valuable to others.
	A	I can administer sanctions and punishment to those who do not cooperate with me.
12.	E	My position in the organization provides me with the authority to direct their work activities.
	B	They realize that I have connections with influential and important persons.
13.	F	They like me personally and want to do things that will please me.
	C	They respect my understanding, knowledge, judgment, and experience.
14.	G	I can provide rewards and support to those who cooperate with me.
	B	They realize that I have connections with influential and important persons.
15.	A	I can administer sanctions and punishment to those who do not cooperate with me.
	E	My position in the organization provides me with the authority to direct their work activities.
16.	B	They realize that I have connections with influential and important persons.
	F	They like me personally and want to do things that will please me.
17.	C	They respect my understanding, knowledge, judgment, and experience.
	G	I can provide rewards and support to those who cooperate with me.
18.	D	I possess or have access to information that is valuable to others.
	F	They like me personally and want to do things that will please me.
19.	E	My position in the organization provides me with the authority to direct their work activities.
	G	I can provide rewards and support to those who cooperate with me.
20.	F	They like me personally and want to do things that will please me.
	A	I can administer sanctions and punishment to those who do not cooperate with me.
21.	G	I can provide rewards and support to those who cooperate with me.
	D	I possess, or have access to information that is valuable to others.

APPENDIX E
POWER PERCEPTION PROFILE: PERCEPTION OF OTHER



POWER PERCEPTION PROFILE

Perception of Other

Developed by Paul Hersey and Walter E. Natermeyer

Name of leader _____

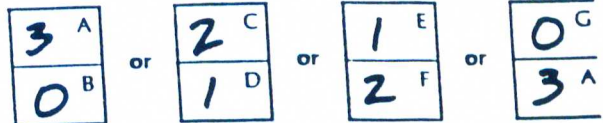
PURPOSE

This instrument is designed to provide some important information about this person's utilization of various types of power as the basis of leadership attempts.

T 1: Instructions for completing the profile

Below are 21 pairs of reasons often given by people when they are asked why they do the things the leader suggests or wants them to do. Allocate 3 points between the two alternative choices in each pair. Base your judgment on the relative importance of each alternative. This is in reference to your perception of why you comply with this leader. Allocate the points between the first item and the second item based on perceived importance as shown in the examples

below, making sure that the numbers assigned to each pair add up to 3:



- After you have completed this profile, use the "Power Perception Profile Work Sheet" to relate the data gathered to various levels of follower readiness.

Respond to this leader's influence attempts because:

A	This person can administer sanctions and punishment to those who do not cooperate.
B	I realize that this person has connections with influential and important persons.
C	I respect this person's understanding, knowledge, judgment, and experience.
D	This person possesses or has access to information that is valuable to others.
E	This person's position in the organization provides the authority to direct my work activities.
F	I like this person and want to do things that will please.
G	This person can provide rewards and support to those who cooperate.
A	This person can administer sanctions and punishment to those who do not cooperate.
B	I realize that this person has connections with influential and important persons.
C	I respect this person's understanding, knowledge, judgment, and experience.
D	This person possesses or has access to information that is valuable to others.
E	This person's position in the organization provides the authority to direct my work activities.

A	This person can administer sanctions and punishment to those who do not cooperate.
C	I respect this person's understanding, knowledge, judgment, and experience.
B	I realize that this person has connections with influential and important persons.
D	This person possesses or has access to information that is valuable to others.
C	I respect this person's understanding, knowledge, judgment, and experience.
E	This person's position in the organization provides the authority to direct my work activities.
D	This person possesses or has access to information that is valuable to others.
A	This person can administer sanctions and punishment to those who do not cooperate.
E	This person's position in the organization provides the authority to direct my work activities.
B	I realize that this person has connections with influential and important persons.
F	I like this person and want to do things that will please.
C	I respect this person's understanding, knowledge, judgment, and experience.
G	This person can provide rewards and support to those who cooperate.
B	I realize that this person has connections with influential and important persons.
A	This person can administer sanctions and punishment to those who do not cooperate.
E	This person's position in the organization provides the authority to direct my work activities.
B	I realize that this person has connections with influential and important persons.
F	I like this person and want to do things that will please.
C	I respect this person's understanding, knowledge, judgment, and experience.
G	This person can provide rewards and support to those who cooperate.
D	This person possesses or has access to information that is valuable to others.
F	I like this person and want to do things that will please.
E	This person's position in the organization provides the authority to direct my work activities.
G	This person can provide rewards and support to those who cooperate.
F	I like this person and want to do things that will please.
A	This person can administer sanctions and punishment to those who do not cooperate.
G	This person can provide rewards and support to those who cooperate.
D	This person possesses or has access to information that is valuable to others.

