TEACHERS’ AND PRINCIPALS’ PERCEPTIONS OF LEADERSHIP
CHARACTERISTICS AND THE RELATIONSHIP OF THESE PERCEPTIONS TO
SCHOOL CLIMATE

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Abstract

This study examined the relationship between leadership characteristics and school climate. Through the online administration of two instruments, The Leadership Practices Inventory (LPI) and The School-Level Environment Questionnaire (SLEQ), teacher and principal perceptions of leadership characteristics in five categories and school climate in eight categories, were collected and analyzed. The SLEQ included two forms, actual environment and preferred environment.

Leadership skills, characteristics, and styles define the leader in a school building. The role of the school leader has become more complex, and expectations for leaders to create environments that support students, provide continuous learning for teachers, foster innovation, and meet achievement goals has become standard practice. School climate encompasses all of these expectations. Although the research on leadership and its characteristics is extensive, this study examined the research in the context of the needs of schools’ today, identified how leadership influences school climate, and predicted the discrete leadership characteristics that support the growth of positive school climate.
The two-group multivariate analysis of variance (MANOVA) was conducted on the leadership characteristics as dependent variables. Findings determined that there is no significant difference between teachers’ \((N = 324)\) and principals’ \((N = 21)\) perceptions of leadership characteristics. A MANOVA was also conducted to establish significance between teachers’ perceptions of their actual school climate and their preferred school climate. Results indicated there is a significant difference in teachers’ perceptions when considering the two.

Multiple Regression analyses \((p \leq .003)\) were used to determine the extent that teachers’ \((N = 324)\) perceptions of their principals’ \((N = 21)\) leadership characteristics predicted the teachers’ perceptions of school climate and principals’ perceptions of their own leadership characteristics predicted teachers’ perceptions of school climate. Results of analyses indicated that teachers’ perceptions of leadership maintain more predictive strength for school climate than principals’ perceptions of leadership. In particular, the leadership characteristic of the Leadership Practices Inventory (LPI) Model the Way, showed a relationship most often to the school climate characteristics specifically related to the School-Level Environment Questionnaire’s, Mission Consensus, Professional Interest, and Affiliation. Conclusions can be developed from these data and used to inform leaders about their own school climate and ways to develop positive school climate.
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CHAPTER ONE

INTRODUCTION TO THE STUDY

Research on leadership, including types of leadership, evaluation of leadership styles and their effectiveness, as well as leadership in various contexts, continues to generate debate and questions regarding what type of leader the principal should be in a school setting and how leadership skills, style, and characteristics impact the school climate. This research study explored the differences between teachers’ perceptions of school leadership within their own schools, and principals’ perceptions of their own leadership, the relationship between leadership and school climate, and the extent to which and the manner in which leadership characteristics predict school climate.

Leadership in schools is critical to school climate for the entire learning community. School personnel would benefit from developing an understanding of how organization and structures create the foundation for daily life, and how daily life creates a school climate. Daily life can be described as the unwritten rules, informal expectations, and rites and rituals that occur in schools (Deal & Peterson, 1999). The attitudes and perspectives of school personnel create the culture by which norms and values are developed (Barth, 2002). Although the research on leadership and its characteristics is extensive, this study proposed to examine the research in the context of the changing needs of schools reflected in the expectations of leaders, identify how leadership influences school climate, and predict the discrete leadership characteristics that support the growth of positive school climate.

A shift from a managerial orientation to a leadership orientation reflects a significant change for principals since the mid-1900s (Gupton, 2003). Both the demands to increase the quality of instruction and engage in a more democratic process represent those shifts.
Accountability is a primary responsibility for any principal. Reform movements such as No Child Left Behind (NCLB) have centered on this issue for schools across the country. The inclusion of all constituents in decision-making processes has established the need for a principal as a facilitator who is able to successfully create opportunities for participation, dialogue, and collaboration (Gupton, 2003). The current demands of leadership in schools merge into common categories for all schools: instruction, operations, human resources, strategic planning, school-community relations, managing interests of constituents, and building school climate (Portin, 2004). The range of any of these is dependent on a variety of variables and can shift over time. It is necessary for a leader to know and understand the relationship between how actions and approaches are perceived by teachers, and how those relate to perceptions about school climate.

According to Kouzes and Posner (2007), leadership is an identifiable set of skills and knowledge. Having this knowledge offers an opportunity for leaders to draw conclusions, respond, and plan based on research data versus instinct or past practice. The role of leadership in schools is synonymous with high expectations and a diverse set of skills. The importance of leadership for school leaders, teachers, and students and the role of leadership in promoting schools that foster climates of learning and community (Deal & Peterson, 1999) support the significance and value of this study.

Rationale

The importance of the school leader and the importance of positive school climate have been established by the literature as significant components of schools. This study explored the relationship of these two constructs based on sets of criteria that establish clearly defined behaviors and attitudes of teachers and principals as they relate to each other, and to the overall
perception of their schools. It is through these understandings that the researcher proposed increased effectiveness of school leaders and growth of positive school climate by establishing the characteristics of each of the constructs which most significantly demonstrate a relationship.

To create a context for this study, three areas of literature were reviewed: leadership characteristics, school climate, and the interaction of school climate and leadership characteristics. Effectiveness of qualitative studies versus quantitative studies on the topic of leadership and school reform has been a continuous discussion among researchers (Krug, 1992). The concept that “quantitative methods are inadequate for dealing with real-life complex phenomena for the true focus of social science” (1992, p. 6) is an idea that Krug supported in his qualitative research. Instead of debating the preference for quantitative methods over qualitative ones (or vice versa), Dawson, Fischer, and Stein (2006) suggested that consideration be given to the general goal of building usable knowledge. The studies included in this research represent both approaches and informed the researcher’s thinking, while reinforcing the need for this quantitative study to offer the generalizability in this critical area of school life.

The exploration and interest in identifying and understanding effective leadership in schools has many underlying goals. Researchers have examined this topic for many purposes including: increasing student achievement (Heck, Larsen, & Macroulides, 1990), school improvement (Hallinger & Heck, 1998), school performance (Heck, 1992), student learning (Leithwood, Louis, Andersen, & Wahlstrom, 2004) and school climate (Kelley, Thorton, & Daugherty, 2005). Effective leadership has been complex to define but is perceived as recognizable.

Early studies in the 1960s and 1970s linked school climate to leadership behavior. Studies from the 1980s and beyond focused more on the relationship between school climate and
School climate has been studied with a multitude of variables, methodologies, theories, and models, resulting in a not easily defined body of research (Anderson, 1982). In 1995, a study was conducted for the purpose of a validation of a measure of school climate, the Saskatchewan School Climate Survey (SSCS), and to gain a better understanding of the school climate phenomenon (Ruane, 1995). The study was based on Tagiuri’s Taxonomy, a framework known to describe organizational climate. “Tagiuri defined climate and atmosphere as the total environmental quality within an organization including: its ecology, milieu, social system, and culture” (Anderson, 1982, p.369). Additional studies and measures have been developed in an attempt to classify and describe school climate.

Positive school climate, according to the National School Climate Center definition, is characterized by strong collaborative learning communities (Center for Social and Emotional Education, 1992). While learning communities can be described and subscribed to in multiple ways, the impact and contribution of the school leader’s role is critical. Several studies have been conducted linking the role of leadership to school climate. While much research exists, the most pervasive implication of the research is that there is no one best way for leaders to behave to achieve positive school climate (Patrick, 1995). This study examined the complexities of the relationship to offer data based on perceptions and possible predictors.

**Statement of the Problem**

There is not one formula for good leadership, but possibly certain pieces of a formula that can be identified, learned, and implemented to lead to greater success in schools (Silins, 1994). Many school leaders employ a variety of skills and qualities that have been identified as essential for leadership, and yet many schools do not have school climates that are positive and grow to their potential. School climate serves as a measure of relationships, interactions, attitudes,
perspectives, academic success, and priorities. Gordon and Patterson (2006) explored school leadership through the lens of context and not as an isolated construct. They studied and described five types of leadership; their most salient point was that there is not one way to lead. Culture and environment play a significant role when defining the success of a leader, as well as creating the framework for what is expected.

The web of a school’s infrastructure requires the interplay of many facets which together create an inter-dependent environment, often making it difficult to assess or isolate areas of effectiveness and discrete aspects of school climate. Recent research has indicated that for schools to be effective, instructional leadership is a key component (Marzano, Waters, & McNulty, 2005), but the term effective can be a complex concept to define. Effective is very often defined based on student achievement, and while this is the goal of any educational organization, the layers that exist to support meeting that goal are not always evident. The climate of a school may be apparent through many lenses, including the attitude and affect of the school’s constituents as well as the appearance and functioning of the school building.

Although extensive research on effective leadership exists, the complex relationship between leadership and school climate was worthy of deeper study with a need to explore the possibility that there are certain key characteristics that can be found in school leaders that nurture the growth of positive school climate. The culture within a school is the product of the leader and the climate. The actions of the leader in one area can be effective while in another demonstrate lack of knowledge or understanding. In this study the researcher identified aspects of leadership and school climate through the perceptions of principals and teachers. Exploring the individual characteristics as well as combinations of characteristics in leadership through
these perceptions and relationships will lead to a deeper understanding of how the role of a leader can influence school climate.

**Potential Benefits of the Research**

Individuals with a variety of leadership skills are currently principals at all levels in schools. Each school has its own culture and climate guiding the daily practice of teachers, students, and staff. Leadership effectiveness may appear to be situational, or happen by virtue of circumstance, with no conclusive information explaining the relationship between the leader and school environment (Marzano et al., 2005). The research in this study has the potential to benefit and explain the leadership effectiveness in all school districts through the examination of the perceptions teachers and principals have of leadership and school climate. Conclusions also were developed identifying leadership characteristics that correlate with school climate.

Using these data, school districts and leaders can examine aspects of school climate and the leadership characteristics that would need to exist or be developed to support specific types of climate. In addition, this study provides data reflecting aspects of school climate environments that teachers prefer. Conclusions from these data can be used to inform leaders about their own school climate and ways to develop types of school climate. Through this research, leaders will gain a greater understanding of how aspects of school leadership can predict certain aspects of school climate. The research and writing on leadership in both educational as well as business environments include an extensive list of characteristics. Although some believe that leadership characteristics can be applied in all settings, this research identified the most significant predictors of aspects of school climate in different school settings (Gupton, 2003; Kouzes & Posner, 2007; Marzano et al., 2005; Mendez-Morse, 1992).
Definition of Key Terms

The following terms will be defined for the purpose of this research study:

1. Leadership is “the behavioral process of influencing individuals or groups toward set goals, and leadership effectiveness will be defined by how well these goals are achieved” (Barrow, 1977, p. 232).
2. Characteristic is “a distinguishing trait, quality, or property” (Merriam-Webster Dictionary, 2010).
4. School Culture “is the historically transmitted patterns of meaning that include the norms, values, beliefs, ceremonies, rituals, traditions, and myths understood, maybe in varying degrees, by members of the school community” (Stolp, 1994, p. 2).
5. Primary level refers to schools that include kindergarten and do not exceed second grade.
6. Elementary level refers to schools that include kindergarten through fifth grade.
7. Intermediate level refers to schools that do not include kindergarten or first grade, and do not exceed fifth grade.
8. Middle level refers to schools that include sixth through eighth grade.
9. High School level refers to schools that include ninth through twelfth grade.
10. Teacher includes any professional who is contracted on the same payment schedule as a teacher, this includes, school psychologist, social worker, and guidance counselor.
Research Questions

Data were analyzed to determine if a difference exists between teachers’ and principals’ perceptions of leadership characteristics and school climate. Teachers’ perceptions of actual school climate and preferred school climate were compared and the relationship among categories of leadership characteristics as predictors on categories of school climate, were explored through the following research questions:

1. Is there a significant difference between teachers’ and principals’ perceptions of the principals’ leadership characteristics?
   Non-Directional Hypothesis: There is a significant difference between teachers’ and principals’ perceptions of principals’ leadership characteristics.

2. Is there a significant difference between teacher’s actual perceptions of school climate and preference for school climate?
   Non-Directional Hypothesis: There is a significant difference between teachers’ perceptions of actual school climate and preference for school climate.

3. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by teachers?
   Directional Hypothesis: Leadership characteristics as perceived by teachers can predict teachers’ perceptions of school climate.

4. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus,
Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by principals?

Directional Hypothesis: Leadership characteristics as perceived by principals can predict teachers’ perceptions of school climate.

Overview of Methodology

Description of the Setting and the Subjects

This study included school districts \((N = 22)\) located in the southern portion of New York State and one school in New Jersey. Each district was self-governing with oversight provided by a Board of Education. School districts varied in enrollment size, from smaller village districts to larger town and city systems. These school districts represented a range of socioeconomic levels as well as cultural backgrounds. Principals ranged in longevity as leaders in their schools from first year principals to being in their current leadership role more than ten years. Teachers \((N = 332)\) were self-selected and represented different grade levels and subject areas from elementary, middle and high schools.

Instrumentation

Data were collected using two instruments, the Leadership Practices Inventory (LPI) and the School-Level Environment Questionnaire (SLEQ). The LPI is a 360° degree leadership assessment instrument created by James M. Kouzes and Barry Z. Posner (2000-2010). A 360° degree assessment uses a multi-rater approach. In this research, the same assessment instrument was used by the principal as a self-rater and the teachers as observers. This conceptual framework consists of five leadership practices: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. Validation studies,
conducted over a 15-year period, consistently confirm the reliability and validity of the Leadership Practices Inventory (Kouzes & Posner, 2000-2010). The LPI examines various leadership actions and behaviors measured on a 10-point Likert-type scale. The LPI contains 30 statements which measure the five key practices of exemplary leaders. This instrument has been extensively applied in many organizational settings including both the academic and practitioner worlds (Kouzes & Posner, 2007).

The SLEQ developed by Darrell L. Fisher and Barry J. Fraser (1990) was designed to measure the psychosocial dimensions of the environment of a school. The SLEQ consists of 56 items based on a 5-point Likert-type scale. The categories are grouped into eight scales: Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, and Work Pressure. Two forms have been developed, the Actual Form requesting response to current conditions, and the Preferred Form asking respondents to indicate their environmental preference for each category.

**Description of the Research Design**

Causal-comparative and correlational research designs were applied to address the research questions. A causal-comparative research design is most appropriate to explain the educational phenomenon in which the independent variables cannot be manipulated (Gall, Gall, & Borg, 2003). The leadership characteristics of each principal were considered fixed and preexisting; therefore, it was not possible to manipulate these variables (Issac & Michael, 1997), only to examine them in the context of this study. A causal-comparative design supported a comparison of perceptions between principals’ self perceptions and teachers’ perceptions of their school’s leadership for research question one and a comparison of teachers’ perceptions regarding actual school climate and their preference for school climate for question two. A
A correlational research design was used for research questions three and four to analyze the relationship between the characteristics of leadership to the variables of school climate to predict the standing of individuals in a sample on the criterion variable from scores earned in a weighted linear combination of predictor variables along with an indication of expected margin of error (Issac & Michael, 1997).

**Description and Justification of the Analyses**

Inferential statistics were used to answer questions one and two. A multivariate analysis of variance (MANOVA) \( p \leq .003 \), a statistical technique used to determine whether the groups differ on more than one variable (Gall, et al., 2003) was used to determine if there is a difference between teachers’ perceptions and the leader’s self-perceptions of demonstrated leadership on five different variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) in response to question one. A MANOVA \( p \leq .003 \) was also applied to the data to respond to question two to determine the difference between teachers’ actual perceptions of school climate and preference for school climate on eight different variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure). Questions three and four were addressed by using a stepwise multiple regression \( p \leq .003 \) to determine the extent to which teachers’ perceptions of their principal’s leadership predicted their perceptions of school climate and principal’s perceptions of their own leadership characteristics predicted teachers perceptions of positive school climate. The researcher selected stepwise multiple regression for statistical analysis rather than an hierarchal approach to allow for variables to be included and excluded in the equation as the strength of the independent variables changed with additional entries into the model. In addition, the researcher considered the use of the same data in multiple questions, and
as a result assigned a more stringent level \((p < .003)\) to all statistical procedures to avoid Type 1 errors.

**Limitations of the Study**

Several factors could be considered limitations in this study. Sampling restrictions based on participant self-selection were present. Inclusion in the study was completely voluntary and the researcher had no control over teacher participation or knowledge of pre-existing relationships between teacher and principal that could influence results. The methods used for contacting potential participants were postal-delivered letters or electronic mail. As a result of this aspect of the research design, explanation and questions may have been unanswered due to lack of face-to-face contact. In an effort to minimize this limitation, an e-mail contact was provided to eliminate unanswered questions. The researcher applied an extensive search and selection process which produced two instruments that were most aligned with the purpose and goals of the study. Instruments were pre-designed and therefore questions asked of participants were limited to the existing content of selected surveys. Certain questions that the researcher might consider relevant were not considered. Further limitations to this study are discussed in chapters three and five.
CHAPTER TWO
LITERATURE REVIEW

To create a context for this study, the review of literature considers two key constructs: leadership and school climate. More specifically, the literature review of leadership will focus on the role of leader and follower. Jago (1982) concluded that over the last 75 years, thousands of empirical studies have been conducted to deepen the understanding of leadership and what defines effective or ineffective leadership, and yet no comprehensive, definitive conclusions have been drawn. Almost 30 years later, we still grapple with varied points of view, perspectives, and studies that continue to explore and attempt to explain this phenomenon that pervades our society at all levels and in all organizations. Rather than explain or offer again the historical perspective of leadership as its own construct, the researcher attempts to explain key components, that of leader and follower. This explanation is followed by research studies exploring leadership characteristics and leadership in the context of schools. Background of school climate is provided and the relationship between leadership and school climate is examined. This chapter will review the research and literature concerned with leadership, and the ways that research studies have explored and assessed the characteristics of leadership and the relationship between leadership and school climate

**Historical Perspective of Leadership: Leaders and Followers**

Leadership is both a process and a property. The process of leadership is the use of non-coercive influence to direct and coordinate the activities of the members of an organized group toward the accomplishment of group objectives. As a property, leadership is the set of qualities or characteristics attributed to those who are perceived to successfully employ such influence. (Stodgill, 1974, p. 7)
Stodgill’s definition offered the clear point of view that leadership is layered and therefore must be examined through multiple lenses. Early analysis of leadership from the 1900s to the 1950s examined the characteristics of leaders and followers (Mendez-Morse, 1992). Through this perspective, the relationship between the two would not be considered an interaction, rather a consequence of an action by the leader to that of the follower (Smith, 1997). As researchers determined that a set of traits could not be defined which lead to a deeper understanding of leadership, the approach shifted to leaders’ skills and behaviors with a focus on making connections to traits and situational variables. Behavioral interactions between leader and follower were examined and leadership was considered an observable process (Jago, 1982). In the 1970s and 1980s, leadership studies began to focus again on individual characteristics of leaders, although at this time the context of organization became a compelling factor supporting the idea that leaders are part of a more complex structure (Mendez-Morse, 1992).