APPENDIX F
CORNELL JOB DESCRIPTION INDEX

Think of the kind of supervision that you get on your job. How well does each of the following words or phrases describe this? In the blank beside each word below, write

- Y for "Yes" if it describes the supervision you get on your job
- N for "No" if it does NOT describe it
- ? if you cannot decide

SUPERVISION

- Asks my advice
- Hard to please
- Impolite
- Praises good work
- Tactful
- Influential
- Up-to-date
- Doesn't supervise enough
- Has favorites
- Tells me where I stand
- Annoying
- Stubborn
- Knows job well
- Bad
- Intelligent
- Poor planner
- Around when needed
- Lazy

Go on to the next page...

Think of the work you do at present. How well do the following words or phrases describe it? In the blank beside each word below, write

- Y for "Yes" if it describes your work
- N for "No" if it does NOT describe it
- ? if you cannot decide

WORK ON PRESENT JOB

- Fascinating
- Routine
- Satisfying
- Boring
- Good
- Creative
- Respected
- Uncomfortable
- Pleasant
- Useful
- Tiring
- Healthful
- Challenging
- Too much to do
- Frustrating
- Simple
- Repetitive
- Gives sense of accomplishment

Go on to the next page...

Think of the opportunities for promotion that you have now. How well does each of the following words or phrases describe these? In the blank beside each word below, write

 Y for "Yes" if it describes your opportunities for promotion

 N for "No" if it does NOT describe them

 ? if you cannot decide
.....

OPPORTUNITIES FOR PROMOTION

- Good opportunities for promotion
- Opportunities somewhat limited
- Promotion on ability
- Dead-end job
- Good chance for promotion
- Unfair promotion policy
- Infrequent promotions
- Regular promotions
- Fairly good chance for promotion

Go on to the next page...

Think of the pay you get now. How well do the following words or phrases describe your present pay? In the blank beside each word below, write

 Y for "Yes" if it describes your present pay

 N for "No" if it does NOT describe your present pay

 ? if you cannot decide
.....

PRESENT PAY

- Income adequate for normal expenses
- Fair
- Barely live on income
- Bad
- Income provides luxuries
- Insecure
- Less than I deserve
- Well paid
- Underpaid

Go on to the

Think of the majority of the people that you work with or the people you meet in connection with your work. How well does each of the following words or phrases describe these people? In the blank beside each word below, write

- ___ for "Yes" if it describes the people you work with
- ___ for "No" if it does NOT describe them
- ___ if you cannot decide
-

COWORKERS

- ___ Stimulating
- ___ Boring
- ___ Slow
- ___ Helpful
- ___ Stupid
- ___ Responsible
- ___ Fast
- ___ Intelligent
- ___ Easy to make enemies
- ___ Talk too much
- ___ Smart
- ___ Lazy
- ___ Unpleasant
- ___ Gossipy
- ___ Active
- ___ Narrow interests
- ___ Loyal
- ___ Stubborn

Think of your job in general. All in all, how do you feel about the time? In the blank beside each word below, write

- ___ Y for "Yes" if it describes your job
- ___ N for "No" if it does NOT describe your job
- ___ ? if you cannot decide
-

JOB IN GENERAL

- ___ Pleasant
- ___ Bad
- ___ Ideal
- ___ Waste of time
- ___ Good
- ___ Undesirable
- ___ Worthwhile
- ___ Worse than most
- ___ Acceptable
- ___ Superior
- ___ Better than most
- ___ Disagreeable
- ___ Make me content
- ___ Inadequate
- ___ Excellent
- ___ Rotten
- ___ Enjoyable
- ___ Poor

APPENDIX G
SURVEY DATA ANALYSIS

MST .vs. MSP

t-test for: S1

Coercive Power

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		148	8.8514	3.316	.273		
Group 2		12	6.4167	2.778	.802		
F Value		Pooled Variance Estimate		Separate Variance Estimate			
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.42	.529	2.47	158	.015	2.87	13.67	.012

t-test for: S2

Connection Power

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		148	7.0068	2.724	.224		
Group 2		12	4.5833	3.579	1.033		
F Value		Pooled Variance Estimate		Separate Variance Estimate			
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.73	.146	2.89	158	.004	2.29	12.06	.041

t-test for: S3

Expert Power

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		148	9.6689	3.265	.268		
Group 2		12	12.2500	1.603	.463		
F Value		Pooled Variance Estimate		Separate Variance Estimate			
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
4.15	.012	-2.71	158	.008	-4.83	19.48	.000

MST .vs. MSP

t-test for: S4

Information Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	8.7027	2.465	.203
Group 2	12	9.1667	1.697	.490

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.11	.166	-.64	158	.524	-.88	15.05	.395

t-test for: S5

Legitimate Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	12.3378	2.749	.226
Group 2	12	12.1667	1.697	.490

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.63	.076	.21	158	.832	.32	16.13	.755

t-test for: S6

Referent Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	5.8851	3.953	.325
Group 2	12	7.3333	3.025	.873

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.71	.323	-1.24	158	.217	-1.55	14.24	.142

MST .vs. MSP

t-test for: S7

Reward Power

	Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1	148	10.4797	1.978	.163			
Group 2	12	10.9167	1.832	.529			
					Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.17	.835	-.74	158	.461	-.79	13.17	.444

t-test for: S8

Satisfaction w/ Supervision

	Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1	148	33.0000	13.121	1.079			
Group 2	12	46.5833	8.218	2.372			
					Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.55	.085	-3.52	158	.001	-5.21	15.97	.000

t-test for: S9

Satisfaction w/ Work

	Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1	148	27.6959	11.750	.966			
Group 2	12	41.2500	8.604	2.484			
					Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.87	.248	-3.91	158	.000	-5.09	14.55	.000

MST .vs. MSP

t-test for: S10

Opportunities for Promotion

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	16.3784	12.089	.994
Group 2	12	31.4167	13.728	3.963

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.29	.472	-4.10	158	.000	-3.68	12.42	.003

t-test for: S11

Satisfaction w/ Pay

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	18.8919	10.830	.890
Group 2	12	31.4167	10.613	3.064

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.04	1.000	-3.86	158	.000	-3.93	12.93	.002

t-test for: S12

Satisfaction w/ Co-workers

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	33.7432	11.471	.943
Group 2	12	42.5000	13.787	3.980

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.44	.318	-2.50	158	.013	-2.14	12.27	.053

MST .vs. MSP

t-test for: S13

Job in General

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	148	32.9392	11.745	.965
Group 2	12	45.5000	6.502	1.877

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
3.26	.033	-3.65	158	.000	-5.95	17.50	.000

HST vs. HSP

t-test for: S1

Coercive Power

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		239	7.9665	3.765	.244		
Group 2		12	8.3333	2.498	.721		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.27	.127	-.33	249	.739	-.48	13.64	.638

t-test for: S2

Connection Power

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		239	6.2845	3.143	.203		
Group 2		12	3.9167	2.678	.773		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.38	.575	2.56	249	.011	2.96	12.57	.011

t-test for: S3

Expert Power

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		239	11.3933	3.422	.221		
Group 2		12	13.0000	2.954	.853		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.34	.611	-1.60	249	.112	-1.82	12.53	.092

MST .vs. HSP

t-test for: S4

		Information Power					
		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		239	9.0126	2.574	.167		
Group 2		12	8.9167	2.065	.596		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.55	.420	.13	249	.899	.15	12.78	.879

t-test for: S5

		Legitimate Power					
		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		239	11.9079	2.417	.156		
Group 2		12	11.1667	1.899	.548		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.62	.373	1.05	249	.297	1.30	12.86	.216

t-test for: S6

		Referent Power					
		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		239	6.5649	3.731	.241		
Group 2		12	8.5833	2.429	.701		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.36	.111	-1.85	249	.065	-2.72	13.75	.017

HST vs. HSP

t-test for: S7

Reward Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		239	9.7573	2.124	.137	
Group 2		12	9.1667	2.125	.613	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.00	.893	.94	249	.348	.94	12.13
						2-Tail Prob.
						.366

t-test for: S8

Satisfaction w/ Supervision

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		239	37.2092	12.730	.823	
Group 2		12	48.9167	4.852	1.401	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
6.89	.001	-3.17	249	.002	-7.21	19.81
						2-Tail Prob.
						.000

t-test for: S9

Satisfaction w/ Work

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		239	33.8912	10.647	.689	
Group 2		12	39.1667	7.767	2.242	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.88	.239	-1.69	249	.092	-2.25	13.17
						2-Tail Prob.
						.042

HST vs. HSP

t-test for: S10 Opportunities for Promotion

		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		239	21.1255	15.110	.977
Group 2		12	26.1667	11.738	3.389