In considering the organization, Senge (1990) reflected on a comprehensive exploration of systems and systems thinking, of which leadership is an essential part. Senge wrote “If any one idea about leadership has inspired organizations for thousands of years, it’s the capacity to hold a shared picture of the future we seek to create” (p. 9). In citing many successful organizations, IBM, Ford, and Polaroid, he concluded by highlighting the importance of common identity and sense of destiny. James MacGregor Burns’ (1978) work supported this theory through the concept of transformational leadership and the idea that leadership is a process by which leaders and followers raise one another to higher levels of morality and motivation. It is rare for a vision created by a leader to be carried out by followers if they were not part of the creation of the vision (Murphy, 1988). Servant leadership, a concept developed by Robert Greenleaf, places the leader within the organization, and rather than hold a position at the top of
the hierarchy it placed the leader in the center interacting with all followers based on personal and professional needs (Marzano et al., 2005). The specific actions of leaders are most differentiated to the needs of followers under situational leadership where the expectation is that the leaders adapt their own “leader behaviors” based on the need of the follower. In this theory the role of leader and follower can be inter-changed dependent on the situation. This model might be reflected in settings where teacher leadership is a goal for the organization (Mendez-Morse, 1992).

An understanding of the followers’ needs can possibly expand the knowledge base and actions related to the many leadership theories and how, and in what context those theories may be applied. The consideration of what followers do, what they want, and what followers and leaders expect from each other offers insight into the reciprocal relationship of leaders and followers. Hersey and Blanchard (1988), known for their work with situational leadership, applied four levels of follower readiness which paralleled their four levels of leadership. In this context they suggested that the follower has a set of characteristics at one of the four levels: 1) followers with low job maturity and low psychological maturity, 2) followers with low job maturity and high psychological maturity, 3) followers with high job maturity and low psychological maturity, 4) followers with high job maturity and high psychological maturity. The leader in this model responds and reacts to the level of need the follower demonstrates. In addition the follower acknowledges some limitations of self, subjugates their leadership urges, and trusts the leader (Smith, 1997).

In addition to who the follower is, followers have interests or wants of their own, for example, some followers may have an interest in changing the way things are, or an interest in doing something well for their own sense of professionalism (Berlew, 1974). Individuals follow
for reasons of their own and the leader provides satisfaction for those reasons (Smith, 1997). The interaction of followers and leaders is guided by several key expectations on the part of the follower. Research has indicated that being honest, competent, forward-looking, and inspiring are key characteristics that followers expect from leaders (Kouzes & Posner, 2007). Mutual expectations are present and the shift of power is evidence of the reciprocal relationship. Each group gives the other permission to act in mutually agreed upon ways.

It is incomplete to have a discussion on leaders and followers without introducing the construct of power and the role it plays in understanding leadership models. Early models of leadership theory: trait, behavioral, and contingency were well rooted in the leader having the power and authority. Power-based leadership has its beginnings in the Great Man Theory which identified traits that were linked to the role of leader. These were perceived to be traits one was born with, and thereby separating the leaders from the followers (Avolio, 2007). Later models shifted to structures of empowerment as can be seen in transformational, visionary, servant, cultural, and collaborative leadership where the power comes from the followers and is shared with the leader (Dambe & Moorad, 2008). The sharing of power is a process for developing the followers. Empowerment-based leadership is based on shared leadership, and one of its core purposes is to support shared ownership and decision-making power with the followers. Leaders and followers must be organized around a common mission, purpose or guiding principle whose achievement is perceived to be dependent on the relationship between leader and follower (Jago, 1982).

“For all the research that has been conducted on the topic of leadership, the field remains curiously uninformed” (Hackman & Wageman, 2007, p. 43). With over 100 years of research and theories, we still lack a common definition, or agreement that leadership is its own construct
and not a set of traits, characteristics, or beliefs that can be named and taught. Leadership continues to be an evolutionary process. Theories, beliefs, and definitions continue to be developed and discussed. Some points are as true today as the research written 50 years ago. Avolio (2007) suggested that the next level of thinking and theory should be the integration of the dynamic interplay between leaders and followers; it should consider the prior, current, and emerging context to advance the science and practice of leadership. While reflecting on the questions we have asked in the past, and forging ahead to the future, the idea that new questions need to be considered if new answers are to be found is an important one. Hackman and Wageman proposed that, rather than ask if leadership matters, we should ask, “Under what conditions does leadership matter?” (2007, p. 43). Directly linked to followers and leaders, they suggest reframing the question from how do leaders and followers differ, to, “How can leadership models be reframed so they treat all system members as both leaders and followers?” (p. 45).

An emerging acceptance of the idea that traits exist and may evolve over time, depending on the dynamic exchange between the leader, follower, and context is an example of how the evolution of thinking from the earlier research informs our thinking today. The concept that traits function on a scale and within a range, shaping leadership effectiveness, emergence and development at different times (Zaccaro, 2007) expresses more current beliefs. Reflections of long-standing widely accepted research in the area of leadership supports the continued efforts of researchers to better understand this elusive concept. Avolio (2007) suggested the development of more integrative theories of leadership based on, and inclusive of, a variety of elements. He offered five broad categories or facets of leadership theory that can link the leader and follower: cognitive elements, individual and group behavior, historical context, proximal context, and
distal context. Both leaders and followers have specific roles and expectations. For example, he defined cognitive elements as “the way leaders and followers interpret their relationships, roles, capabilities, motivation, emotions, challenges, and objectives. Each and every action or reaction is filtered by leaders’ and followers’ implicit models or cognitive categorization schemesystems” (p. 29).

In Couto’s recent publication, Reflections on Leadership (2007), James MacGregor Burns authored the Foreward. While a reflection on all of his work over the years, he highlighted a point that is pertinent to this review and provides a segue by which to understand the research reviewed in this chapter. “I started placing the emphasis on followership, and not just on leadership, only recently because I realized that power is somewhere between and among followers and leaders” (Couto, 2007, p. vi).

Research on Leadership Constructs

The Role of the Principal

Understanding that there may be different conditions that promote successful leadership is critical to considering the role of the leader and effective school leadership. Observations of principals who succeed where others have failed would imply that there are a set of skills, characteristics or attributes that support success. Observations of successful principals in one setting, but not in another might indicate that conditions and setting matters. Experiences where it appears that a group of principals are successful, while another group may not be, could reflect that school systems make a difference and that quality leadership can be affected based on context (Barth, 1980). The research study, Making Sense of Leading Schools: A Study of the School Principalship, supported by the Wallace Foundation for the Center on Reinventing Public Education (Portin, Schneider, DeArmond & Gundlach, 2003), reported on what principals actually do rather than what they should do. One of the goals of the study was to determine how
similar or different the job of principal was in various types of schools and levels of school. The schools \((N = 21)\) represented public, private, sectarian, non-sectarian, charter, and magnet schools. The report is based on in-depth interviews with principals and vice principals as well as teachers, resulting in over 150 educator interviews in four cities across four states. The major question relating to this review was, “Are there core roles that all principals play, regardless of the types of schools they lead?” (Portin et al., 2003, p. 3). The researchers presented seven areas of functionality that can be applied to all school leaders: instruction, operations, human resources, strategic planning, school-community relations, managing interests of constituents, and building school climate. Through qualitative processes, the researchers explored how each of the leaders met their responsibilities in each of the categories, the commonalities and the differences. While all principals identified the need to assure quality instruction, they did not all see that as their role as principal, but all principals indicated the importance that they play in human resource leadership, indicating that hiring of teachers and staff was critical to the school’s success and school climate (Portin et al., 2003).

This study highlighted seven key areas but clearly made the point that not all principals must manage, or do manage all seven areas alone. This distinction may be made based on principal preference, function of the school/district size, resources available or district leadership. The researchers also made the distinction between leader and leadership concluding that there is a difference between the two (Portin et al., 2003). Using the metaphor of music and leadership, three configurations were presented, each reflecting a different type of leadership structure and possibly style: (a) the one man band – principal does it all, (b) principal as jazz band leader – principal lays down the melody, but allows for improvisation amongst a few key players, and (c) orchestra conductor – the principal doesn’t play an instrument, but ensures that all are playing
together in harmony, expanding the leadership responsibility to more people. An integral component in this study as perceived by the researchers was school governance. An acknowledgement of limitations, laws and guidelines followed by public sector schools that did not have to be adhered to by private schools made a difference in the actions and style of principals. The conclusions of this study led the researchers to make recommendations, supporting the concept that there is not a universal know and do recipe that can be followed by school leaders and that principals must be given the freedom to act commensurate with their level of responsibility. Effective leadership should be a priority, and hiring principals should be based on needs and not necessarily based on classroom experience as teachers (Portin et al., 2003). The researchers questioned whether teaching experience is an appropriate hiring criterion for the position of principal. Most critical to this review and exploration of leadership skills and characteristics as they are evaluated or deemed successful, is the concept of a too simplistic approach, schools not considering their specific needs, or expecting all leaders to have the same set of characteristics, or skills. The researchers of this study suggested that a better matched principal for the needs or setting of a school could produce better results (Portin et al., 2003).

The idea that one type of leadership can be labeled and then applied to the definition of successful principal is reflected in the various names, definitions, and attempts to characterize leadership in any one way. Different than Portin et al. (2003), Silins (1994) attempted through her research to define and name characteristics under the headings of transactional and transformational leadership, acknowledging that the nature of the first is the productivity and efficiency of the leadership role and the nature of the latter is that the actions are more closely linked to vision, meaning and beliefs. Silins’ (1994) research explored the demands on principals and a need to clarify the role of leader in a school setting.
Data from this study were collected through random sampling procedures of primary teachers ($N = 291$) in 58 schools. Quantitative methods were used through the administration of a two part, 106-item questionnaire. Part A consisted of two scales: transformational and transactional. Transformational scales were defined by five constructs: visionary, goal achievement, intellectual stimulation, individual consideration and support and, collaborative problem solving and ethos. Transactional scales included bureaucratic orientation and management by exception. Part B measured school outcomes, specifically: student performance outcomes, school curriculum outcomes, teacher outcomes, and school culture. Using Path Analysis, Silins (1994) explored the relationships amongst the independent variables of leadership and the dependent variables of school outcomes. In addition, the researcher reported the predictive power of the specific constructs on specific outcomes. Conclusions for this research study based on teachers’ perceptions found that the transactional construct and the transformational construct of intellectual stimulation did not reflect any relationship to the measured outcomes as defined for this study. Data did indicate that leadership behaviors as perceived by teachers do demonstrate significance (significance was provided on individual questionnaire items and not on total categories) and promote outcomes in the following categories: individual consideration and visionary to teacher outcomes, collaborative problem-solving to teacher outcomes, curriculum outcomes and school culture, goal achievement and ethos to curriculum outcomes, school culture, and student performance (Silins, 1994). This study explored and demonstrated the need to name the characteristics that fall within a named type of leadership for the specific purposes of examining data and searching for the predictive strength of leadership actions that can describe and define the success of schools and their leaders.
Success of schools and leadership was also the topic for the 2003 MetLife study which examined school leadership. The MetLife Survey of the American Teacher has been exploring teachers’ perceptions about school related topics since 1984. Using a 360° multi-perspective approach, teachers, principals, parents, and students responded to questionnaires and interviews in the categories of: school atmosphere, school leadership, the role of the principal, relationships among stakeholders, and the future of school leadership. The MetLife 2003 research was extensive, however, for the purposes of this review the research reported includes only data relevant to this study.

This study included a national representation of teachers ($N = 1,017$) and principals ($N = 800$) reflecting grades K-12. The findings supported a range of agreement and disagreement on several key areas between teachers and principals. In the broad category of important elements of a school leader, close agreement was evident in five of the six categories: teachers (51%) and principals (42%) believed that the most important role of the principal is to motivate teachers and students to achieve. Other identified areas included: teachers (40%), principals (45%), ensuring a safe environment; teachers (38%), principals (25%), listening to all stakeholders; teachers (31%), principals (41%), communicating a clear vision; teachers (32%), principals (13%), developing and communicating an instructional plan; and teachers (15%), principals (8%), providing feedback and guidance to school staff (Metropolitan Life Insurance Company, 2003).

Teachers and principals disagreed about principals’ actions in the schools. Principals consistently rated their actions higher than teachers rated them. Areas of disagreement included: teachers (36%), principals (78%), respecting the people in the school; teachers (35%), principals (59%), encouraging students to achieve; teachers (30%), principals (59%), being a good listener,
and teachers (38%), principals (67%), being a visible presence (Metropolitan Life Insurance Company, 2003).

The next category, school atmosphere also reflected a wide range of responses and perceptions between teachers and principals. Aspects of school climate were consistently reported at a higher percentage by principals than teachers. Actions reported on included: shows concern for students - teachers (83%), principals (97%), is welcoming to parents - teachers (72%), principals (89%); has a sense of community - teachers (63%), principals (85%); has a unified vision - teachers (59%), principals (82%); has open communication - teachers (58%), principals (91%); is connected with the neighborhood/community - teachers (58%), principals (69%); and provides opportunity to grow and develop professionally - teachers (54%) principals (84%). Although ratings were somewhat higher for school atmosphere, there is clear evidence from this study that perceptions of principals and teachers are not necessarily aligned.

Additionally, principals tended to rate themselves higher than teachers and have a more positive attitude and outlook for their schools (Metropolitan Life Insurance Company, 2003).

The role of principal as reflected in the research presented in this section describes responsibilities and characteristics that are multi-faceted and layered. Types of leadership and characteristics can be named and are observable by teachers. Principals see the important aspects of their roles differently. The actions of principals are judged and evaluated by teachers and are often perceived differently. The data presented in the MetLife survey provided insight into teachers’ and principals’ beliefs as being more aligned when evaluating the role of leader objectively as “the position of principal” rather than the actual performance in a real situation (Metropolitan Life Insurance Company, 2003).
Leadership Characteristics and Context

The development of a set of characteristics or traits has been the result of studies that have focused on several topics in education. Specific factors were identified in a study conducted by Blasé (1987) using qualitative methods to identify teachers’ perspectives of effective school leadership in a high school setting. This case study included 40 teachers who participated in a series of three interviews each. The expectation was to develop the widest possible range of substantive categories and themes regarding effective and ineffective leadership. Questions were open-ended and the researcher expected the teachers to apply current situation knowledge as well as information from previous teaching positions. Data from this study were used to conclude that there are nine task-related factors and five consideration-related factors regarding leadership from the perception of teachers (Blasé, 1987). In addition to the identification of factors, the researcher indicated that the teachers put an emphasis on the interdependence of the leadership factors. The collection of factors identified that a leader should demonstrate the following task-factors: decisiveness, follow-through, problem-solving orientation, knowledge and expertise, accessibility, consistency, clear and reasonable expectations, ability to manage time, and goals and direction. Consideration-factors included: support, participation, fairness, recognition, and willingness to delegate authority. As a set of factors, these were not novel and are similar to other collections of leadership characteristics identified through subsequent literature (Marzano et al., 2005). Important to this study was the researcher’s conclusion indicating that leadership factors affected teacher motivation, involvement and morale and that effective leadership influences the development of productive social and cultural structures in schools (Blasé, 1987).
Different from Blasé, a mixed-methods approach was used by Gurr, Drysdale and Mulford (2006), who offered a set of characteristics that could be attributed to models of successful principal leadership developed through their research work in Tasmania and Victoria, Australia. Citing the work of Leithwood and Reihl (2005), these researchers contended that, while extensive, most of the research evidence on leadership was from North America or the United Kingdom (UK). Additionally, the research typically relied on principals as the source of data. These researchers believed that more accurate data could be derived through multiple perspectives (Gurr et al., 2006). Leadership is a reciprocal process and understanding how and if the leader’s constituent’s needs are being met is an important indicator of success (Kouzes & Posner, 2007). In an effort to develop conclusions that could be applied across many countries, the International Successful School Principalship Projects (ISSPP) was created. Eight countries, including Australia, Canada, China, Denmark, England, Norway, Sweden, and the USA, were part of the three-phase project which used a framework of multiple perspective case studies, surveys, and observational case studies to examine this topic. As part of the ISSPP, case studies were conducted in five schools in Tasmania and nine schools in Victoria.

The focus of this study was on principals who had demonstrated successful leadership, as acknowledged by peers, and also who have improved student learning outcomes based on measurable data including state-wide examination results, student attendance, suspension, retention, parent opinion, and student participation. Characteristics of students measured included student engagement, self-direction, and sense of belonging (Gurr et al., 2006). The study included eight female and six male principals; multiple sources of data collection were used. The focus of the questions was about the success of the school and most specifically the principal’s contribution to the success. Data were collected and analyzed using a cross-case,
inductive analysis approach. The questions were grouped and themes were developed. The researchers performed collective analysis on each of the groups of schools as well as a comparison and consolidation of the 14 schools.

Results of the studies in Tasmania reflected themes that emerged for the five schools: (a) context, (b) principal’s values and beliefs, (c) providing individual support and building individual capacity, (d) building school capacity, (e) shared school vision/direction, (f) school outcomes, and (g) evidence based monitoring, evaluation, critical reflection, change/ transformation. The study in Victoria included the following six themes: (a) principal’s contribution to success, (b) values and beliefs, (c) personal characteristics, (d) styles of leadership, (e) understanding the context and the situation, and (f) leadership interventions in the areas of teaching and learning, student outcomes, school capacity building, and other factors (Gurr et al., 2006). Exploration of these themes allowed for varied applications of the underlying ideas, but the researchers found that through the development of the models for each state, the similarities were greater than the differences. Although the researchers found teacher and principal views were often congruent, similar to other research (Kouzes & Posner, 2007), principal perceptions were shown to be more optimistic (Gurr et al., 2006). Both studies highlighted the importance and contribution of the principal in a quality education, a consistent set of traits and behaviors, and the critical need for a strong set of values and beliefs that supported the areas of capacity building, and teaching and learning. The leadership skills outlined in this study support the idea of collaboration and shared sense of purpose based on strong communication with the goal of building capacity amongst all constituents (Lambert, 1998).
A shift from not only examining characteristics to also considering context is evidenced in Barker’s (2006) study of one school over the course of three principalships. Leadership characteristics were identified and observed over time for recognizing elements of sustainable leadership. The study spanned 17 years and was constructed through qualitative methods and as a retrospective case study. The three principals were described and compared. The context in which Principals Two and Three led became meaningful regarding their choices and actions relative to Principal One. Principal One served the school for 14 years. By the time of his departure, the school had fallen into a state of decline represented through poor discipline and low morale. Principal Two was described as having “fantastic leadership skills.” He was positive, motivational, charismatic, and appeared to bring change at a time when the school community needed it. Principal Three was described as straightforward, supportive, focused on teaching and learning, and a person who could get the job done (Barker, 2006). The sample for this study was small (N = 18). Skills and characteristics of leadership in this study and names of the traits were generated through interviews and observations. The successes of the leaders at different times were highlighted, although no tangible set of traits or characteristics were found to inform thinking about effective leadership that could be generalized. Conclusions included observations that Principals Two and Three demonstrated transformational impact even though they had different leadership styles. The most critical point indicated by the researcher was that the leadership was contingent on internal and external forces and the principal’s ability to overcome obstacles and seize opportunity.