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.66	.350	-1.14	249	.256	-1.43	12.90	.177

t-test for: S11 Satisfaction w/ Pay

		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		239	24.4686	14.234	.921
Group 2		12	36.1667	11.831	3.415

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.45	.506	-2.80	249	.006	-3.31	12.65	.006

t-test for: S12 Satisfaction w/ Co-workers

		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		239	37.7322	11.734	.759
Group 2		12	45.3333	10.120	2.922

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.34	.609	-2.20	249	.029	-2.52	12.53	.026

HST .vs. HSP

t-test for: S13

Job in General

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	239	37.9833	11.267	.729
Group 2	12	44.6667	7.062	2.039

Pooled Variance Estimate				Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.54	.084	-2.03	249	.043	-3.09	13.98	.008

Correlation Matrix of Middle School Principal Power Bases as Perceived by Middle School Teachers

	Coercive	Connection	Expert	Information	Legitimate	Referent	Reward
Coercive	1.0000	.2667 P=.001	-.7095 P=.001	-.2277 P=.005	.3018 P=.001	-.5602 P=.001	.1282 P=.121
Connection		1.0000	-.6002 P=.	-.0443 P=.593	.0360 P=.664	-.5129 P=.001	.1913 P=.020
Expert			1.0000	.0333 P=.687	-.3967 P=.001	.6406 P=.001	-.3746 P=.001
Information				1.0000	-.3094 P=.001	-.0964 P=.244	-.2399 P=.003
Legitimate					1.0000	-.5885 P=.001	.2565 P=.002
Referent						1.0000	-.4602 P=.001
Reward							1.0000 P=.

Correlation Matrix of High School Principal Power Bases as Perceived by High School

Teachers

	Coercive	Connection	Expert	Information	Legitimate	Referent	Reward
Coercive	1.0000 P=.	.1787 P=.006	-.6362 P=.001	-.2215 P=.001	.1220 P=.060	-.5996 P=.001	.1571 P=.015
Connection		1.0000 P=.	-.5574 P=.001	-.0640 P=.325	-.2195 P=.001	-.3546 P=.001	-.0645 P=.321
Expert			1.0000	-.0325 P=.617	.0161 P=.805	.3524 P=.001	-.2677 P=.001
Information				1.0000 P=.	-.3443 P=.001	-.1337 P=.039	-.2238 P=.001
Legitimate					1.0000 P=.	-.3456 P=.001	-.0355 P=.585
Referent						1.0000 P=.	-.1608 P=.013
Reward							1.0000

Independent samples of PNUM Principal Number Reference
 Group 1: PNUM EQ 1 Group 2: PNUM EQ 2

t-test for: S1 Coercive Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	9.7802	3.036	.318
Group 2	50	7.5400	3.309	.468

Pooled Variance Estimate		Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.19	.476	4.06	139	.000
		3.96	93.89	.000

t-test for: S2 Connection Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	6.8901	2.350	.246
Group 2	50	6.6800	3.120	.441

Pooled Variance Estimate		Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.76	.020	.45	139	.653
		.42	80.07	.679

t-test for: S3 Expert Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	9.1319	3.088	.324
Group 2	50	11.0800	3.434	.486

Pooled Variance Estimate		Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.24	.382	-3.44	139	.001
		-3.34	92.31	.001

t-test for: S4

Information Power

	Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1	91	8.7143	2.233	.234			
Group 2	50	8.7400	2.933	.415			
					Pooled Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.73	.025	-.06	139	.954	-.05	80.70	.957
					Separate Variance Estimate		

t-test for: S5

Legitimate Power

	Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1	91	12.8681	2.680	.281			
Group 2	50	11.0200	2.527	.357			
					Pooled Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.12	.661	4.00	139	.000	4.07	106.18	.000
					Separate Variance Estimate		

t-test for: S6

Referent Power

	Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1	91	4.8571	3.017	.316			
Group 2	50	8.0400	4.768	.674			
					Pooled Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.50	.000	-4.85	139	.000	-4.27	71.06	.000
					Separate Variance Estimate		

t-test for: S7

Reward Power

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	10.6813	1.843	.193			
Group 2		50	9.8400	2.103	.297			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.30	.278	2.47	139	.015	2.37	90.33	.020	

t-test for: S8

Satisfaction w/ Supervision

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	29.1099	12.398	1.300			
Group 2		50	40.2800	12.586	1.780			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.03	.885	-5.09	139	.000	-5.07	99.74	.000	

t-test for: S9

Satisfaction w/ Work

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	24.1209	11.664	1.223			
Group 2		50	34.2800	9.833	1.391			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.41	.192	-5.22	139	.000	-5.49	116.22	.000	

t-test for: S10

Opportunities for Promotion

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	14.8791	11.464	1.202
Group 2	50	19.0400	13.632	1.928