Blair (2002), similar to Barker (2006), questioned context as a lens to examine leadership. Effectiveness of leaders in schools is often measured by student achievement. In a 2002 study, Blair questioned whether strong leadership characteristics can be applied in all
contexts for all students. In this qualitative study, researchers collected data through semi-structured and open-ended interviews with all constituents; they attended staff meetings and analyzed school policies and records. The question was focused on leadership effectiveness in a multi-ethnic context. The conclusions included the need for a focus on vision and practice. Competing needs require a variety of responses as well as the ability to negotiate the varied needs. Leaders need to hear and listen to the different voices but also must have the ability to make decisions that are not agreeable to all. It is important to gain support of the whole school community while not always being able to support individuals’ ideas (Blair, 2002). It is important to harness the positive energy by working with the differences, passions, and conflicts that may exist within the organization (Heifetz & Linsky, 2002). Leaders should be able to function in either a democratic or autocratic mode as necessary. A wide range of skills and characteristics were discussed including the leaders capacity for: communicating vision and strong values, developing culture, and being collaborative. In this study the researcher identified transformational leadership as most likely to lead in an inclusive environment where all members of the school community are provided with opportunity to achieve (Blair, 2002).

In contrast to Blair, Gordon and Patterson (2006) suggested that different types of leaders are considered effective in different settings. Leadership characteristics are not difficult to identify, but the question of different styles being more effective for certain school cultures than others is a key factor. If context makes a difference, then the same characteristics could be found more or less effective. The notion that there are many types of effective leadership styles distinguishes their research from the idea or expectation of a set of skills or characteristics that may be applied to all leaders. These researchers used qualitative research methods to develop profiles of principals and a variety of leadership types. Gordon and Patterson explored
leadership for its normative, singular, and evolutionary tendencies. Expecting context to make a difference for each school environment studied, the culture of the school was considered important. The research was conducted through the implementation of the A+ School Reform Program in 27 pilot schools in North Carolina. This program emphasized thematic, interdisciplinary teaching, daily arts instruction, and community partnerships. Although there was no specific role for the principal in the A+ Program, the researchers focused on the 12 of the 27 schools that experienced leadership change to examine school reform and leadership in this context, with the purpose of identifying the leadership characteristics of the principals. Leadership types were established from the collected data by looking at the similarities and differences across the school sites (Gordon & Patterson, 2006). As a result of their research, Gordon and Patterson named five types of leadership: Overt Top-down, Covert Top-down, Vanguard, Network, and Network Wannabe. Each of these leadership types has a set of characteristics or descriptors that are fairly similar to other styles that have been made available in the educational research and literature. Gordon and Patterson’s work is unique in that their belief was solely based on the idea that context makes a difference and therefore, shifting characteristics and effectiveness based on context is necessary.

Jingpin Sun’s (2004) study of perceived leadership style and teacher commitment extended the research of leadership style to examine the relationship of style and values. Sun’s research examined a values-based theory to understand the relationship between principals and teachers, reasoning that leadership power and as a result influence, is an interaction of the value system of the follower and the leader. Non-random sampling was used for this qualitative study which included elementary school teachers ($N = 12$) from several school districts in a large Canadian urban center. Participants were selected for their experiences with different
principalships and their ability to report with varied perspectives. Semi-structured, open ended, in-depth interviews were used to collect teachers’ descriptions, feelings, thoughts, perspectives, and psychological processes regarding the principals’ leadership styles they experienced and why or how they made commitments due to each of their principal’s influence. The Values Based Theory in this study examined six interrelated variables of the leader (actions/speeches, attitudes, values, understanding and motives) and how the interaction of these actions, as inferred by the teacher, and the leader-as-self as interpreted by the teacher, developed the teacher’s perception of the leader. The study purported the power of leadership lies in the ability to change elements in the follower’s value syntax or system. The researcher found in all 12 cases that teachers had a clear response of positive or negative (not neutral), concluding that the favorable or unfavorable opinions about their leaderships is an intrinsic part of the perception of leadership style. The researcher also suggested these data “indicate that the relationship between the follower and the leader is an essential element in the understanding of the concept of leadership” (Sun, 2004 p. 25). Findings from this study indicated that the influence of leadership is an interaction based on a value system. If the teacher has the same or similar value orientations as the principal, it is likely that the teacher and principal will have a good personal relationship (Sun, 2004).

Expanding on Sun’s research, The 2001 study, Challenging the Orthodoxy of Effective School Leadership (Day, Harris & Hatfield) reported on the perceptions of principals, as well as other stakeholders, as they considered the role of principal through a model of values-led contingency leadership, considering the successful principalship of schools in changing times, and moving beyond the polarized concepts of transactional and transformational leadership. Exploring through qualitative processes, the researchers used a 360° multi-perspective approach
to examine the successful principalship. Commissioned by the National Association of Headteachers, a five member team project compared the existing theories of effective leadership and practice of successful principals in what they perceived as changing times. The changing times, as defined in this study, related to the externally imposed expectations, accountability, and critical perceptions of schools in the United Kingdom (UK) regarding performance. The organization of this study included four key dimensions: (a) representation of all grade levels, (b) varied amount of time of the leader as principal of the school, (c) principals identified by independent external inspection reports, and (d) schools where measurable achievement levels had been raised, attributed to the quality of the principalship (Day et al., 2001). The study included 200 individual and group interviews with 400 participants. A total number of 36 principals and 12 schools were included in the research. Schools were visited over 3 days and a range of participants were interviewed. Participants were selected by the principal. Research teams used a five-phase content analysis. Cross-case analysis was conducted based on two meta-analytical themes: the contradictions, overlaps and tensions between different constructions of leadership and the identification of values, tensions, and dilemmas reported by principals.

Findings from this research resulted in a set of common beliefs and actions reflecting a foundation of core values that motivated the principal. These values translated to the following common behaviors: developing climates of collaboration, having high expectations for themselves and others, communicating and including influential groups, seeking support as necessary, and understanding the national views. In addition, these behaviors reflected the leader’s ability to anticipate needs of situations and followers. The principals were able to manage tensions between autocracy and autonomy, caution and courage, and development of teachers and student learning (Day et al., 2001). An important and yet not often recognized
view of these researchers was the acknowledgement that current leadership practices cannot be neatly defined, but rather reflect a messy process that will not fit into set theories or models. The overarching conclusion was that values, more than the power of context, dictated the leadership approach adopted by the principals in this study.

In support of the research of Day et al. (2001) and the importance of values as the guiding principle and foundation for leadership, developing collaborative cultures is a key component (Fullan, 2008). Kouzes and Posner (2007) link the creation of these types of cultures to the alignment of individual values and organizational values. Goleman, Boyatzis, & McKee (2002), writing on emotional intelligence, created a web of these ideas, inherently connecting them when they wrote and described what they called resonant leaders. “Such leaders have a knack for attuning to their own sense of what matters and articulating a mission that resonates with the values of those they lead” (p. 248). In considering styles, characteristics and attributes of leaders, emotional intelligence has become a widely accepted trait worth recognizing (Cherniss, 1998; Goleman et al., 2002; Hargreaves & Fullan, 1998; Kouzes & Posner, 2003). Emotional intelligence was originally defined by Salovey and Mayer (1989/90) as the ability to monitor one’s own feelings and emotions, the ability to monitor the feelings and emotions of others, and to use this information to guide future thinking and action. As a leader, emotional intelligence has become a key attribute (Goleman et al., 2002) to be considered when evaluating the success of the principalship.

The 2005 Report on the Ontario Principals’ Council Leadership Study explored the relationship between emotional intelligence and school leadership. Grounded in the concept that emotional intelligence can be developed and enhanced with appropriate interventions, the study examined the perceptions of the supervisors and staff members of principals as they related to
the emotional intelligence variables defined in the Emotional Quotient Inventory (EQ-i) assessment tool developed by Bar-On (2004). The sample included 464 principals and vice principals. Through a 125 item self-assessment, four main scales of emotional intelligence were determined: intrapersonal, interpersonal, adaptability, and stress management. Immediate supervisors and three staff members were asked to complete leadership skills surveys based on their role. Data were analyzed and two categories were used to examine the analysis: task-oriented leadership and relationship-oriented leadership. A total leadership score was generated from scores of both categories creating a below average group and an above average group. These groups were used for the next level of analysis. Although various results were explored in this study, for this review the concern or question is, “Does the data indicate a relationship between leadership and emotional intelligence?” The results of these data indicated that the above average group based on the leadership skills assessment, scored higher on the EQ-i in all four broad dimensions: intrapersonal, interpersonal, adaptability, and stress management. These results would indicate that principals who demonstrate stronger leadership skills also have a more highly developed level of emotional intelligence. The specific characteristics or behaviors indicated as being worthy of building leadership capacity include: emotional self-awareness, self-actualization, empathy, problem-solving, flexibility and impulse control (Stone, Parker, & Wood, 2005).

**Historical Perspective of School Climate**

Although recognized as an important factor, the systemized research of school climate only began to be studied by educators in the 1950s (National School Climate Council, 2007). Research on school climate evolved from studies and research of organizational climate (Devine, 2008). Early studies in the 1960s and 1970s linked school climate to leadership behavior.
Studies from the 1980s and beyond focused more on the relationship between school climate and school effectiveness (Ruane, 1995). Over the last two decades, educators and researchers have recognized complex sets of elements that create school climate (Center for Social and Emotional Education, 2008). Research on school climate as an isolated construct is less prevalent than studies focusing on school climate in the context of other aspects of school. Studies have been conducted relating school climate to teachers’ sense of efficacy (Imants & Zoelen, 1995), faculty trust (Hoy, Smith, & Sweetland, 2003), and teacher job satisfaction (Xiaofu & Qiwen, 2007) among many others variables, methodologies, theories, and models. Yet, no easily defined body of research exists (Anderson, 1982; Center for Social and Emotional Education, 2008). School climate continues to be examined and redefined because of its significant influences on educational outcomes (Devine, 2008). In 1995, Ruane conducted a study for the purpose of a validation of a measure of school climate (the Saskatchewan School Climate Survey, SSCS) and to gain a better understanding of the school climate phenomenon. The study was based on Tagiuri’s Taxonomy, a framework known to describe organizational climate (Ruane, 1995). Tagiuri defined climate and atmosphere as summary components dealing with the total environmental quality within an organization (Anderson, 1982). The dimensions of an environment include its ecology (the physical and material aspects), its milieu (the social dimension concerned with the presence of persons and groups), its social system (the social dimension concerned with the patterned relationships of persons and groups), and its culture (the social dimension concerned with belief systems, values, cognitive structures, and meaning) (Anderson, 1982). Ruane (1995) explained that the complexities of climate research are rooted in variable conceptualizations and definitions. The two different perspectives divide the idea of attributes, one being organizational as the foundation and the other an individual construct. The
research questions in the study which examined school climate were: a) What are the essential aspects of school climate? and b) What types of climate are there? Although the researcher hypothesized that the physical elements would be less important than people related indicators, the researcher found that all aspects included in the SSCS (ecology, milieu, social system and culture) were deemed important and no one category more essential than another (Ruane, 1995).

Most researchers have focused their efforts on a continuum of positive – negative school climate, however Ruane (1995) also examined a second dimension: consensus-disagreement. Results did not indicate a significant relationship between the two continuums for the purposes of answering the research question addressing types of climate. Although positive climates more often demonstrated agreement and negative climates a disagreement, positive climates existed where disagreement was present. The researcher suggested a closer examination of specific variables might yield different results. Ruane’s research data confirmed all four aspects of Tagiuri’s Taxonomy as having a component when examining school climate. Ruane’s research indicated that school climate is an intersection of organization as an attribute and individual perception.

School climate as a construct was the basis for Kallestad, Olweus and Alasker’s (1998) research. Through the collection of data from 42 schools at two different times, this study addressed the following four questions related to school climate as a construct:

a) Is it possible to identify “useful” dimensions of school climate on the basis of teacher reports?

b) Are there clear differences in climate between schools?

c) Are dimensions of school climate relatively stable characteristics of a school over time?
d) To what extent are teacher reports on school climate related to characteristics of the school, and can such possible relationships account for school differences in climate?” (p.73)

To be included as a school characteristic in this study, the researchers defined acceptable as a dimension that can be considered enduring over time, and able to be distinguished from one school to the next (Kallestad et al., 1998). The findings of this study and dimensions the researchers proposed as climate characteristics were: teacher-leader collaboration, teacher-teacher collaboration, and collegial communication. The researchers explored multilevel analysis to establish to what extent the climate dimensions were related to or could be predicted by teacher background variables and various school-level characteristics. The findings suggested that the teacher reports of school climate were fairly robust and generalizable across teachers of different backgrounds and different kinds of schools (Kallestad et al., 1998). As a characteristic of school climate, teacher-leader collaboration reflects the importance of the leader as a partner in establishing positive school climate. The research in this study provides multiple lenses for examining school climate including teacher, principal, and teachers’ perception of principal.

Leadership Characteristics and School Climate

School climate, according to the National School Climate Center definition, refers to the quality and character of school life. It is based on patterns of students’, parents’ and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures. Positive school climate as an extension of this definition is characterized by collaborative cultures and rooted in learning communities (Center for Social and Emotional Education, 1992). Research indicates that the impact and contribution of the school leader’s role is critical to school climate (Deal &
Several studies have been conducted linking the role of leadership to school climate. While much research exists, the most pervasive implication of the research is that there is no one best way for leaders to behave (Patrick, 1995).

Extensive research using a quantitative approach to study the topic of school leadership and school climate was used by The National Center for School Leadership (CSEE, 1992). Research conducted between 1985-1991 reported quantitative findings based on studies which have included several thousand administrators, and approximately 10,000 teachers (Krug, 1992). The purpose of their work was to understand the implications of the data as they related to the preparation of school leaders and school improvement. Using questionnaires and survey instruments, they reported on the relationship between school climate and instructional leadership. Principals and teachers responded to the same set of 48 questions regarding leadership practices. Separate instruments for principals and teachers assessed the same variables through different perspectives. The study included findings in five dimensions for instructional leadership (defines mission, manages curriculum and instruction, supervises teaching, monitors student progress, promotes instructional climate) and four relating to instructional climate (accomplishment, recognition, power, and affiliation) (Krug, 1992). Correlations between principal self-reports and teacher ratings of instructional leadership within the school were consistently positive, along with positive correlations of teacher ratings of satisfaction and commitment. An important conclusion was that perceptions of leadership and climate are very difficult to separate in the minds of teachers (Krug 1992). Instructional staff seemed less concerned with specifics than with the overall quality of leadership. Although the
A study focused on leadership and climate based on an instructional lens, the implications of leadership behaviors that reflect positive school climate were evident.

Applying the same dimensions and scales as Krug (1992), Anderman, Belzer and Smith (1991) examined contextual influence on teachers’ job satisfaction and commitment through the lens of school culture and how principals’ behaviors affect teachers’ behaviors and perception of school culture. Teachers ($N = 758$) assessed both principal behaviors and school culture. School culture included perceived stress on: recognition, accomplishment, power, affiliation, and the degree to which teachers seem to hold common values. Leadership was evaluated on five scales including: defines mission, manages curriculum, supervises teaching, monitors student progress, and promotes instructional climate. Results of this study presented significant correlations ($p < .001$) for teacher perceptions in the area of recognition, accomplishment, affiliation and strength of culture. The researchers suggested that these findings indicate that teachers who perceive their principals as strong leaders also have positive perceptions of school climate (Anderman et al., 1991). Multiple regression analysis suggested school cultures stressing recognition are most strongly and positively influenced by teachers’ perceptions of school leadership behaviors that promote: the instructional climate, define the school, and supervise teaching. Cultures where accomplishment was emphasized predicted teachers’ perceptions of leadership behaviors most strongly and positively in the following areas: define school mission, promote instructional climate, supervise teaching, and managing curriculum. School cultures focusing on affiliation were most strongly and positively influenced by school leadership variables: promote instructional climate supervise teaching, define the school mission, and managing curriculum (Anderman et al., 1991). These data indicate that certain leadership behaviors may foster different aspects of school culture. Teachers’ perceptions are directly related to what leaders do.
and how these actions are linked to daily life and the organization of schools creates the school climate.

In contrast, Chiang’s (2003) study explored perceptions of administrators about their school climate and examined the skills for success in creating positive school environments based on these perceptions. One of the most important abilities today for principals is to be a culture builder, a leader who demonstrates and instills values and concern for others, personal and group success, and continuous improvement (Chiang 2003). Although one cannot change the culture alone, a principal can provide leadership and opportunity for others to be part of the process (Barth, 2002). Data were collected from 41 administrators in a mid-western city in Indiana at the beginning of the first of two 3 hour workshops on diversity. Two surveys were administered: The School Climate survey and The Imperative Skills for Success As Administrators survey. Results from the climate survey indicated that not all principals were able to develop positive school climate, but all administrators, based on the skills survey, demonstrated knowledge and understanding of what is essential in creating a positive school culture. All 41 participants in the workshop completed the survey. The two areas that were ranked the highest among the administrators were: relate positively with staff (53.6%) and human relationships dealing with school personnel (60.9%). Principals also identified possessing and reflecting acceptable ethical practices (58.5%), as an important skill. Chiang’s study provides a window into not only what exists through the actions of administrators, but also what administrators believe should be. Conclusions from this study support the importance of self-rater surveys for principals and the need to identify what is important from the leaders’ point of view.
Leadership style and its relationship to school climate through teachers’ perspectives was the focus of a study conducted by Mendel, Watson, and Macgregor (2002). Directive, nondirective, and collaborative leadership styles of elementary principals were examined to determine their relationship to positive school climate. The study explored teachers’ perceptions of the leadership behavior of their principals as compared with the teachers’ perceptions of school climate. Quantitative data were collected using a two-part survey to measure perceptions of leadership behavior and perceptions of school climate. Researchers examined three questions to first determine the percentage of leaders in each type of leadership style, the difference between teachers’ perceptions of school climate based on their assessment of the principals’ leadership style, and which leadership style promoted positive school climate. The study represented schools \((N = 34)\) and teachers \((N = 169)\) randomly selected from a southwest Missouri school district. Results from this study indicated the largest number of teachers reported their principals as collaborative \((n = 104)\), followed by non-directive \((n = 54)\), with the fewest represented in the directive \((n = 11)\) category. Average school climate scores were compared with leadership styles and results reflected the strongest relationship between collaborative style and school climate. Researchers conducted a one-way ANOVA equalizing the groups by selecting no more than 11 sets of scores from each group. The data analysis indicated a significance difference \((p < .001)\) between the school climate ratings for the varying leadership styles based on teachers’ perceptions, and post-hoc comparisons indicated that all three groups were significantly different from the other two (Mendel et al., 2002) Conclusions from this study reflect collaborative principals’ average scores as the highest and directive principals’ the lowest as they relate to positive school climate. These data support the National
School Climate Center’s conclusion, but do not offer data regarding the actual behaviors of the school leader, but rather a style.

Although accomplished through a different lens, leadership style and perceptions of school climate were examined in an autoethnographical study conducted over a four-year period by Pepper & Thomas (2000). It reflected one principal’s journey as a new leader who focused on the development of positive school climate. Through reflection and journaling, this leader described the steps taken to develop a positive climate, shifting the climate from one of apathy and low achievement to one that was positive and caring. The principal purposefully applied a transformational leadership style, measuring the results in multiple ways including: reduction of discipline referrals and teacher complaints, teachers working more closely together, an increase in student achievement, and an increase in parental involvement (Pepper & Thomas, 2000). The research supports the importance of leadership style as it relates to teacher morale and attitude. The principal’s use of a transformational style rather than authoritarian had a positive effect on the learning and working environment. The research supports the important role of principal in establishing positive school climate (Pepper & Thomas, 2000).

Measures of the relationship between school climate and leadership were also examined in research conducted by Kelley et al. (2005) through the use of multiple instruments. This study examined the relationships between the principals’ preferred leadership styles and the teachers’ perceptions of their principal’s leadership style and teachers’ perception of school climate. Based on 31 elementary schools, all with only one leader in the building, data were collected using the Leader Behavior Analysis II (LBAII) to assess leadership styles (effectiveness and flexibility). Principals ($N = 31$) self-rated their leadership style and one teacher ($N = 31$) for each principal rated their perception of their principal’s style. The Staff Development and
School Climate Assessment Questionnaire (SDSCAQ) was administered to four different teachers \((N = 124)\) in each school to collect data on the climate of the school. The results of the study provided evidence demonstrating a positive relationship between teachers’ perceptions of their principals’ effectiveness scores and all six climate scores. Correlations were significant at the \(p < .05\) level for communication \((r = .371)\), decision-making \((r = .386)\), advocacy \((r = .414)\), and evaluation \((r = .376)\). Innovation \((r = .494)\) and staff development \((r = .523)\) reflected significance at the \(p < .01\) level. These correlations would suggest that school climate is directly linked to teachers’ perceptions of principal’s effectiveness (Kelley et al., 2005). Data reflecting the correlation between teachers’ perceptions of school climate related to principal’s flexibility scores and provided the researchers results that reflected negative correlations, with communication \((r = -.358^*)\) and advocacy \((r = -404^*)\) both statistically significant \((p < .05)\).

These data suggest that the higher the teachers’ perception of their principals’ FLX (flexibility) score, the lower their perception of teacher advocacy and effectiveness of communication in the building.

Kelly et al. (2005) also examined the relationship between teachers and principals as self raters on the LBAII flexibility and effectiveness scores. No results were statistically significant. Principals’ choices could not be predicted by teachers’ perceptions of their principals’ choices. These data would indicate that there is no relationship between principals as self-raters and teacher’s perceptions as they relate to this instrument. These findings provide important discrepancies between what principals believe and teachers perceive as it relates to both leadership style and school climate. Teachers’ perceptions as a measurement would indicate a need for principals’ to have a deeper understanding of themselves and their school environments.
An approach taken by researchers in a 2008 study of school culture and principals considered positive and negative school climate as a process to deepen understanding of what exists in the leader who promotes positive school culture. Data were collected using a mixed-methods approach from primary school principals \((N = 46)\) through questionnaires and semi-structured interviews, and teachers \((N = 700)\) through questionnaires only. School culture for the purposes of this study included five dimensions: goal orientedness, participative decision making, innovativeness, leadership, and cooperation between teachers (Engels, Hotton, Devos, Bouckenooghe & Aelterman, 2008). Teachers responded to school culture and aspects of teacher well being. The principals’ questionnaire consisted of four categories: well being indicators, personality characteristics, decision-making style and general socio-demographic questions. Semi-structured interviews were between 90 minutes and 2 hours designed to collect additional information on the following topics: school characteristics, previous training and perception of the efficacy as a principal, preferred and emphasized task components, development of shared norms, support from team. Correlations were examined and positive relationships were found most often in the category of personality characteristics, which were divided into three sub-categories: type A achievement, locus of control, and type A irritation. Significant positive correlations were found as follows: type A achievement: goal orientedness \((r = .39)\), supportive leader \((r = .34)\), leader initiating structure \((r = .34)\), innovative \((r = .40)\); and locus of control: leader initiating structure \((r = .36)\), formal relationships \((r = .30)\) and general team well-being \((r = .42)\) (Engel et al., 2008). Researchers define the type A category of principal as “a leader who, with their ambition and continuous pursuit of high quality and improvement, achievement-oriented personalities, are successful when they devote their energy to transforming the school culture” (Engels et al., 2008, p.171). The researchers found, through
semi-structured interviews, that principals in positive school climates identified with the role of mentor/innovator, creating flexible, supportive environments in which participation and innovation were encouraged (Engels et al.). Findings from both quantitative and qualitative approaches support transformational leaders as culture builders who can innovate and motivate groups of people to succeed and work together to accomplish common goals.

**Conclusion**

The background and studies in this review offer perspective, through qualitative and quantitative research, of a large number of leadership styles, characteristics, and behaviors that have been identified by principals and teachers as elements of leadership. The relationship between leadership and school climate in varied settings was presented and the importance established through evidence of leadership characteristics and demonstrated actions as they relate to teachers’ perceptions of school climate. Leadership and school climate remain elusive and difficult to define for many of the same reasons: lack of agreed upon definition, variation of context and setting, changing perceptions and needs, and lack of success in quantifying the understanding and knowledge that would allow for generalizability. Certain key factors or areas were recurring: the importance of values of the leader and the need to collect data on teachers perceptions as a measure of school climate. Although principals’ and teachers’ perceptions were aligned at times, principals’ perceptions of leadership did not predict school climate. The varied findings in the literature support a need for further investigation and understanding of what measures can be applied and what practices can be implemented to promote positive school climate.
CHAPTER THREE

METHODOLOGY

This study explored leadership and school climate through the perceptions of both principals and teachers. Data were collected using two instruments, the Leadership Practices Inventory (LPI) (Kouzes & Pozner, 2000-2010) and the School-Level Environment Questionnaire (SLEQ) (Fisher & Fraser, 1990). Public schools including elementary, middle, and high schools were contacted for this study. Participants included one principal from each school, and the researcher set an inclusion rate of 25% for the target population of teachers for each of these schools.

This chapter represents the research methodology applied to respond to the research questions in this study. The research questions and hypotheses are presented. A description of the settings, subjects, and sampling procedures are reviewed, followed by an explanation of the research design, instrumentation, data collection procedures, and data analysis. Ethical considerations conclude the chapter.

Research Questions and Hypotheses

1. Is there a significant difference between teachers’ and principals’ perceptions of the principals’ leadership characteristics?
   
   Non-Directional Hypothesis: There is a significant difference between teachers’ and principals’ perceptions of principals’ leadership characteristics.

2. Is there a significant difference between teacher’s actual perceptions of school climate and preference for school climate?

   Non-Directional Hypothesis: There is a significant difference between teachers’ perceptions of actual school climate and preference for school climate.
3. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by teachers? Directional Hypothesis: Leadership characteristics as perceived by teachers can predict teachers’ perceptions of school climate.

4. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by principals? Directional Hypothesis: Leadership characteristics as perceived by principals can predict teachers’ perceptions of school climate.

**Setting, Sampling Procedures, and Research Sample**

**Setting**

This study included school districts located in the southern portion of New York State, including Westchester, Putnam, and Dutchess Counties; additionally, it included one elementary school in the State of New Jersey. The principals of 385 public elementary and secondary schools of varying sizes were contacted for this study. Similar Schools is a system used in New York State to group schools of similar demographic data. The New York State School Report Card has defined school pupil needs to reflect the challenges faced in schools. The major factors included are free lunch eligibility rate and limited English proficiency rate. Together these two
factors can explain much of the variability between schools in test performance. However, not all
districts operate free lunch programs in all schools. For these schools, the Department uses
federal census data to estimate free lunch eligibility. Table 1 describes the Similar Schools
category assigned by the New York State Education Department for the participating schools in
this study (New York State Education Department, 2008).

Table 1

*Description of Sample Size According to the School Identification System of the New York State
Department of Education*

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>All schools in this group are elementary level schools in urban or suburban school districts with high student needs in relation to district resources. The schools in this group are in the higher range of student needs for elementary level schools in these districts.</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>All schools in this group are elementary level schools in school districts with average student needs in relation to district resource capacity. The schools in this group are in the higher range of student needs for elementary level schools in these districts</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>14</td>
<td>All schools in this group are elementary level schools in school districts with average student needs in relation to district resource capacity. The schools in this group are in the higher range of student needs for elementary level schools in these districts.</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>
Table 1 (continued)

*Description of Sample Size According to the School Identification System of the New York State Department of Education*

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>All schools in this group are elementary level schools in school districts with average student needs in relation to district resource capacity. The schools in this group are in the higher range of student needs for elementary level schools in these districts.</td>
<td>4</td>
<td>18.1</td>
</tr>
<tr>
<td>16</td>
<td>All schools in this group are elementary level schools in school districts with low student needs in relation to district resource capacity. The schools in this group are in the middle range of student needs for elementary level schools in these districts.</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>17</td>
<td>All schools in this group are elementary level schools in school districts with low student needs in relation to district resource capacity. The schools in this group are in the middle range of student needs for elementary level schools in these districts.</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>32</td>
<td>All schools in this group are middle level schools in school districts with average student needs in relation to district resource capacity. The schools in this group are in the middle range of student needs for middle level schools in these districts.</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 1 (continued)

*Description of Sample Size According to the School Identification System of the New York State Department of Education*

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>All schools in this group are middle level schools in school districts with low student needs in relation to district resource capacity. The schools in this group are in the lower range of student needs for middle level schools in these districts.</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>35</td>
<td>All schools in this group are middle level schools in school districts with low student needs in relation to district resource capacity. The schools in this group are in the middle range of student needs for middle level schools in these districts</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>52</td>
<td>All schools in this group are secondary level schools in school districts with low student needs in relation to district resource capacity. The schools in this group are in the lower range of student needs for secondary level schools in these districts.</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

*Total* 21

Principals from all school levels (elementary, middle, and high school) were asked to participate. In order to be considered for participation in the study, the researcher set an inclusion rate of 25% for the target population of teachers for each of these schools. Teachers representing any grade level or subject were included through self-selection. Teachers in the targeted counties are governed by state teaching regulations. Teachers who participated held either their provisional certification or were permanently certified. Provisionally-certified
teachers have completed a state-approved teaching program and have passed the State Certification Exam. All permanently-certified teachers have met the criteria for provisional certification and have had at least two years teaching experience and have earned a Masters Degree from an accredited institution of higher education (New York State Education Department, 2008). This State requires all administrators to have administrative building level certification.

**Sampling Procedures**

The participants in this study were a sample of convenience identified through a self-selection process. To conduct this research, principals from Westchester, Rockland, Putnam, and Dutchess counties were invited to participate in the study. School levels included primary, intermediate, elementary, middle, and high school. Four stages of participation requests and attrition are outlined in Table 2. Principals were initially contacted through e-mail (see Appendices A & B) to determine interest in participation. The researcher provided potential participants with a time line for data collection procedures (see Appendix C) a sample of an LPI data report (see Appendix D) and the School-Level Environment Questionnaire (see Appendix E), and contact letters requesting consent for participation (see Appendices, F, G, H). After interest was indicated by the principal, permission from the superintendent was requested (see Appendix F). Once superintendent's permission was granted, formal consent was secured from the principal (see Appendix G). Following principal permission, all teachers within the school setting were contacted requesting interest in participation (see Appendix H). Initially all interested principals were accepted, but continuation in the study was based on the set criterion of a 25% building-level participation rate of teachers. Stage 3 level schools reflect principal interest in participation and non-response or a decline to participate by the Superintendent.
Schools included at the Stage 4 level participated and data were collected. At the close of survey data collection, based on data cleaning procedures, the final decision of inclusion in the study was determined.

Table 2

*Participation Requests and Attrition*

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Requests</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Request for participation sent to principals</td>
<td>385</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Additional information including request to contact superintendent of schools</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Request to superintendents</td>
<td>30</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>Participated in study</td>
<td>27</td>
<td>22</td>
</tr>
</tbody>
</table>

**Research Sample**

The final research sample consisted of 22 principals and 332 teachers. Teacher respondent data included the number of years their principal had led their school. The survey provided ranges within the following four options: 1 year, 2 years, 3 years, 4 to 6 years, 7 to 10 years, or more than 10 years. School level information was included requesting that participants select from the following categories: primary, elementary, intermediate, middle, or high school.

**Principal participants.** The sample consisted of 22 principals. Principals’ longevity in their current schools ranged from 1 year to more than 10 years. Table 3 indicates the number of years for each category. Principals represent a range of grade and school levels. Table 4 includes a description of participants by school level.
Table 3

*Range of Years as Principals in Participating Schools*

<table>
<thead>
<tr>
<th>Range of Years</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Year</td>
<td>4</td>
</tr>
<tr>
<td>2 Years</td>
<td>2</td>
</tr>
<tr>
<td>3 Years</td>
<td>3</td>
</tr>
<tr>
<td>4 to 6 Years</td>
<td>6</td>
</tr>
<tr>
<td>7 to 10 Years</td>
<td>3</td>
</tr>
<tr>
<td>More Than 10 Years</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>

**Teacher participants.** The sample included 345 teachers. The expectation for completion of each survey was that all questions had been answered with no omissions. Data cleaning procedures removed 13 participants following the end of data collection due to incomplete responses to all three surveys. Teacher participant data included the school level at which they taught and the number of years their principal had led their school. See Table 4 for the number of teachers by school level.
Table 4

*Number of Principals and Teachers at each School Level*

<table>
<thead>
<tr>
<th>School Level</th>
<th>N Principals</th>
<th>% Principals</th>
<th>N Teachers</th>
<th>% Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>2</td>
<td>9.0</td>
<td>35</td>
<td>10.4</td>
</tr>
<tr>
<td>Elementary</td>
<td>9</td>
<td>40.9</td>
<td>111</td>
<td>33.1</td>
</tr>
<tr>
<td>Intermediate</td>
<td>6</td>
<td>27.2</td>
<td>80</td>
<td>23.8</td>
</tr>
<tr>
<td>Middle Level</td>
<td>4</td>
<td>18.1</td>
<td>72</td>
<td>21.4</td>
</tr>
<tr>
<td>High School</td>
<td>1</td>
<td>5.0</td>
<td>37</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>335</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description of Research Design**

This study utilized survey research to explore the relationship between the variables of leadership and the variables of school climate. Survey research is an effective process for gathering opinions, attitudes, perceptions and practices of individuals (Gall et al., 2003). Causal-comparative and correlational research designs were chosen as they support the study of behaviors, cognition, and other attributes without intervention by the researcher (Gall et al., 2003). A causal-comparative research design supports the comparison of two groups in order to explain existing differences on one or more variables (Gall et al., 2003). This design supported research question one by comparing perceptions between principals’ self perceptions and teachers’ perceptions on the five criterion variables of leadership. Research question two examined teachers as one group, comparing the same teachers’ perceptions on two levels, actual school climate and preferred school climate based on eight criterion variables.
A correlational research design was used for research questions three and four to analyze the relationship between the independent variable, characteristics of leadership, to the dependent variable of school climate. This design was chosen as it allowed the researcher to analyze the relationships among a large number of variables in a single study (Gall et al., 2003). Correlational research design using survey data supported the inclusion of a large number of variables in that through data analysis the strength of each variable was measured for statistical value amongst all the variables in relationship to the dependent variable, school climate. By itself, one variable can explain a relationship that when additional variables are considered will not maintain the same statistical power (Rea & Parker, 2005). When two variables are related, they covary or share variance, so as additional variables are considered the relationship or statistical strength can be changed. The use of correlational research was applied to determine whether and to what degree a relationship existed between these quantifiable variables. This study examined aspects of leadership that can be most highly correlated to school climate.

**Instrumentation**

Surveys are a widely accepted and used research tool for the purpose of collecting information from a relatively small number of people which can serve as a representation of a larger group. Survey data generally falls into three categories for the type of data collected: descriptive, behavioral, and attitudinal (Rea & Parker, 2005). For the purpose of this study, data were collected using two instruments; the Leadership Practices Inventory (LPI; see Appendix D) and the School-Level Environment Questionnaire (SLEQ; see Appendix E).

The criteria used to select the instruments for this study included a thorough review of online and paper surveys. Consideration was given first to the quality and ability to gather data for the purposes of answering the research questions. Importance of language, categories, tone,
and survey style were deemed critical to collection of accurate perceptions of teachers and principals. The second consideration was ease of use and process for collection of responses. As access and use of the Internet have increased, so has the use of web-based surveys. For designated populations, the use of Internet surveys offers the researcher the ability to easily design and implement a survey and collect responses faster than traditional survey methods (Dillman, Smyth & Christian, 2009). For this study the researcher administered both survey instruments through online resources.

**Leadership Practices Inventory**

The Leadership Practices Inventory (LPI) is a 360° degree leadership assessment instrument created by James M. Kouzes and Barry Z. Posner based on their research which began in 1983 (2007). It was developed through a triangulation of qualitative and quantitative research methods and studies. In-depth interviews and written case studies from personal-best leadership experiences generated the conceptual framework which consists of five leadership practices: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart (see Table 5). Validation studies, conducted over a 15-year period, consistently confirm the reliability and validity of the Leadership Practices Inventory and the Five Practices of Exemplary Leaders model (Kouzes & Posner, 2000-2010). This model was designed as a framework of the five leadership practices which guides leaders in developing their knowledge and skill of the practices in their role as leaders. The LPI has been extensively applied in many organizational settings in both the academic and practitioner worlds (Kouzes & Posner, 2007).