Pooled Variance Estimate				Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.41	.156	-1.93	139	.056	-1.83	87.30

t-test for: S11

Satisfaction w/ Pay

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	20.0330	10.124	1.061
Group 2	50	16.0600	12.096	1.711

Pooled Variance Estimate				Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.43	.145	2.08	139	.040	1.97	86.97

t-test for: S12

Satisfaction w/ Co-workers

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	31.2967	11.920	1.250
Group 2	50	39.2000	9.132	1.291

Pooled Variance Estimate				Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.70	.043	-4.07	139	.000	-4.40	124.35

t-test for: S10

Opportunities for Promotion

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		91	14.8791	11.464	1.202		
Group 2		50	19.0400	13.632	1.928		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.41	.156	-1.93	139	.056	-1.83	87.30	.070

t-test for: S11

Satisfaction w/ Pay

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		91	20.0330	10.124	1.061		
Group 2		50	16.0600	12.096	1.711		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.43	.145	2.08	139	.040	1.97	86.97	.052

t-test for: S12

Satisfaction w/ Co-workers

		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		91	31.2967	11.920	1.250		
Group 2		50	39.2000	9.132	1.291		
		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.70	.043	-4.07	139	.000	-4.40	124.35	.000

t-test for: S13

Job in General

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	30.4945	12.575	1.318
Group 2	50	37.4200	9.592	1.356

Pooled Variance Estimate				Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	t Value	Degrees of Freedom	2-Tail Prob.	
1.72	.040	-3.39	139	.001	-3.66	124.70	.000

Independent samples of PNUM Principal Number Reference
 Group 1: PNUM EQ 2 Group 2: PNUM EQ 3

t-test for: S1 Coercive Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		50	7.5400	3.309	.468	
Group 2		8	6.2500	2.252	.796	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
2.16	.288	1.06	56	.294	1.40	12.46
						2-Tail Prob. .187

t-test for: S2 Connection Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		50	6.6800	3.120	.441	
Group 2		8	10.2500	1.982	.701	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
2.48	.209	-3.12	56	.003	-4.31	13.35
						2-Tail Prob. .001

t-test for: S3 Expert Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		50	11.0800	3.434	.486	
Group 2		8	7.7500	1.488	.526	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
5.32	.027	2.69	56	.009	4.65	21.75
						2-Tail Prob. .001

t-test for: S4 Information Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	8.7400	2.933	.415
Group 2	8	8.3750	1.768	.625

F Value		Pooled Variance Estimate			Separate Variance Estimate		
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
2.75	.34	56	.735	.49	14.13	.634	

t-test for: S5 Legitimate Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	11.0200	2.527	.357
Group 2	8	14.3750	1.061	.375

F Value		Pooled Variance Estimate			Separate Variance Estimate		
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
5.68	-3.68	56	.001	-6.48	22.81	.001	

t-test for: S6 Referent Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	8.0400	4.768	.674
Group 2	8	3.8750	.991	.350

F Value		Pooled Variance Estimate			Separate Variance Estimate		
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
23.15	2.44	56	.018	5.48	52.33	.001	

t-test for: S7 Reward Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	9.8400	2.103	.297
Group 2	8	12.1250	.991	.350

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
4.50	.043	-3.00	56	.004	-4.97	19.29	.004

t-test for: S8 Satisfaction w/ Supervision

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	40.2800	12.586	1.780
Group 2	8	34.3750	3.998	1.413

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
9.91	.004	1.31	56	.196	2.60	34.44	.014

t-test for: S9 Satisfaction w/ Work

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	34.2800	9.833	1.391
Group 2	8	29.0000	4.986	1.763

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
3.89	.065	1.48	56	.144	2.35	17.46	.031

t-test for: S10 Opportunities for Promotion

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		50	19.0400	13.632	1.928	
Group 2		8	19.5000	7.387	2.612	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
3.41	.094	-.09	56	.926	-.14	16.03
						2-Tail Prob. .889

t-test for: S11 Satisfaction w/ Pay

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		50	16.0600	12.096	1.711	
Group 2		8	24.2500	4.200	1.485	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
8.29	.007	-1.88	56	.065	-3.62	30.28
						2-Tail Prob. .001

t-test for: S12 Satisfaction w/ Co-workers

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		50	39.2000	9.132	1.291	
Group 2		8	29.0000	7.635	2.699	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.43	.655	2.99	56	.004	3.41	10.49
						2-Tail Prob. .006

t-test for: S13

Job in General

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	50	37.4200	9.592	1.356
Group 2	8	34.6250	5.263	1.861

		Pooled Variance Estimate		Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	t Value	Degrees of Freedom	2-Tail Prob.
3.32	.100	.80	56	1.21	15.78	.243
						.427

Independent samples of PNUM Principal Number Reference

Group 1: PNUM EQ 1 Group 2: PNUM EQ 3

t-test for: S1 Coercive Power

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	9.7802	3.036	.318			
Group 2		8	6.2500	2.252	.796			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.82	.412	3.21	97	.002	4.12	9.40	.002	

t-test for: S2 Connection Power

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	6.8901	2.350	.246			
Group 2		8	10.2500	1.982	.701			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.41	.675	-3.92	97	.004	-4.52	8.83	.002	

t-test for: S3 Expert Power

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	9.1319	3.088	.324			
Group 2		8	7.7500	1.488	.526			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
4.31	.047	1.25	97	.215	2.24	13.16	.043	

t-test for: S4

Information Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		91	8.7143	2.233	.234	
Group 2		8	8.3750	1.768	.625	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.59	.535	.42	97	.677	.51	9.09
						2-Tail Prob. .623

t-test for: S5

Legitimate Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		91	12.8681	2.680	.281	
Group 2		8	14.3750	1.061	.375	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
6.38	.015	-1.57	97	.119	-3.22	16.65
						2-Tail Prob. .005

t-test for: S6

Referent Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		91	4.8571	3.017	.316	
Group 2		8	3.8750	.991	.350	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
9.27	.005	.91	97	.364	2.08	21.92
						2-Tail Prob. .049

t-test for: S7

Reward Power

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	10.6813	1.843	.193			
Group 2		8	12.1250	.991	.350			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
3.46	.087	-2.18	97	.032	-3.61	11.82	.004	

t-test for: S8

Satisfaction w/ Supervision

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	29.1099	12.398	1.300			
Group 2		8	34.3750	3.998	1.413			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
9.62	.004	-1.19	97	.237	-2.74	22.58	.012	

t-test for: S9

Satisfaction w/ Work

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		91	24.1209	11.664	1.223			
Group 2		8	29.0000	4.986	1.763			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
5.47	.023	-1.17	97	.245	-2.27	15.08	.038	

t-test for: S10 Opportunities for Promotion

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	14.8791	11.464	1.202
Group 2	8	19.5000	7.387	2.612

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.41	.219	-1.12	97	.267	-1.61	10.24	.138

t-test for: S11 Satisfaction w/ Pay

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	20.0330	10.124	1.061
Group 2	8	24.2500	4.200	1.485

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
5.81	.020	-1.16	97	.247	-2.31	15.66	.035

t-test for: S12 Satisfaction w/ Co-workers

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	31.2967	11.920	1.250
Group 2	8	29.0000	7.635	2.699

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
2.44	.213	.53	97	.595	.77	10.28	.457

t-test for: S13 Job in General

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	91	30.4945	12.575	1.318
Group 2	8	34.6250	5.263	1.861

		Pooled Variance Estimate			Separate Variance Estimate		
F	2-Tail Value Prob.	t	Degrees of Freedom	2-Tail Prob.	t	Degrees of Freedom	2-Tail Prob.
5.71	.021	-.92	97	.361	-1.81	15.49	.090

Independent samples of PNUM Principal Number Reference
 Group 1: PNUM EQ 4 Group 2: PNUM EQ 5

t-test for: S1 Coercive Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	8.7500	3.749	.400
Group 2	95	6.9579	3.831	.393

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.04	.838	3.19	181	.002	3.20	180.45	.002

t-test for: S2 Connection Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	6.1591	2.656	.283
Group 2	95	6.6105	3.431	.352

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.67	.016	-.99	181	.324	-1.00	175.57	.319

t-test for: S3 Expert Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	11.7273	3.197	.341
Group 2	95	11.6526	3.357	.344