The LPI was created by developing a set of statements describing various leadership actions and behaviors. Each statement was originally cast on a 5-point Likert-type scale; it was
reformulated in 1999 into a more robust and sensitive 10-point Likert-type scale. A higher value represents more frequent use of a leadership behavior as described in the statement: (1) almost never; (2) rarely; (3) seldom; (4) once in a while; (5) occasionally; (6) sometimes; (7) fairly often; (8) usually; (9) very frequently; and (10) almost always. The LPI contains 30 statements - six statements for measuring each of the five key practices of exemplary leaders. Both a Self and Observer form of the LPI have been developed. Both forms take approximately 8 to 10 minutes to complete.

**LPI Reliability.** The internal reliabilities for the LPI are consistently above .70 (Gable, 1986). There is a tendency for the reliability coefficients from the LPI-Self (between .75 and .87) to be somewhat lower than those for the LPI-Observer (ranging between .88 and .92). Test-retest reliability scores for the five leadership practices have been consistently strong, generally at the .90 level and above. In a study involving school administrators, test-retest reliabilities were reported to be .86 for superintendents and .79 for school principals.

**LPI Validity.** The LPI has excellent face validity as well as objective validity. Factor analysis was used to determine the extent to which the instrument items measure common or different content areas. The results from various analyses revealed that the LPI contains five factors, the items within each factor correspond more among themselves than they do with the other factors. LPI scores are significantly related to other critical behavioral (individual and organizational) performance measures. It has excellent concurrent validity, and leadership scores consistently are associated with important aspects of managerial and organizational effectiveness such as workgroup performance, team cohesiveness, commitment, satisfaction, and credibility.
In meta-reviews of leadership development instruments conducted (Kouzes & Posner, 2002) a large number of researchers have utilized the Leadership Practices Inventory in their investigations of various leadership issues. “Correlations with other sociological and psychological instruments further enhance confidence that the LPI measures what it is purported to measure and not some other phenomenon (construct validity)” (p.16).

Table 5

*The Five Factors of the Leadership Practices Inventory*

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model the Way</td>
<td>“Creditability is the foundation of leadership” (Kouzes &amp; Posner, 2003, p.4). In their description of Modeling the Way, the authors of the instrument identify several key descriptors to define this trait. From the leaders’ perspective it would include: finding your own voice by clarifying your personal values and setting the example by aligning actions with shared values. From the observers’ perspective, the teacher is looking for a leader who stands for something, believes in something and cares about something. It is this essential idea linked to the action of consensus building based on a common set of principles that defines this trait.</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>“Leaders passionately believe that they can make a difference” (Kouzes &amp; Posner, 2003, p. 5) The leader envisions the future by imagining exciting and enabling possibilities, the leader enlists others in a common vision by appealing to shared aspirations. The leader knows the vision will only be realized if teachers are part of the process.</td>
</tr>
</tbody>
</table>
Table 5 (continued)

*The Five Factors of the Leadership Practices Inventory*

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge the Process</td>
<td>“The work of leaders is change” (Kouzes &amp; Posner, 2003, p. 5). The leader believes that it is an imperative to search for opportunities by seeking innovative ways to change, grow, and improve. The leader demonstrates the ability to experiment and takes risks by constantly generating small wins and learning from mistakes. The leader who understands process, moves one step at a time accepting opposition and setbacks as part of the process.</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>“Leaders know they can’t do it alone” (Kouzes &amp; Posner, 2003, p. 5). Leaders who demonstrate strength in this trait foster collaboration by promoting cooperative goals and building trust. They strengthen others by sharing power and discretion. A guiding concept is that mutual respect is a key component to the success of the effort.</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>“The climb to the top is arduous and steep. People become exhausted, frustrated and disenchanted. Leaders encourage the heart to carry on” (Kouzes &amp; Posner, 2003, p. 5). They recognize contributions by showing appreciation for individual excellence and celebrate the values and victories by creating a spirit of community.</td>
</tr>
</tbody>
</table>

*Note.* Kouzes & Posner, 2007
School-Level Environment Questionnaire

The School-Level Environment Questionnaire (SLEQ), developed by Darrell L. Fisher and Barry J. Fraser (1990), consists of 56 items. Each item is scored on a 5-point Likert-type scale, (1) strongly agree, (2) agree, (3) not sure, (4) disagree, (5) strongly disagree. Three categories: Relationship, Personal Development, and System Maintenance and System Change encompass eight scales by which each school is measured. The eight scales are as follows: Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, and Work Pressure (see Table 6). Two forms have been developed: the Actual Form requesting participants respond to current conditions, and the Preferred Form asking participants to indicate their environmental preference for each category. The SLEQ was an outgrowth of the Work Environment Scale (WES) developed by R. H. Moos (Fisher, & Fraser, 1990), therefore background knowledge is important to understanding and accepting the application of the SLEQ for this study.

The WES was developed by R. H. Moos (1981) and was applied in a variety of settings including hospital wards, school classrooms, prisons, military companies, university residences, and work environments (Fisher & Fraser, 1990). The WES uses three dimensions: Relationship, Personal Development, and System Maintenance and System Change Dimension to assess the psychosocial environment of an organization. Maintaining the dimensions and the established validity of the WES, Fisher and Fraser designed the SLEQ to be more accessible to teachers, to be used specifically in schools, and to be more efficient in both testing and scoring time (Fisher & Fraser, 1990). The researchers improved the face validity for schools by changing the word people to teachers, supervisor to senior staff, and employee to teacher (Fisher & Fraser, 1990).
Two studies were conducted by Fisher and Fraser using the WES in school environments. The first included a sampling of 114 science teachers in 35 secondary schools, the second included 34 schools and 599 teachers representing both elementary and secondary schools. The second study included the administration of the actual form and the preferred form. The internal consistency (alpha reliability) and discriminant validity (mean correlation with other scales) indicated that the WES scales displayed satisfactory internal consistency and measure distinct aspects of school environment. The development of the SLEQ was informed by the above studies and a review of other instruments associated with measuring school environments, including the College Characteristics Index (CCI, Pace & Stern, 1958), the High School Characteristics Index (HSCI) (Stern, 1970), and the Organizational Climate Description Questionnaire (OCDQ) (Halpin & Croft, 1963). Fisher and Fraser identified criteria to determine the modifications that would create increased suitability for a tool measuring school environment. It was determined that using seven scales within the three dimensions developed by Moos (Fisher & Fraser, 1990) could meet the criteria. The questionnaire was changed from a true or false response to a 5-point Likert-type scale. Fisher and Fraser aligned the Moos scheme to the revised eight-scale seven-item format.

**SLEQ Reliability.** Validation of the SLEQ for three samples included 83 teachers from 19 coeducational government schools (7 elementary and 12 secondary) in the Sydney Australia metropolitan area, 34 secondary school teachers, each in different government high schools in New South Wales, and 109 teachers in 10 elementary and secondary schools in Tasmania. The teachers in the third sample were the only participants who responded to both the preferred and actual forms. The alpha coefficient for different SLEQ scales ranged from 0.70 to 0.91 for the first sample, from 0.68 to 0.91 for the second sample, from 0.64 to 0.85 for the actual form for
the third sample, and from 0.64 to 0.81 for the preferred form for the third sample. These values suggested that the SLEQ scale displays satisfactory internal consistency for a scale composed of only seven items.

**SLEQ Validity.** Extensive interviewing ensured that SLEQ’s dimensions and individual items covered aspects of school environment perceived to be salient by teachers. In the three sample studies, the values of the mean correlation of a scale with the other scales ranged from 0.17 to 0.38 for the first sample, from 0.05 to 0.29 for the second sample, from 0.10 to 0.42 for the actual form for the third sample, and from 0.28 to 0.44 for the preferred form for the third sample. These values indicated satisfactory discriminant validity and suggest that the SLEQ measures distinct although somewhat overlapping aspects of school environment (Fisher & Fraser, 1990). The third sample which included 109 teachers from 10 schools supported an exploration to determine if the SLEQ is capable of differentiating between the perceptions of teachers in different schools. A one-way ANOVA was performed for each scale, with school membership as the main effect. It was found that each SLEQ scale differentiated significantly (p < .001) between schools and the eta2 statistic ranged from 0.16 to 0.40 for different scales (Fisher & Fraser, 1990).
Table 6

*The Eight Categories of the School Level Environment Questionnaire (SLEQ)*

<table>
<thead>
<tr>
<th>Category</th>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship</td>
<td>Student Support</td>
<td>There is good rapport between teachers and students and students behave in a responsible, well disciplined manner.</td>
</tr>
<tr>
<td></td>
<td>Affiliation</td>
<td>Teachers can obtain assistance, advice and encouragement and are made to feel accepted by colleagues.</td>
</tr>
<tr>
<td>Personal Development</td>
<td>Professional Interest</td>
<td>Teachers discuss professional matters, show interest in their work and seek further professional development.</td>
</tr>
<tr>
<td>System Maintenance and System Change Dimensions</td>
<td>Mission Consensus</td>
<td>Consensus exists within the staff with regard to overarching goals for the school.</td>
</tr>
<tr>
<td></td>
<td>Empowerment</td>
<td>Teachers are encouraged and empowered to be part of decision making process.</td>
</tr>
<tr>
<td></td>
<td>Innovation</td>
<td>The school is in favor of planned change and experimentation, and fosters classroom openness and individualism.</td>
</tr>
<tr>
<td></td>
<td>Resource Adequacy</td>
<td>Support personnel, facilities, finance, equipment and resources are suitable and adequate.</td>
</tr>
<tr>
<td></td>
<td>Work Pressure</td>
<td>The extent to which work pressure dominates the environment.</td>
</tr>
</tbody>
</table>

*Note.* Fisher & Fraser, 1990
Data Collection Procedures and Timeline

The researcher began by developing a detailed timeline (See Appendix C), including steps to be followed for procedures and inclusion of participants. A mixed-methods approach was used for contacting participants for initial participation and providing information and specific steps for submitting data. As a cultural shift has taken place, and e-mail has become a standard method for communication for many schools and individuals (Dillman et al., 2009), the researcher made initial contact through both postal-delivered letters and e-mail in an effort to increase participation. Development of cover letters, including pertinent information designed to persuade participation (Gall et al., 2003), ensure confidentiality and process for consent was strongly considered. The researcher developed a method for communication and organization by creating an e-mail account specifically for the study. The account allowed for groupings and distribution lists which became an efficient way to communicate with participating schools and individual teachers. A data collector was responsible for coding and communicating details requiring confidentiality. Schools and principals received unique identification codes. Principals were not provided with any information regarding teacher participation, although principals did play an intermediary role in informing teachers about the study and acknowledging their own agreement to participate. Incentives for both principal and teacher participation were included in the initial contact letters. Throughout the data collection period, scheduled reminders were sent and close monitoring was maintained (See Appendix I). Reminders were sent to both group distribution lists, as well as to individual participants. Reminders were written using different information and prompting as a way to encourage response (Gall, et al., 2003).
Collection of data was completed using two different methods. LPI Online is a web-based instrument developed specifically for the online collection of responses to the Leadership Practices Inventory. All collection and management after initial entry of participants was maintained by LPI Online. The SLEQ is a paper survey. Based on research of surveying methods (Dillman et al., 2009), the researcher determined that due to the identified target sample, the cost considerations and the efficiency of web delivered survey instruments transferring the SLEQ into an online format would best meet the needs of the data collection process. Therefore, the SLEQ was transferred into an electronic format using SurveyMethods.com, a subscription online survey tool.

Web-based surveys require attention to details and planning that differ from traditional surveying, including: access to participant e-mail, providing secure online collection of data, a clear navigation system, and providing participants with explicit instructions to access the surveys (Rea & Parker, 2005). These criteria were included in the selection and administering of the survey instruments and data collection procedures. Suggested guidelines specifically developed for web survey implementation (Dillman et al., 2009) were used for contact and communication after initial contact was made through traditional letter format. Recommended and applied strategies and techniques included: personalized contact, multiple-contacts timing based on knowledge of the perspective participants, clear subject lines on e-mails, alert to subjects of possible SPAM issues related to receiving online surveys, assignment of participant code for completion of surveys, and incentive for completion. The following timeline represents an 8 month period of time beginning with initial planning for data collection to receipt of collected data.
1. In February 2009 the researcher contacted, via e-mail (see Appendix A), 385 principals in schools in the southern portion of New York State to describe and ascertain principals’ interest in participation in the study. Responding principals received a second e-mail (see Appendix B) providing specific information about the components of the study including: samples of instruments and reports (see Appendices D and E), sample of superintendent consent letter (see Appendix F), sample of principal participation and consent letters (see Appendix G), sample of teacher participation and consent letters (see Appendix H).

2. After a principal’s interest was confirmed, the superintendent received a request for permission to participate in the study for the school district’s participating principal and teachers (see Appendix F).

3. Upon receipt of the superintendent’s permission, interested principals were sent a formal request for permission to participate in the study (see Appendix G). Along with consent, each principal provided a complete list of names and email addresses of all teachers within their school.

4. In March 2009, a letter and consent form were sent to teachers describing the study and requesting their participation in the study (See Appendix H). Signed consent forms were collected for all participants.

5. As consent was granted to the researcher, information was distributed outlining the specific steps and expectations for the completion of the three surveys and the following data collection procedures were conducted for each type of participant:

   Principals:
   
   a. The school building received a letter code.
b. The principals were entered into LPI Online and a self-rater survey was automatically sent.

Teachers:

a. Each teacher received an e-mail providing him/her with a school/participant code.

b. Each teacher was entered into LPI Online and SurveyMethods.com as a study participant. LPI Online automatically generated and sent an online observer survey to be completed by the participant. Two survey links were sent from SurveyMethods.com by the researcher via e-mail, one for School Level Environment Questionnaire-Actual and one for School Level Environment Questionnaire-Preferred.

6. Between March 2009 and June 2009, participants completed surveys online. Records were maintained for completion. Both survey tools had the ability to automatically generate reminders. LPI had the ability to determine reminders by school, while Surveymethods.com relied on a more generic approach. E-mails were sent to participants to alert them that reminders were being sent (see Appendix I). The researcher used the reminder tools approximately every two weeks at the onset of data collection and daily as the end of the data collection period came to a close. Over the course of the data collection process over 1500 e-mails were sent. Extensive records and checklists were maintained throughout this period.

7. In June 2009, school climate data collected through SurveyMethods.com and data files were exported to SPSS. All principal participants received reports of their individual school climate survey results for both the Actual and Preferred Surveys. Steps were taken for code and value cleaning (Meyers, Gamst, & Guarino, 2006) to check for
appropriateness of numerical coding and participant completion of all three surveys as a qualifier to remain in the study.

8. In August 2009, leadership data reports were received by the researcher from LPI. Research reports were generated for each participating principal, including: a Data Report, an LPI participant planner, and a workbook. LPI data were cleaned and matched to corresponding climate data for each participant and imported into SPSS.

9. During the fall of 2009, the researcher utilized descriptive and inferential statistics to address the four research questions. Data collected on principals’ and teachers’ perceptions were analyzed using the Statistical Package for Social Sciences (SPSS, Version 16).

**Data Analyses**

Considering the use of the same data in multiple research questions and multiple analyses guided the researcher to assign a more stringent level ($p \leq .003$) to all statistical procedures to avoid Type 1 errors. Inferential statistics were used to answer questions one and two. A multivariate analysis of variance (MANOVA), a statistical technique used to determine whether the groups differ on more than one dependent variable (Gall et al., 2003) was used to determine if there is a difference between teachers’ perceptions and the leader’s self-perceptions of demonstrated leadership on the five different variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enabling Others to Act, Encouraging the Heart) in response to question one. The dependent variables were leadership characteristics and the independent variable was group with two levels, principal and teacher. Variance-covariance matrices were examined to ensure no homoscedasticity assumption violations existed and that the variables maintained equal levels of variability across a range and between groups, teachers and principals.
A MANOVA was also utilized to the data to respond to question two to determine the difference between teacher’s actual perceptions of school climate and preference for school climate on eight different variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure). Teachers were the unit of measure, group was the independent variable with two levels, The dependent variables were related to climate. Alpha levels were set at .003. Variance-covariance was examined to ensure no homoscedasticity violations existed across the two independent variables and Barlett’s test of sphericity was conducted to determine that dependent variables were moderately correlated.

Questions three and four were addressed by using a stepwise multiple regression \( (p \leq .003) \) to determine the extent to which teachers’ perceptions of their principal’s leadership predicted their perceptions of school climate and principal’s perceptions of their own leadership characteristics predict teachers perceptions of positive school climate. The researcher selected stepwise multiple regression for statistical analysis rather than an hierarchal approach to allow for variables to be included and excluded in the equation as the strength of the independent variables changed with additional entries into the model. Statistical procedures included a correlation to observe the degree to which a relationship existed among the variables. Multiple regression models with a stringent \( p \leq .003 \) value were applied to allow only highly correlated variables to serve as predictors and reflect significance. The stepwise approach allowed for those variables with F values \( (p \leq .003) \) to be excluded from the model, therefore resulting in a more conservative R value. Models were examined in each coefficient table to confirm that tolerance values (> .01) and Variance Inflation Factor VIF values (< 10) indicated no multicollinearity problems existed for any of the variables.
Limitations to the Study

Threats to External Validity

Population validity concerns the extent to which the data results can be generalized from the sample to a larger population (Gall et al., 2003). Sampling restrictions based on participant self-selection were present. Inclusion in the study was completely voluntary and the researcher had no control over teacher participation or knowledge of pre-existing relationships between teacher and principal that could influence results. The sample consisted of schools from a small region reflecting similar, although not exactly the same, demographic profiles. Generalizability can be extended to similar type schools but may not apply to a broad target population. The population consisted predominantly of K-8 schools and, as a result, may not be able to be generalized to the high school setting. The researcher considered this a low threat to the study, considering the fact that similar research studies have been conducted with sample populations at all levels in varied regions informing the researcher of reasonable expectations.

Ecological validity concerns the extent to which the results can be generalized from the current environmental settings of the study to different environmental settings (Gall et al., 2003). The researcher would expect the results of this study to have high ecological validity. This was considered a low threat as instruments and procedures can be used in any educational setting at all grade levels. Methods and analyses could be duplicated and therefore generalizability can be expected when similar procedures are followed.

Threats to Internal Validity

Mortality refers to the loss of participants during a research study. The researcher anticipated mortality (Gall et al., 2003). As a three part process, it was expected that participants would either not complete all three surveys, or schools would not remain in the
study as a result of limited school response, not meeting the 25% inclusion rate. The researcher set a higher number of schools as the baseline for completion of the study, allowing for attrition, while still maintaining a sufficient sample size. This was considered a moderate threat to the study.