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.10	.646	.15	181	.878	.15	180.86	.878

t-test for: S4

Information Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		88	8.8409	2.573	.274	
Group 2		95	9.0526	2.800	.287	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.18	.425	- .53	181	.596	- .53	180.99
						2-Tail Prob. .595

t-test for: S5

Legitimate Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		88	12.1477	2.236	.238	
Group 2		95	11.6632	2.201	.226	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.03	.877	1.48	181	.141	1.48	179.45
						2-Tail Prob. .142

t-test for: S6

Referent Power

		Number of Cases	Mean	Standard Deviation	Standard Error	
Group 1		88	5.3636	3.217	.343	
Group 2		95	7.6211	3.609	.370	
		Pooled Variance Estimate			Separate Variance Estimate	
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom
1.26	.278	-4.45	181	.000	-4.47	180.74
						2-Tail Prob. .000

t-test for: S7 Reward Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	9.8636	1.846	.197
Group 2	95	9.3053	2.302	.236

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.56	.038	1.80	181	.073	1.82	177.42	.071

t-test for: S8 Satisfaction w/ Supervision

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	35.5909	11.378	1.213
Group 2	95	39.0105	13.389	1.374

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.38	.125	-1.85	181	.065	-1.87	179.70	.064

t-test for: S9 Satisfaction w/ Work

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	33.6364	9.762	1.041
Group 2	95	35.7579	10.060	1.032

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.06	.777	-1.45	181	.150	-1.45	180.60	.149

t-test for: S10 Opportunities for Promotion

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	21.3977	14.886	1.587
Group 2	95	20.1263	15.796	1.621

F		Pooled Variance Estimate			Separate Variance Estimate		
Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.13	.576	.56	181	.577	.56	180.94	.576

t-test for: S11 Satisfaction w/ Pay

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	25.3977	13.314	1.419
Group 2	95	24.1895	15.637	1.604

F		Pooled Variance Estimate			Separate Variance Estimate		
Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.38	.130	.56	181	.576	.56	179.75	.573

t-test for: S12 Satisfaction w/ Co-workers

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	41.6023	9.817	1.047
Group 2	95	36.1368	11.832	1.214

F		Pooled Variance Estimate			Separate Variance Estimate		
Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.45	.079	3.39	181	.001	3.41	178.89	.001

t-test for: S13 Job in General

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	40.7386	9.982	1.064
Group 2	95	38.7684	10.482	1.075

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.10	.645	1.30	181	.195	1.30	180.86	.194

Independent samples of PNUM Principal Number Reference
 Group 1: PNUM EQ 5 Group 2: PNUM EQ 6

t-test for: S1 Coercive Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	6.9579	3.831	.393
Group 2	55	8.4727	3.349	.452

F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.31	.283	-2.44	148	.016	-2.53	125.45	.013

t-test for: S2 Connection Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	6.6105	3.431	.352
Group 2	55	5.9273	3.366	.454

F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.04	.891	1.18	148	.239	1.19	114.68	.237

t-test for: S3 Expert Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	11.6526	3.357	.344
Group 2	55	10.3273	3.697	.499

F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.21	.410	2.24	148	.026	2.19	104.22	.031

t-test for: S4

Information Power

		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		95	9.0526	2.800	.287
Group 2		55	9.2182	2.192	.296

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.63	.052	-.38	148	.707	-.40	135.00	.689

t-test for: S5

Legitimate Power

		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		95	11.6632	2.201	.226
Group 2		55	11.9636	3.006	.405

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.87	.008	-.70	148	.483	-.65	87.85	.519

t-test for: S6

Referent Power

		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		95	7.6211	3.609	.370
Group 2		55	6.7091	4.188	.565

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.35	.206	1.41	148	.162	1.35	99.81	.180

t-test for: S7 Reward Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	9.3053	2.302	.236
Group 2	55	10.3636	2.103	.284

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.20	.472	-2.80	148	.006	-2.87	121.38	.005

t-test for: S8 Satisfaction w/ Supervision

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	39.0105	13.389	1.374
Group 2	55	36.3818	13.333	1.798

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.01	.990	1.16	148	.248	1.16	113.28	.248

t-test for: S9 Satisfaction w/ Work

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	35.7579	10.060	1.032
Group 2	55	30.9273	12.392	1.671

		Pooled Variance Estimate			Separate Variance Estimate		
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.52	.077	2.60	148	.010	2.46	95.12	.016

t-test for: S10 Opportunities for Promotion

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	20.1263	15.796	1.621
Group 2	55	22.1091	14.378	1.939

F Value		Pooled Variance Estimate		Separate Variance Estimate	
2-Tail Prob.		t Value	Degrees of Freedom	t Value	Degrees of Freedom
1.21	.455	-.77	148	-.78	121.70
					2-Tail Prob. .434

t-test for: S11 Satisfaction w/ Pay

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	24.1895	15.637	1.604
Group 2	55	23.4727	13.384	1.805