Location refers to the setting and environment; this was considered a moderate threat to the study, although beyond the researcher’s control. Administration of the surveys was an online process therefore; the researcher had no control of where participants completed the survey. Additionally, participants were able to begin the survey and complete it at a later time, and as a result, different survey locations could offer different test settings, allowing for more or less concentration, distractions, or influence.

Instrumentation refers to a learning gain observed from pretest to posttest because the nature of the measuring instrument has changed (Gall et al., 2003). This was not an experimental treatment and therefore this was not a threat to the study. Instrumentation decay was addressed by the researcher’s extensive search and selection process which produced two instruments that were most aligned with the purpose and goals of the study. Instruments were pre-designed and therefore questions asked of participants were limited to the existing content of selected surveys. In addition, certain questions that the researcher might consider relevant were not considered.

Data collector characteristics were considered a high threat and as a result measures were taken to ensure accuracy. Significant amounts of data were collected. Demographic data from teachers and alignment with principals were required for accurate data analyses. Accuracy of contact information to make surveys accessible to participants was required and matching the participants’ survey information was critical. The researcher addressed
concerns through the design of an extensive coding system and maintenance of detailed records allowing for cross referencing at all times.

Data collector bias was addressed through the selection of a neutral person to collect and maintain all data. The data collector had no knowledge of the participants. Therefore this was considered a low threat to the validity of the study.

Testing is a concern in experiments where a pretest is followed by a treatment and posttest (Gall et al., 2003). Testing in this study was the administration of the three surveys. Although the researcher did not make participant information available to other participants, it may be that participants discussed the surveys or completed the surveys at the same time. This could have an effect on response selection. This was considered a low threat to the study.

History is a concern for experimental treatments which extend over time and as a result other events could affect the experimental treatment (Gall et al., 2003). The surveys were completed over a 4 month period of time. Therefore, teachers’ perceptions could have differed as a result of the time of year; budget, mandated testing, and end of year events are examples that can influence perceptions. The researcher considered this a moderate threat, and in an effort to reduce this threat, all survey information was sent simultaneously, timelines were set, and reminders were sent to encourage efficient completion.

Maturation refers to the possible physical or psychological changes that may happen over the course of an experiment or study (Gall et al, 2003). This was not perceived as a threat to the researcher due to the short time period for collection of data.

Attitude of subjects reflected the sampling restrictions of participant self-selection. Inclusion in the study was completely voluntary and the researcher had no control over
teacher participation or knowledge of pre-existing relationships between teacher and principal that could influence results. The methods used for contacting potential participants were postal-delivered letters or electronic mail. As a result of this aspect of the research design, explanation and questions may have been unanswered due to lack of face-to-face contact. In an effort to minimize this limitation, an e-mail contact was provided to eliminate unanswered questions.

**Statement of Ethics and Confidentiality**

Permission to participate in this research was granted from each district’s superintendent, each school principal, and all participating teachers. To assure confidentiality, each participant was assigned a coded identification number. All data were collected by a neutral person. Data were made available to those participating principals who requested it. Confidentiality of data was maintained at all times. All data were stored in a locked cabinet in the researcher’s office and will remain there until findings have been published, accessible only to researchers for whom the data will prove useful in further comparative analyses and who are enrolled in Western Connecticut State University’s Doctor of Education in Instructional Leadership Program.
CHAPTER FOUR
ANALYSIS OF DATA

The purpose of this study was to examine the relationship between principals’ leadership characteristics and school climate. Four research questions were addressed:

1. Is there a significant difference between teacher’s and principal’s perceptions of the principal’s leadership characteristics?

2. Is there a significant difference between teacher’s actual perceptions of school climate and preference for school climate?

3. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by teachers?

4. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by principals?

Chapter Four presents the results of this research and its findings in four sections: (a) description of the data, (b) data screening process, (c) descriptive statistics, and (d) analysis of the findings. Chapter Four illustrates the findings and statistical procedures which reflect upon the research questions which guided this study.
Description of the Data

The data analysis in this study used the results of two survey instruments to examine the relationship between leadership and school climate. The Leadership Practices Inventory (LPI) includes five scales, and the School Level Environment Questionnaire (SLEQ) includes eight scales. Data were analyzed using a sample of 21 principals and 324 teachers representing 21 schools at the elementary, middle, and secondary levels. Survey data were collected using web based survey instruments. Coding was applied to each school and each participant, allowing the researcher to maintain confidential participation while matching the data results for both surveys. Total scores were calculated for each variable and these scores were used for all statistical analysis.

Data Screening Process

Prior to following the steps of code and value cleaning outlined by Meyers et al., (2006), which focus on checking for the appropriateness of numerical codes for each of the variables in the study, extensive visual review and cleaning occurred. The initial data set for the SLEQ included 27 schools and 366 participants. Once data collection was complete, the researcher examined all data for accuracy and completeness, a critical component for using survey data (Rea & Parker, 2005). As a result of electronic data collection and built-in controls of the survey software, issues regarding multiple responses or omission of individual questions were not a factor. Incorrect entry of participant codes and partially completed surveys were a factor, and therefore a case-by-case review was necessary. Data were exported into spreadsheet software where initial review resulted in the elimination of any participant who did not complete both SLEQ surveys. Participant codes with missing letters or numbers were identified, cross referenced with participant lists, and corrected. SLEQ Actual and Preferred Survey data codes
were matched and checked to ensure same respondent for both surveys. Initial data inspection for the LPI included a matching of participant to the SLEQ code. Principal’s data were also checked and matched. LPI Online did not allow for multiple responses or omission of questions, therefore all data were included in the preliminary results. Following the inclusion of the LPI data, remaining participants who had not completed all three surveys were eliminated. The final step taken prior to the numerical value code and cleaning process was the removal of any school that did not meet the minimum set inclusion rate of 25% of teachers as participants. At this stage, five schools were removed from the data set. The result of this process reduced the number of schools to 22, and the number of participants to 332.

Following a visual inspection, the data were exported into SPSS for additional data screening and statistical analysis. In that the process of cleaning and coding is not a measure of correctness of value, but more a step in determining if a variable contains a legitimate numerical code or value, (Meyers et al., 2006) the researcher applied descriptive statistic procedures to confirm no missing data or incorrect entries. The 332 teachers were screened for missing values on the LPI’s five continuous variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) and the eight criterion variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure), and none were detected.

Analysis of Outliers

The next step in the code and value cleaning process involved the detection of univariate outliers. One approach to univariate detection of outliers is through the visual inspection of graphs such as box plots (Meyers et al., 2006). By applying a box plot as an assessment for univariate outliers, the researcher examined the five LPI variables for teachers. For each
variable, approximately 8 to 10 cases presented scores which were below the 25\textsuperscript{th} percentile, classifying them as outliers. The data set was assessed, and further inspection determined that on each of the five variables, cases from the same school were present. Next steps determined that the identified school included a total number of eight cases; six of these cases were identified as univariate outliers on at least one variable. Inspection of the data representation based on frequency charts and a box plot for principals indicated that the principal from the same school was categorized in the lowest portion on the Extreme Values chart on four variables and was an outlier on two. As a result, the researcher excluded this data as it was not representative of the sample. These steps resulted in reduction of the sample to 21 schools and 324 participants.

The same procedures were followed to review the data for the SLEQ Actual and Preferred. Between zero and five univariate outliers were detected using SPSS frequency procedures and box plot representations for each of the variables for the SLEQ for both sets of survey data. The researcher examined these data for unusual patterns or redundancy of participant responses and found none. All other data were deemed satisfactory.

Exploration of multivariate outliers were screened and explained through the calculation of the Mahalanobis distance. The Mahalanobis distance statistic $D^2$ measures the multivariate “distance” between each case and the group mean (Meyers et al., 2006). Each case was evaluated using the chi-square distribution with a stringent alpha level of .001. Cases that meet this significance level may be considered multivariate outliers and possible candidates for elimination. The Mahalanobis distance was calculated for all three sets of variables. Figure 1 represents a sample of the Mahalanobis distance for each case for the LPI on the two independent variables, teachers and principals using SPSS. The results detected seven extreme cases at a stringent level of $p > .001$ represented in the histogram. None of the Mahalanobis
distance values equaled or exceeded the chi-square criterion; therefore the researcher concluded that no cases were extreme or unusual enough to require deletion. The researcher followed the same procedures for the SLEQ, Actual and Preferred. The results for the Actual detected ten extreme cases, and the Preferred six, both at a stringent $p > .001$ level. None of the Mahalanobis distance values equaled or exceeded the chi-square criterion; therefore again the researcher concluded that no cases were extreme or unusual enough to require deletion.

![Histogram](image)

Figure 1. Mahalanobis distance for LPI Teachers and Principals

**Descriptive Statistics**

The descriptive statistics presented in Tables 7 and 8 represent the LPI data sets used for the statistical analysis following the initial data screening process. The means and standard deviations on these continuous variables all appear reasonable, within expectations for the results of a 10-point Likert-type scale instrument for both principal and teacher groups. Although minimums appear low in some cases when reviewed collectively on all five variables for
individual cases, none were considered by the researcher extreme or unusual enough for deletion.

Tables 9 and 10 represent the SLEQ data sets used for statistical analysis following the data screening process. The means and standard deviations on the dependent variables all appear reasonable, within expectations for the results of a 5-point Likert-type scale for both Actual and Preferred results. The results for the SLEQ Actual also have minimums that appear low, but like the LPI when examined collectively, cases including low responses did not represent all eight variables and therefore were not excluded.

Table 7

*Descriptive Statistics for Teacher Subscales on the LPI*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model the Way</td>
<td>10</td>
<td>60</td>
<td>48.02</td>
<td>9.674</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>10</td>
<td>60</td>
<td>47.33</td>
<td>10.505</td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>8</td>
<td>60</td>
<td>47.08</td>
<td>10.238</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>14</td>
<td>60</td>
<td>51.62</td>
<td>7.527</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>10</td>
<td>60</td>
<td>47.85</td>
<td>10.513</td>
</tr>
</tbody>
</table>

*Note. N = 324*
Table 8

*Descriptive Statistics for Principal Subscales on the LPI*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model the Way</td>
<td>37</td>
<td>58</td>
<td>49.38</td>
<td>5.427</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>28</td>
<td>58</td>
<td>45.71</td>
<td>7.623</td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>20</td>
<td>56</td>
<td>45.24</td>
<td>9.433</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>39</td>
<td>60</td>
<td>53.33</td>
<td>5.360</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>25</td>
<td>59</td>
<td>48.57</td>
<td>8.140</td>
</tr>
</tbody>
</table>

*Note. N = 21*
Table 9  

*Descriptive Statistics for Teacher Subscales on the Actual SLEQ*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Support</td>
<td>12</td>
<td>35</td>
<td>27.97</td>
<td>3.874</td>
</tr>
<tr>
<td>Affiliation</td>
<td>10</td>
<td>35</td>
<td>29.44</td>
<td>4.023</td>
</tr>
<tr>
<td>Professional Interest</td>
<td>15</td>
<td>35</td>
<td>27.43</td>
<td>3.783</td>
</tr>
<tr>
<td>Mission Consensus</td>
<td>8</td>
<td>35</td>
<td>24.64</td>
<td>4.695</td>
</tr>
<tr>
<td>Empowerment</td>
<td>9</td>
<td>34</td>
<td>22.06</td>
<td>4.224</td>
</tr>
<tr>
<td>Innovation</td>
<td>7</td>
<td>35</td>
<td>24.30</td>
<td>4.005</td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td>7</td>
<td>35</td>
<td>25.04</td>
<td>4.455</td>
</tr>
<tr>
<td>Work Pressure</td>
<td>16</td>
<td>32</td>
<td>25.46</td>
<td>3.034</td>
</tr>
</tbody>
</table>

*Note. N = 324*
Table 10

Descriptive Statistics for Teacher Subscales on the Preferred SLEQ

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred Student Support</td>
<td>23</td>
<td>35</td>
<td>31.76</td>
<td>2.762</td>
</tr>
<tr>
<td>Preferred Affiliation</td>
<td>23</td>
<td>35</td>
<td>31.91</td>
<td>2.686</td>
</tr>
<tr>
<td>Preferred Professional Interest</td>
<td>21</td>
<td>35</td>
<td>30.98</td>
<td>2.796</td>
</tr>
<tr>
<td>Preferred Mission Consensus</td>
<td>14</td>
<td>35</td>
<td>29.68</td>
<td>3.241</td>
</tr>
<tr>
<td>Preferred Empowerment</td>
<td>13</td>
<td>34</td>
<td>25.49</td>
<td>3.687</td>
</tr>
<tr>
<td>Preferred Innovation</td>
<td>16</td>
<td>35</td>
<td>28.94</td>
<td>3.415</td>
</tr>
<tr>
<td>Preferred Resource Adequacy</td>
<td>19</td>
<td>35</td>
<td>30.59</td>
<td>3.564</td>
</tr>
<tr>
<td>Preferred Work Pressure</td>
<td>12</td>
<td>32</td>
<td>20.30</td>
<td>3.477</td>
</tr>
</tbody>
</table>

Note. \( N = 324 \)

Analysis of Data

Research Question One and Hypothesis One

Research Question One: Is there a significant difference between teachers’ and principals’ perceptions of the principals’ leadership characteristics?

Hypothesis One: There is a significant difference between teachers’ and principals’ perceptions of principals’ leadership characteristics.

A multivariate analysis of variance (MANOVA), a statistical technique was utilized to determine whether the groups differ on more than one variable. It was also used to determine if there is a significant difference between teachers’ perceptions and the leader’s self perceptions of
demonstrated leadership on five variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart). The researcher considered the use of the same data in multiple research questions and multiple analyses, and as a result assigned a more stringent level (p < .003) to all statistical procedures to avoid Type1 errors. First, the researcher examined the variance-covariance matrices across the two independent variables to ensure no homoscedasticity assumption violations existed and that the variables have equal levels of variability across a range and between groups, teachers and principals. The Box’s M was significant at the p < .05 level, indicating that the dependent variable covariance matrices were unequal across the independent variable, group. As a result of the unequal variance, Pillai’s Trace was used as the multivariate test criterion instead of using Wilks’s Lambda. Pillai’s Trace was not significant at the p < .003 level, F (5, 339) = 1.838, p < .05, partial η² = .026, demonstrating no significance. The Tests of Between-Subjects Effects indicate there was no significant difference between teachers’ and principals’ perceptions of the principals’ leadership characteristics; Table 11 illustrates the results of the MANOVA. The findings did not support the hypothesis that there was a significant difference between teachers’ and principals’ perceptions of principals’ leadership characteristics. The data results indicate that principals and teachers have similar perceptions on the five variables measured, Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. A comparison of means can be found in Table 12.
Table 11

**MANOVA Results for Teacher and Principal Perceptions of Leadership Characteristics**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Type III</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sum of</td>
<td>Df</td>
<td>Mean Square</td>
<td>F</td>
<td>Sig.</td>
<td>Partial Eta Squared</td>
<td></td>
</tr>
<tr>
<td>Model the Way</td>
<td>36.277</td>
<td>1</td>
<td>36.277</td>
<td>.404</td>
<td>.526</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>51.697</td>
<td>1</td>
<td>51.697</td>
<td>.482</td>
<td>.488</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>66.702</td>
<td>1</td>
<td>66.702</td>
<td>.642</td>
<td>.424</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>57.868</td>
<td>1</td>
<td>57.868</td>
<td>1.052</td>
<td>.306</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>10.212</td>
<td>1</td>
<td>10.212</td>
<td>.095</td>
<td>.759</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 324*

Table 12

**Descriptive Statistics for Teachers and Principals Subscales on the LPI**

<table>
<thead>
<tr>
<th></th>
<th>Teachers</th>
<th>Principals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std Deviation</td>
<td>Mean</td>
<td>Std Deviation</td>
</tr>
<tr>
<td>Model the Way</td>
<td>48.02</td>
<td>9.674</td>
<td>49.38</td>
<td>5.427</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>47.33</td>
<td>10.505</td>
<td>45.71</td>
<td>7.623</td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>47.08</td>
<td>10.238</td>
<td>45.24</td>
<td>9.433</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>51.62</td>
<td>7.527</td>
<td>53.33</td>
<td>5.360</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>47.85</td>
<td>10.513</td>
<td>48.57</td>
<td>8.140</td>
</tr>
</tbody>
</table>

*Note. N = 324*
Research Question Two and Hypothesis Two

Research Question Two: Is there a significant difference between teacher’s actual perceptions of school climate and preference for school climate?

Hypothesis Two: There is a significant difference between teachers’ perceptions of actual school climate and preference for school climate.

A multivariate analysis of variance (MANOVA), a statistical technique used to determine whether the groups differ on more than one variable, was used to determine if there is a significant difference between teacher’s actual perceptions of school climate and preference for school climate on eight different variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment Innovation, Resource Adequacy, Work Pressure). The researcher considered the use of the same data in multiple research questions and multiple analyses, and as a result assigned a more stringent level (p < .003) to all statistical procedures to avoid Type I errors. The Bartlett’s test of sphericity was analyzed and demonstrated significance (p < .000), ensuring that there was sufficient correlation between the dependent variables. Analysis procedures also examined the variance-covariance matrices across the two independent variables to determine whether assumptions were met. A statistically significant Box’s M (p < .000) indicated a heterogeneity or inequality of variance. Therefore, as recommended by Tabachnick and Fidell (2001), Pillai’s Trace was used as the criterion to evaluate the significance of the multivariate effect, F (8, 655) = 94.773, p < .000, partial η² = .537. Significance was found at the p < .000 level and a large effect size was indicated. As a result of statistical significance of the multivariate test, the researcher’s next step was to conduct a separate assessment for each of the independent variables. Applying the Levene’s Test of Equality of Error Variance, homogeneity of variance violations were explored. Table 13 presents the results
of this test indicating significance at $p < .003$ level for six of the eight variables. The statistical significance found indicates heterogeneity variances among groups for six of the eight independent measures for climate. The Box’s M also had indicated heterogeneity among the variables. The researcher proceeded with univariate analyses, but interpretive caution will be used in the written results because of the unequal variability between the two groups.

Table 13

*Levene’s Test of Equality of Error Variances*

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>df1</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Support</td>
<td>6.827</td>
<td>1</td>
<td>.009*</td>
</tr>
<tr>
<td>Affiliation</td>
<td>20.919</td>
<td>1</td>
<td>.000**</td>
</tr>
<tr>
<td>Professional Interest</td>
<td>11.143</td>
<td>1</td>
<td>.001*</td>
</tr>
<tr>
<td>Mission Consensus</td>
<td>32.384</td>
<td>1</td>
<td>.000**</td>
</tr>
<tr>
<td>Empowerment</td>
<td>3.037</td>
<td>1</td>
<td>.082</td>
</tr>
<tr>
<td>Innovation</td>
<td>4.497</td>
<td>1</td>
<td>.034*</td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td>7.942</td>
<td>1</td>
<td>.005*</td>
</tr>
<tr>
<td>Work Pressure</td>
<td>2.489</td>
<td>1</td>
<td>.115</td>
</tr>
</tbody>
</table>

*Note.* *p < .05 **p < .000

The Tests of Between-Subject Effects indicate significance for all eight variables at the $p < .000$ level. Table 14 illustrates the results of the MANOVA and effect size for each variable. The findings confirmed the hypothesis that there is a significant difference between teachers’ perceptions of actual school climate and preference for school climate on the eight variables.

Table 14

MANOVA Results for SLEQ Actual and Preferred Perceptions of School Climate

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Support</td>
<td>2293.307</td>
<td>1</td>
<td>2293.307</td>
<td>198.647</td>
<td>.000**</td>
<td>.231</td>
</tr>
<tr>
<td>Affiliation</td>
<td>975.941</td>
<td>1</td>
<td>975.941</td>
<td>82.514</td>
<td>.000**</td>
<td>.111</td>
</tr>
<tr>
<td>Professional Interest</td>
<td>2121.941</td>
<td>1</td>
<td>2121.941</td>
<td>187.182</td>
<td>.000**</td>
<td>.220</td>
</tr>
<tr>
<td>Mission Consensus</td>
<td>4419.230</td>
<td>1</td>
<td>4419.230</td>
<td>267.191</td>
<td>.000**</td>
<td>.288</td>
</tr>
<tr>
<td>Empowerment</td>
<td>2051.038</td>
<td>1</td>
<td>2051.038</td>
<td>125.554</td>
<td>.000**</td>
<td>.159</td>
</tr>
<tr>
<td>Innovation</td>
<td>3655.669</td>
<td>1</td>
<td>3655.669</td>
<td>249.123</td>
<td>.000**</td>
<td>.273</td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td>5087.717</td>
<td>1</td>
<td>5087.717</td>
<td>309.432</td>
<td>.000**</td>
<td>.319</td>
</tr>
<tr>
<td>Work Pressure</td>
<td>4378.050</td>
<td>1</td>
<td>4378.050</td>
<td>407.027</td>
<td>.000**</td>
<td>.381</td>
</tr>
</tbody>
</table>

Note. **p < .000

Preferred scores were higher for climate for all variables except Work Pressure (see Table 15). Actual and Preferred scores reflected fairly small differences in total mean scores for all variables. Teachers’ scores indicated the largest preferred climate difference in Resource Adequacy (M difference = 5.54) and Mission Consensus (M difference = 5.16). The Work Pressure Actual score (M = 25.47) in comparison to the Preferred score (M = 20.33) with a
difference of $M = 5.14$, indicates a negative response in that teachers are not satisfied with the work pressure they experience.

Table 15

*Descriptive Statistics for Teachers’ Actual and Preferred Perceptions of School Climate*

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Student Support</td>
<td>27.97</td>
<td>3.874</td>
</tr>
<tr>
<td>Affiliation</td>
<td>29.44</td>
<td>4.023</td>
</tr>
<tr>
<td>Professional Interest</td>
<td>27.43</td>
<td>3.783</td>
</tr>
<tr>
<td>Mission Consensus</td>
<td>24.64</td>
<td>4.695</td>
</tr>
<tr>
<td>Empowerment</td>
<td>22.06</td>
<td>4.224</td>
</tr>
<tr>
<td>Innovation</td>
<td>24.30</td>
<td>4.005</td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td>25.04</td>
<td>4.455</td>
</tr>
<tr>
<td>Work Pressure</td>
<td>25.46</td>
<td>3.034</td>
</tr>
</tbody>
</table>

**Research Question Three and Hypothesis Three**

Research Question Three: To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by teachers?
Hypothesis Three: Leadership characteristics as perceived by teachers can predict teachers’ perceptions of school climate.

Initial review of the data explored correlations as a way to index the degree to which the variables in this study have a relationship to each other. Table 16 illustrates the results of these data. Evidenced in the table, relationships amongst all five leadership characteristics can be found in the dependent variables for school climate. Stepwise regression procedures were followed to determine the extent of the relationships and to what degree prediction can be assumed. The stepwise method was applied to support a stringent process, setting the inclusion level at $p < .003$ allowing the predictors to be included in the equation only if they were significant at this level, offering a stronger confidence level in assumptions of the predicted variance of the dependent variable, school climate (Meyers et al., 2006).
Table 16

*Correlations between the LPI and SLEQ Based on Teacher Perceptions*

<table>
<thead>
<tr>
<th></th>
<th>Model the Way</th>
<th>Inspire a Shared Vision</th>
<th>Challenge the Process</th>
<th>Enable Others to Act</th>
<th>Encourage the Heart</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Support</strong></td>
<td>r</td>
<td>.100</td>
<td>.089</td>
<td>.100</td>
<td>.156**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.072</td>
<td>.108</td>
<td>.073</td>
<td>.005</td>
</tr>
<tr>
<td><strong>Affiliation</strong></td>
<td>r</td>
<td>.402**</td>
<td>.347**</td>
<td>.315**</td>
<td>.324**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Professional Interest</strong></td>
<td>r</td>
<td>.504**</td>
<td>.447**</td>
<td>.446**</td>
<td>.425**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Mission Consensus</strong></td>
<td>r</td>
<td>.558**</td>
<td>.496**</td>
<td>.514**</td>
<td>.471**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Empowerment</strong></td>
<td>r</td>
<td>.321**</td>
<td>.289**</td>
<td>.318**</td>
<td>.437**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Innovation</strong></td>
<td>r</td>
<td>.426**</td>
<td>.433**</td>
<td>.501**</td>
<td>.456**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Resource Adequacy</strong></td>
<td>r</td>
<td>.217**</td>
<td>.215**</td>
<td>.193**</td>
<td>.254**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Work Pressure</strong></td>
<td>r</td>
<td>.156**</td>
<td>.213**</td>
<td>.138*</td>
<td>.066</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.005</td>
<td>.000</td>
<td>.013</td>
<td>.240</td>
</tr>
</tbody>
</table>

*Note.*** p ≤.003; ** p ≤ .01 level; * p ≤.05 level (2-tailed).*
Models were examined in each coefficient table to confirm that tolerance values (> .01) and Variance Inflation Factor VIF values (< 10) indicated that no multicollinearity problems existed for any of the variables. The tolerance values and Variance Inflation Factor (VIF) values are well within normal bounds, confirming that multicollinearity is not present among these independent variables. The results of the regression analysis are presented in Tables 17 though 30. Each provides a summary of stepwise multiple regression procedures followed for each of the dependent variables for school climate and the independent variables for leadership characteristics. As can be seen in Table 16, Correlations Between the LPI and SLEQ Based on Teacher Perceptions, there was no statistical significance between Student Support and any of the leadership characteristics at this stringent level, therefore in the regression analysis all variables were removed, confirming no relationship exists.
Table 17

*Regression Analysis ANOVA for Affiliation According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>842.840</td>
<td>1</td>
<td>842.840</td>
<td>61.893</td>
<td>.000^a</td>
</tr>
<tr>
<td>Residual</td>
<td>4384.926</td>
<td>322</td>
<td>13.618</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5227.765</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Model the Way

Table 18

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Affiliation*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>21.419</td>
<td>1.040</td>
</tr>
<tr>
<td></td>
<td>Model the Way</td>
<td>.167</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .161$
Table 19

*Regression Analysis ANOVA for Professional Interest According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>1174.969</td>
<td>1</td>
<td>1174.969</td>
<td>109.719</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>3448.253</td>
<td>322</td>
<td>10.709</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4623.222</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Model the Way

Table 20

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Professional Interest*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>17.958</td>
<td>.922</td>
</tr>
<tr>
<td>Model the Way</td>
<td>.197</td>
<td>.019</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .254$
Table 21

*Regression Analysis ANOVA for Mission Consensus According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>2218.973</td>
<td>1</td>
<td>2218.973</td>
<td>145.817</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>4900.051</td>
<td>322</td>
<td>15.218</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7119.025</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Model the Way

Table 22

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Mission Consensus*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Beta</td>
</tr>
<tr>
<td></td>
<td>Std. Error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Sig.</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>11.624</td>
<td>1.099</td>
</tr>
<tr>
<td></td>
<td>10.576</td>
<td>.000</td>
</tr>
<tr>
<td>Model the Way</td>
<td>.271</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>.558</td>
<td>12.075</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* R² = .312
Table 23

*Regression Analysis ANOVA for Empowerment According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>1102.222</td>
<td>1</td>
<td>1102.222</td>
<td>76.135</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>4661.664</td>
<td>322</td>
<td>14.477</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5763.886</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Enable Others to Act

Table 24

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Empowerment*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>9.390</td>
<td>1.467</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>.245</td>
<td>.028</td>
</tr>
</tbody>
</table>

*Note.* \( R^2 = .191 \)
Table 25

*Regression Analysis ANOVA for Resource Adequacy According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>412.210</td>
<td>1</td>
<td>412.210</td>
<td>22.124</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>5999.346</td>
<td>322</td>
<td>18.632</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6411.556</td>
<td>323</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Enable Others to Act

Table 26

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Resource Adequacy*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>17.290</td>
</tr>
<tr>
<td></td>
<td>Enable Others to Act</td>
<td>.150</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .064$
Table 27

*Regression Analysis ANOVA for Innovation According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>1302.583</td>
<td>1</td>
<td>1302.583</td>
<td>108.118</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>3879.377</td>
<td>322</td>
<td>12.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5181.960</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Predictors: (Constant), Challenge the Process

Table 28

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Innovation*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>15.065</td>
<td>.909</td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>.196</td>
<td>.019</td>
</tr>
</tbody>
</table>

Note. R² = .251
Table 29

*Regression Analysis ANOVA for Work Pressure According to Teacher Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>134.622</td>
<td>1</td>
<td>134.622</td>
<td>15.276</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>2837.773</td>
<td>322</td>
<td>8.813</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2972.395</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Inspire a Shared Vision

Table 30

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Work Pressure*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Std. Error</th>
<th>Beta</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>22.548</td>
<td>.762</td>
<td></td>
<td></td>
<td>29.579</td>
<td>.000</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>.061</td>
<td>.016</td>
<td>.213</td>
<td></td>
<td>3.908</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .045$

Regression results varied for each of the dependent variables, Table 31 provides a summary of the five independent variables of leadership characteristics and the dependent variables they appear to have predictive qualities for based on the SLEQ and the LPI at the $p < .003$ level. Table 31 reflects variables that were significant and provides a summary of $R^2$ values for each of the related variables Although only the $p < .003$ level statistics are reported, the
researcher did explore regression analysis at the $p < .05$ level and found very little difference in the results.

Table 31

*Summary of Significant Variables and Their $R^2$ Values based on Teachers’ Perceptions*

<table>
<thead>
<tr>
<th>Student Support</th>
<th>Model the Way</th>
<th>Inspire a Shared Vision</th>
<th>Enable Others to Act</th>
<th>Challenge the Process</th>
<th>Encourage the Heart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>.161**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Interest</td>
<td>.254**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Consensus</td>
<td>.312**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empowerment</td>
<td></td>
<td>.191**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td></td>
<td></td>
<td></td>
<td>.251**</td>
<td></td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td></td>
<td></td>
<td></td>
<td>.064**</td>
<td></td>
</tr>
<tr>
<td>Work Pressure</td>
<td></td>
<td></td>
<td></td>
<td>.045**</td>
<td></td>
</tr>
</tbody>
</table>

*Note. ** $p < .003$

Based on these data, leadership characteristics as perceived by teachers can predict teachers’ perceptions of school climate. The regression analysis indicates which characteristics can be considered a predictor. The $R^2$ value in a multiple regression indicates the strength of each variable in the relationship (Meyers et al., 2006). The summary in Table 31 indicates Model the Way as a leadership characteristic having the greatest predictive strength, demonstrating a relationship with three of the criterion variables, Mission Consensus, Professional Interest, and Affiliation. Although Work Pressure and Resource Adequacy
indicated significance, the $R^2$ value for each is fairly low and therefore, while significant, may have limited predictive power. Further analysis of data tables offer more specific information as to what degree each of the independent variables indicated, can explain the variability of individual school climate variables and the leadership characteristics. Although not recommended as a singular statistic, beta weights are another indication of the strength of a variable. Tables 18, 20 and 22 reflect regression models for Model the Way and indicate coefficients of .402, .504, and 558 respectively for Affiliation, Professional Interest, and Mission Consensus. Enable Others to Act demonstrated a relationship to Empowerment and Resource Adequacy. Regression models indicate beta weights of .437 (Table 24) and .254 (Table 26). Characteristics associated with Challenge the Process was identified with Innovation .501 (Table 28) and leaders who Inspire a Shared Vision may have an influence on Work Pressure .213 (Table 30). Models developed through regression analysis for these data indicated singular predictors for each of the dependent variables, providing no overlap or shared variance of the five independent variables with any of the dependent variables for climate.

**Research Question Four and Hypothesis Four**

Research Question Four: To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics:(Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by principals?

Hypothesis Four: Leadership characteristics as perceived by principals can predict teachers’ perceptions of school climate.
Initial review of the data explored correlations as a way to index the degree to which the variables in this study have a relationship to each other. Table 32 illustrates the results of these data. Evidenced in the table, relationships among all five leadership characteristics can be found in the dependent variables for school climate. Stepwise regression procedures were followed to determine the extent of the relationships and to what degree prediction can be assumed. The stepwise method was applied to support a stringent process, setting the inclusion level at $p < .003$ allowing the predictors to be included in the equation only if they were significant at this level, offering a stronger confidence level in assumptions of the predicted variance of the dependent variable, school climate (Meyers et al., 2006).
Table 32

*Correlations Between the LPI and SLEQ Based on Principals Perceptions*

<table>
<thead>
<tr>
<th></th>
<th>Model the Way</th>
<th>Inspire a Shared Vision</th>
<th>Challenge the Process</th>
<th>Enable Others to Act</th>
<th>Encourage the Heart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Support</td>
<td>r</td>
<td>.217**</td>
<td>.163**</td>
<td>.205**</td>
<td>.226**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.000</td>
<td>.003</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Affiliation</td>
<td>r</td>
<td>.098</td>
<td>.164**</td>
<td>.161**</td>
<td>.084</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.077</td>
<td>.003</td>
<td>.004</td>
<td>.132</td>
</tr>
<tr>
<td>Professional Interest</td>
<td>r</td>
<td>.146**</td>
<td>.194**</td>
<td>.179**</td>
<td>.127*</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.008</td>
<td>.000</td>
<td>.001</td>
<td>.023</td>
</tr>
<tr>
<td>Mission Consensus</td>
<td>r</td>
<td>.103</td>
<td>.044</td>
<td>.064</td>
<td>.092</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.063</td>
<td>.435</td>
<td>.248</td>
<td>.098</td>
</tr>
<tr>
<td>Empowerment</td>
<td>r</td>
<td>.105</td>
<td>.045</td>
<td>.034</td>
<td>.143**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.060</td>
<td>.415</td>
<td>.537</td>
<td>.010</td>
</tr>
<tr>
<td>Innovation</td>
<td>r</td>
<td>.140*</td>
<td>.092</td>
<td>.128*</td>
<td>.171**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.011</td>
<td>.097</td>
<td>.021</td>
<td>.002</td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td>r</td>
<td>.103</td>
<td>.116*</td>
<td>.147**</td>
<td>.208**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.065</td>
<td>.037</td>
<td>.008</td>
<td>.000</td>
</tr>
<tr>
<td>Work Pressure</td>
<td>r</td>
<td>.010</td>
<td>.127*</td>
<td>.132*</td>
<td>-.014</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.855</td>
<td>.022</td>
<td>.017</td>
<td>.796</td>
</tr>
</tbody>
</table>

*Note.* ***$p \leq .003$; **$p \leq .01$ level; *$p \leq .05$ level (2-tailed).*
Models were examined in each coefficient table to confirm that tolerance values (> .01) and Variance Inflation Factor VIF values (< 10) indicated that no multicollinearity problems existed for any of the variables. The tolerance values and Variance Inflation Factor (VIF) values are well within normal bounds, confirming that multicollinearity is not present among these independent variables. The results of the regression analysis are presented in Tables 33 though 44. Each provides a summary of stepwise multiple regression procedures followed for each of the dependent variables for school climate and the independent variables for leadership characteristics. Table 32 presents, Correlations Between the LPI and SLEQ Based on Principal Perceptions. Moreover, there was no statistical significance between Affiliation and Work Pressure and any of the leadership characteristics, Therefore, in the regression analysis all variables were removed confirming no relationship exists.
Table 33

*Regression Analysis ANOVA for Student Support According to Principal Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>247.223</td>
<td>1</td>
<td>247.223</td>
<td>17.307</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>4599.527</td>
<td>322</td>
<td>14.284</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4846.750</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Enable Others to Act

Table 34

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Student Support*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>19.555</td>
<td>2.034</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>.158</td>
<td>.038</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .051
Table 35

Regression Analysis ANOVA for Professional Interest According to Principal Perceptions

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>191.165</td>
<td>1</td>
<td>191.165</td>
<td>13.889</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>4432.057</td>
<td>322</td>
<td>13.764</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4623.222</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Encourage the Heart

Table 36

Regression Analysis Summary for Leadership Characteristics Variables Predicting Professional Interest

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>23.047</td>
<td></td>
<td>1.193</td>
<td></td>
<td></td>
<td>19.321</td>
<td>.000</td>
</tr>
<tr>
<td>Encourage</td>
<td>the Heart</td>
<td></td>
<td>.089</td>
<td>.024</td>
<td>.203</td>
<td>3.727</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .041$
Table 37

Regression Analysis ANOVA for Mission Consensus According to Principal Perceptions

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>251.775</td>
<td>1</td>
<td>251.775</td>
<td>11.806</td>
<td>.001a</td>
</tr>
<tr>
<td>Residual</td>
<td>6867.250</td>
<td>322</td>
<td>21.327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7119.025</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Predictors: (Constant), Encourage the Heart

Table 38

Regression Analysis Summary for Leadership Characteristics Variables Predicting Mission Consensus

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>19.611</td>
<td>1.485</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>.102</td>
<td>.030</td>
</tr>
</tbody>
</table>

Note. $R^2 = .035$
Table 39

*Regression Analysis ANOVA for Empowerment According to Principal Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>184.188</td>
<td>1</td>
<td>184.188</td>
<td>10.629</td>
<td>.001a</td>
</tr>
<tr>
<td>Residual</td>
<td>5579.698</td>
<td>322</td>
<td>17.328</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5763.886</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Encourage the Heart