F Value		Pooled Variance Estimate		Separate Variance Estimate	
2-Tail Prob.		t Value	Degrees of Freedom	t Value	Degrees of Freedom
1.36	.214	.28	148	.30	127.37
					2-Tail Prob. .767

t-test for: S12 Satisfaction w/ Co-workers

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	95	36.1368	11.832	1.214
Group 2	55	34.1455	12.830	1.730

F Value		Pooled Variance Estimate		Separate Variance Estimate	
2-Tail Prob.		t Value	Degrees of Freedom	t Value	Degrees of Freedom
1.18	.487	.96	148	.94	105.57
					2-Tail Prob. .348

t-test for: S13		Job in General			
		Number of Cases	Mean	Standard Deviation	Standard Error
Group 1		88	40.7386	9.982	1.064
Group 2		55	32.0364	12.503	1.686

F		Pooled Variance Estimate			Separate Variance Estimate		
Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob	t Value	Degrees of Freedom	2-Tail Prob.
1.57	.061	4.60	141	.000	4.36	96.12	.000

t-test for: S13		Job in General					
		Number of Cases	Mean	Standard Deviation	Standard Error		
Group 1		95	38.7684	10.482	1.075		
Group 2		55	32.0364	12.503	1.686		
F 2-Tail Value Prob.		Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.42	.135	3.53	148	.001	3.37	97.61	.001

t-test for: S7 Reward Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	9.8636	1.846	.197
Group 2	55	10.3636	2.103	.284

Pooled Variance Estimate				Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.30	.276	-1.49	141	.138	-1.45	103.62	.150

t-test for: S8 Satisfaction w/ Supervision

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	35.5909	11.378	1.213
Group 2	55	36.3818	13.333	1.798

Pooled Variance Estimate				Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.37	.186	-.38	141	.706	-.36	101.32	.716

t-test for: S9 Satisfaction w/ Work

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	33.6364	9.762	1.041
Group 2	55	30.9273	12.392	1.671

Pooled Variance Estimate				Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.61	.047	1.45	141	.148	1.38	95.13	.172

t-test for: S10 Opportunities for Promotion

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		88	21.3977	14.886	1.587			
Group 2		55	22.1091	14.378	1.939			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.07	.793	-.28	141	.779	-.28	117.78	.777	

t-test for: S11 Satisfaction w/ Pay

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		88	25.3977	13.314	1.419			
Group 2		55	23.4727	13.384	1.805			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.01	.950	.84	141	.403	.84	114.31	.404	

t-test for: S12 Satisfaction w/ Co-workers

		Number of Cases	Mean	Standard Deviation	Standard Error			
Group 1		88	41.6023	9.817	1.047			
Group 2		55	34.1455	12.830	1.730			
		Pooled Variance Estimate			Separate Variance Estimate			
F Value	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.71	.026	3.92	141	.000	3.69	93.02	.000	

Independent samples of PNUM Principal Number Reference
 Group 1: PNUM EQ 4 Group 2: PNUM EQ 6

t-test for: S1 Coercive Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	8.7500	3.749	.400
Group 2	55	8.4727	3.349	.452

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.25	.374	.45	141	.655	.46	124.35	.646

t-test for: S2 Connection Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	6.1591	2.656	.283
Group 2	55	5.9273	3.366	.454

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.61	.049	.46	141	.648	.43	95.26	.666

t-test for: S3 Expert Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	11.7273	3.197	.341
Group 2	55	10.3273	3.697	.499

F Value	2-Tail Prob.	Pooled Variance Estimate			Separate Variance Estimate		
		t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.
1.34	.226	2.40	141	.018	2.32	102.40	.022

t-test for: S4 Information Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	8.8409	2.573	.274
Group 2	55	9.2182	2.192	.296

F Value		Pooled Variance Estimate			Separate Variance Estimate		
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.38	.206	- .90	141	.369	-.94	128.09	.351

t-test for: S5 Legitimate Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	12.1477	2.236	.238
Group 2	55	11.9636	3.006	.405

F Value		Pooled Variance Estimate			Separate Variance Estimate		
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.81	.014	.42	141	.676	.39	91.06	.696

t-test for: S6 Referent Power

	Number of Cases	Mean	Standard Deviation	Standard Error
Group 1	88	5.3636	3.217	.343
Group 2	55	6.7091	4.188	.565

F Value		Pooled Variance Estimate			Separate Variance Estimate		
2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	t Value	Degrees of Freedom	2-Tail Prob.	
1.70	.028	-2.16	141	.032	-2.04	93.29	.045

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