Table 40

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Empowerment*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>17.761</td>
<td>1.338</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>.087</td>
<td>.027</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .032$
Table 41

*Regression Analysis ANOVA for Innovation According to Principal Perceptions*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>170.170</td>
<td>1</td>
<td>170.170</td>
<td>10.933</td>
<td>.001a</td>
</tr>
<tr>
<td>Residual</td>
<td>5011.789</td>
<td>322</td>
<td>15.565</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5181.960</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Predictors: (Constant), Encourage the Heart

Table 42

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Innovation*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>20.168</td>
<td>1.268</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>.084</td>
<td>.025</td>
</tr>
</tbody>
</table>

*Note.* $R^2 = .033$
Table 43

Regression Analysis ANOVA for Resource Adequacy According to Principal Perceptions

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>427.560</td>
<td>1</td>
<td>427.560</td>
<td>23.007</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>5983.996</td>
<td>322</td>
<td>18.584</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6411.556</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>623.417</td>
<td>2</td>
<td>311.709</td>
<td>17.287</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>5788.138</td>
<td>321</td>
<td>18.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6411.556</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a.Predictors: (Constant), Encourage the Heart, b. Predictors: (Constant), Encourage the Heart, Model the Way
Table 44

*Regression Analysis Summary for Leadership Characteristics Variables Predicting Resource Adequacy*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>18.489</td>
</tr>
<tr>
<td></td>
<td>Encourage the Heart</td>
<td>.133</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>23.725</td>
</tr>
<tr>
<td></td>
<td>Encourage the Heart</td>
<td>.254</td>
</tr>
<tr>
<td></td>
<td>Model the Way</td>
<td>-.226</td>
</tr>
</tbody>
</table>

*Note.* Model 1 $R^2 = .067$ Model 2 $R^2 = .097$
Table 45

*Summary of Significant Variables and Their R² Values*

<table>
<thead>
<tr>
<th>Model</th>
<th>Inspire a Shared Vision</th>
<th>Enable Others to Act</th>
<th>Challenge the Process</th>
<th>Encourage the Heart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Support</td>
<td>.051</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Interest</td>
<td></td>
<td>.041**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Consensus</td>
<td></td>
<td>.035**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empowerment</td>
<td></td>
<td>.032**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td></td>
<td>.033**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Adequacy</td>
<td></td>
<td>.067**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td>.097**</td>
<td></td>
<td>.097**</td>
</tr>
<tr>
<td>Work Pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. **p < .003

Based on these data, leadership characteristics as perceived by principals can predict teachers’ perceptions of school climate. The regression analysis indicates which type of characteristic can be considered a predictor. The R² value in the multiple regression indicates the strength of each variable in the relationship (Meyers et al., 2006). Table 45, reflects variables that were significant and provides a summary of R² values for each of the related variables. Based on the principal’s perceptions, five of the eight criterion variables can be predicted by the leadership characteristic, Encourage the Heart. Resource Adequacy was the only criterion
variable which through stepwise regression procedures identified two independent variables which contributed to the overall strength of prediction. While all except two variables produced significant models of prediction, the predictive statistic indicated through the $R^2$ value and the beta coefficients do not reflect strong predictive power. Further analysis of data tables offer more specific information and confirm as to what degree each of the independent variables indicated, and can explain the variability of individual school climate variables and the leadership characteristics. Evidence that leaders who demonstrate characteristics reflected in the independent variable, Enable Others to Act was indicated through a beta coefficient of .226 (see Table 34) for the dependent variable, Student Support. In that the only other independent variable offering a relationship to the dependent variables of climate based on principals’ perceptions as predictors of teachers’ perceptions of school climate was Encourage Heart examining the beta values provides additional understanding of the strength of the relationships. Similar values for Professional Interest .203 (see Table 36), Mission Consensus .188 (see Table 38), Empowerment .179 (see Table 40), and Innovation .181 (see Table 42) again demonstrate relationships with small predictive power. The models developed through the multiple regression were inclusive of only three independent variables Model the Way, Enable Others to Act, and Encourage the Heart. Although statistically limited in strength one variable Resource Adequacy, produced two models in the regression analysis. The first model inclusive of Encourage the Heart represented a $R^2$ value of .067 (beta coefficient of .258; see Table 44). When Model the Way was added to the regression analysis, the statistical power of prediction .097 (see Table 44) increased suggesting that when leadership characteristics from these two categories are demonstrated by principals they can predict teachers’ perceptions of school climate.
Conclusion

The analysis presented in this chapter explored the relationship between leadership characteristics and school climate through the data analysis guided by the four research questions. Question one reflects a multivariate analysis of variance (MANOVA) to determine if there is a significant difference between teachers’ perceptions and the leader’s self-perceptions of demonstrated leadership on five dependent variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) and the categorical independent variable with two levels, teacher and principal. Results indicated no significance, rejecting the hypothesis, supporting the idea that principals and teachers have similar perceptions of the principal’s leadership characteristics. The hypothesis thus was rejected.

Question two examined a comparison of teachers’ perceptions regarding actual school climate and their preference for school climate. A MANOVA was applied to the data to determine the difference between the independent variable of teacher’s actual perceptions of school climate and preference for school climate on eight criterion variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure). Significance was demonstrated, indicating that teachers’ perceptions of their actual school climate do not reflect the type of school climate they would prefer, supporting the hypothesis that there is a difference between teachers’ perceptions of school climate and their preference for school climate. Mean scores were higher in all Preferred categories except Work Pressure.

Questions three and four utilized correlation and multiple regression as statistical procedures to determine the relationship and the strength of predication between the dependent variable school climate (Student Support, Affiliation, Professional Interest, Mission Consensus,
Empowerment, Innovation, Resource Adequacy, Work Pressure) and independent variable leadership characteristics (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart). The application of a stringent $p < .003$ level through a stepwise multiple regression held the model to a strict inclusion factor for the independent variables and their relationship to the dependent variables. The results of these procedures offered more 1:1 relationships, with no overlap for question three and overlap of one dependent variable (Resource Adequacy) with two independent variables (Encourage the Heart and Model the Way) for question four. Leadership characteristics were not equally represented in the results. Question three reflected the greatest predictive strength with the leadership characteristic, Model the Way, which also demonstrated the most frequent relationship with the criterion variables of school climate. The principal’s self-perceptions of the leadership characteristic, Encourage the Heart, most frequently demonstrated a relationship to the school climate variables explored in question four. Considering questions three and four, the predicative strength of leadership characteristics based on teacher’s perceptions of school climate was more evident in teacher’s perceptions of the principal’s leadership characteristics than the principal’s self-perceptions. The implications of the findings in response to the four questions will be discussed in Chapter Five.
CHAPTER FIVE

SUMMARY AND CONCLUSIONS

The five sections of Chapter Five expand on the relationship between leadership and school climate by reviewing and examining the findings of this study and extending the analysis through related ideas and possible areas for deeper learning. The Summary of the Study and Findings section provides an overview of the study and the statistical analysis for each of the four research questions. The Comparison and Contrast of Findings section provide a summary of the statistical analysis of teachers’ and principals’ perceptions of leadership, teachers’ perceptions of school climate, and the relationship and predictive strength of leadership and school climate as they relate to the literature review in chapter Two. The Limitations section expands on the assertions made in Chapter Three through a realistic look at the issues and questions raised during the research study. The Implications section reflects suggestions for steps and processes that can be followed as a result of this study. The last section, Future Research offers suggestions for further areas of study that may be considered in exploring leadership and school climate.

Summary of the Study and Findings

The purpose of this study was to gain a deeper understanding of principals as leaders and the school climates of learning organizations as they relate to the leader. Educators enter the role of principal with a range of knowledge and skills. Behaviors, actions, and skills shape the perceptions of teachers and influence teachers’ interest and capacity to shape the climate and culture of the school. The human factor and the variability of personalities, relationships, experiences, and values create layers of complexity that determine the success of school principals and their school environments. Organizational climate is important and, a solid
foundation is necessary if schools are to be learning communities designed to support the growth and needs of students. This study explored the relationship between school principals and teachers in an effort to measure and quantify perceptions of leadership, teacher’s perceptions of school climate and how the two are related. The questions that guided the study were:

1. Is there a significant difference between teachers’ and principals’ perceptions of the principals’ leadership characteristics?

2. Is there a significant difference between teacher’s actual perceptions of school climate and preference for school climate?

3. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by teachers?

4. To what extent and to what manner can teachers’ perceptions of school climate (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) be explained by leadership characteristics: (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) as perceived by principals?

Data were collected in three forms: (a) perceptions of leadership characteristics were assessed using the Leadership Practices Inventory (Kouzes & Posner, 2000-2010) (b) perceptions of current school climate conditions were measured through the School-Level Environment Questionnaire – Actual Form (Fisher & Fraser, 1990) and (c) perceptions reflecting the desired school climate were measured using the School-Level Environment Questionnaire –
Preferred Form (Fisher & Fraser, 1990). A causal-comparative research design was used to address questions one and two using a two-group MANOVA. Question one compared perceptions of principals and teachers on the five dependent leadership variables: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. Question two compared teacher’ perceptions for the eight criterion school climate variables for actual and preferred school climate: Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, and Work Pressure. Questions three and four reflect a correlational research design. Multiple regression analysis examined the relationship between the five independent variables of leadership and the eight criterion variables of school climate to measure the predicative strength of leadership characteristics on teachers’ perceptions of school climate. Both research designs utilized a quantitative approach and descriptive data to investigate the four questions.

Twenty-two principals and 345 teachers participated in this study. Principals and teachers completed a 360° degree multi-rater instrument to evaluate the principals’ leadership characteristics based on five leadership variables. Teachers also completed two additional surveys reflecting their perceptions of school climate including both, perceptions of actual environment and preferred school environment based on eight climate variables.

The participants in this research were a sample of convenience. The target populations were principals and teachers in elementary, middle, and high schools. Research was conducted in suburban and small city school districts. Principals were self-selected and the teacher population was derived from the school of each participating principal. Once a school was included, teachers self-selected for participation in the study. The target sample through self
selection resulted in the inclusion of 7 males and 15 female principals. Teachers did not provide
gender, ethnicity, grade or teaching certification area.

**Research Question One**

A multivariate analysis of variance (MANOVA) was used to determine if there was a
significant difference between teachers’ perceptions and the leader’s self perceptions of
demonstrated leadership on five variables (Model the Way, Inspire a Shared Vision, Challenge
the Process, Enable Others to Act, Encourage the Heart). As a result of an unequal variance of
groups, Pillai’s trace was performed as the multivariate test criterion and, Pillai’s Trace was not
significant at the $p < .003$ level. The tests of between-subjects indicated there is no significant
difference between teachers’ and principals’ perceptions of the principals’ leadership
characteristics. The findings did not support the hypothesis that there is a significant difference
between teachers’ and principals’ perceptions of principals’ leadership characteristics. The data
results indicated that principals and teachers had similar perceptions on the five variables
measured, Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart.

**Research Question Two**

A multivariate analysis of variance (MANOVA), was used to determine if there was a
significant difference between teacher’s actual perceptions of school climate and preference for
school climate on eight different variables (Student Support, Affiliation, Professional Interest,
Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure). The
findings from the MANOVA showed a statistically significant difference ($p < .000$) between
teachers’ perceptions of their actual school climate and their preference for school climate for all
eight variables. The partial Eta-squared effect sizes demonstrated the following range of effect
percentages for each of the variables, Work Pressure (38%), Resource Adequacy (32%), Mission Consensus (29%), Innovation (27%), Student Support (23%), Professional Interest (22%), Empowerment (16%), and Affiliation (11%). The findings confirmed the hypothesis that there was a significant difference between teachers’ perceptions of actual school climate and their preference for school climate on all eight variables. Mean score differences ranged from 2.47 to 5.55, all reflecting higher scores for Preferred school climate. Results indicate greater discrepancies in actual climate to what teachers would prefer for some variables more than others. The strength and implications of these results will be discussed further in the implication section of this chapter.

**Research Question Three**

Initial review of the data explored correlations based on teachers’ perceptions of school climate as a way to index the degree to which the independent variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) have a relationship to the dependent variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) based on the teachers’ perceptions of the principals’ leadership characteristics in this study. Statistical significance was demonstrated at the $p < .003$ confidence level, indicating relationships among all five leadership characteristics with at least one or more of the dependent variables for school climate. Stepwise regression procedures were followed at the $p < .003$ level to determine the extent of the relationships and to what degree prediction can be assumed. Results support the theory that leadership characteristics, as perceived by teachers can predict teachers’ perceptions of school climate. The $R^2$ value, also called multiple correlation or the coefficient of multiple determination, is the percent of the variance in the dependent variable explained uniquely or
jointly by the independent variables. Results indicated Model the Way as a leadership characteristic having the greatest predictive strength, demonstrating a relationship with three of the criterion variables, Mission Consensus (.312), Professional Interest (.254), and Affiliation (.161). Other relationships were indicated including the leadership characteristic, Enable Others to Act with the climate variables, Empowerment (.191) and Resource Adequacy (.064); Inspire a Shared Vision with Work Pressure (.045); and Challenge the process with Innovation (.251). The strength and implications of these results will be discussed further in the implication section of this chapter.

**Research Question Four**

Initial review of the data explored correlations based on teachers’ perceptions of school climate as a way to index the degree to which the independent variables (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) have a relationship to the dependent variables (Student Support, Affiliation, Professional Interest, Mission Consensus, Empowerment, Innovation, Resource Adequacy, Work Pressure) based on the principals’ perceptions of the principals’ leadership characteristics as they predicted teachers’ perceptions of school climate in this study. Statistical significance was demonstrated at the $p < .003$ confidence level, indicating relationships among all five leadership characteristics with at least one or more of the dependent variables for school climate. Stepwise regression procedures were followed at the $p < .003$ level to determine the extent of the relationships and to what degree prediction can be assumed. Results support the hypothesis that leadership characteristics as perceived by principals can predict teachers’ perceptions of school climate. The $R^2$ values also called *multiple correlation* or the *coefficient of multiple determination*, is the percent of the variance in the dependent variable explained uniquely or jointly by the independent variables,
results indicated that the leadership characteristic, Encourage the Heart demonstrated a relationship with five of the eight criterion variables. The strength of the values would indicate small predictive power for all five variables: Resource Adequacy (.097), Professional Interest (.041), Mission Consensus (.035), Innovation (.033), and Empowerment (.032). These results will be discussed further in the implications section of this chapter.

**Comparison and Contrast of Findings**

**Defining Leadership as it Relates to School Climate**

The Review of Literature presented in Chapter Two suggested that defining and describing leadership remains a challenge. Over 50 years of research has provided theories, explanations, suggested traits, characteristics, and behaviors which have been applied in all aspects of school (Gupton, 2003; Hallinger & Heck, 1998; Heck et al., 1990; Kelley et al., 2005; Leithwood et al., 2004; Marzano et al., 2005;). Perceptions of principals and teachers have been collected (Barker, 2006; Mendel et al., 2002; Silins, 1994), and an attempt to establish the relationship between leadership and school climate is evident in the research. Over the last fifteen years, schools as organizations have seen significant shifts in the role of leaders, specifically principals. This study supported the assertion that specific characteristics and behaviors of principals inform the actions and beliefs of teachers and the relationship between principals and teachers affects school climate.

Stodgill’s (1974) early definition of leadership separated leadership into two constructs, process and property. The role of leader as it is described in many of the studies reflects one or the other or both as a way to consider the success, or characteristics of the principal. The complexity of leadership and the expectations for a principal to respond to the needs of such varied constituents including parents, teachers, students, and district leadership is supported
through the examples of studies, and most specifically the need for 360° degree instruments (Bar-On, 2004; Day et al., 2001; Kouzes & Posner, 2004; Metropolitan Life Insurance Company, 2003) that consider multiple points of view. Perspectives of these varied points of view reflect the research of leaders and followers, and the relationship between the two which develops the culture of an organization. Senge’s (1990) work on organizations and organizational learning is critical in considering the climate of schools and the need for shared vision. Supported by Murphy (1988), the essential ingredient is the voice and partnership of the constituents.

**Perspectives of Leaders and Followers**

Understanding the needs of the teachers as followers within an organization provides insight into the development of climate and culture (Berlew, 1974; Kouzes & Posner, 2007; Smith, 1997). The analysis of “leader and follower” as a way to explore leadership has had ebbs and flows throughout the many years of research. Early studies considered the two roles, their characteristics and their relationship. A shift in research led to the examination of leadership styles. Transformational, servant, visionary, situational etc. attempted to develop deeper understandings of a style or type of leadership that is effective.

Data results of the *Leadership Practices Inventory* (Kouzes & Posner, 2000-2010) indicated that principals and teachers have similar perceptions of the principal’s leadership characteristics. The School-Level Environment Questionnaires (Fisher & Fraser, 1990) indicated that teachers’ perceptions of their actual school climate were significantly different than their perceptions for preferred school climate. These data would indicate that, although there was agreement between perceptions of principal’s leadership, perception of the leader is not necessarily linked to satisfaction of school climate. Many studies (Anderman et al., 1991; Kelley et al., 2005; Mendel et al., 2002) applying varied sets of criteria and characteristics have shown
there is relationship between school climate and leadership. Data results from this study reflect an added layer by considering preference as a separate point of view, although not necessarily equating it to positive school climate. In other words, it would appear that positive school climate may exist even if preferences are not entirely reflected. Research and studies included here illuminated the complex relationship between leaders and followers in an attempt to examine the relationship and broaden perspective of leadership and school climate.

The Relationship Between Leadership and School Climate

Leaders today are expected to be collaborative, foster communities of learners, provide instructional leadership, and be change agents (Gupton, 2003), while maintaining the systems and structures of their schools considering safety, schedules, and day to day needs and demands. The 2001 study by Day et al. examined leadership in what was perceived as changing times, defined by increased expectations, accountability and critical perceptions of schools regarding performance. Their research resulted in a set of common beliefs and actions reflecting a foundation of core values which motivated the principal. Krug’s (1992) conclusion in his research for The National Center for School Leadership (CSEE) that perceptions of leadership and climate are very difficult to separate in the minds of teachers captures the essence of what was discovered in most of the research studies as well as the results of data in this study. The inherent connection between values and perceptions was a relevant construct in studies conducted by Sun (2004) and Pepper and Thomas (2000), in support of the work of Day et al. (2001) and the CSEE (1992).

Evidence of these studies is representative of the research conducted in this study. Regression analysis reflected that teachers’ perceptions most strongly predict school climate through the relationship of the behavior, Model the Way. The criterion variables identified as
significant were *Mission Consensus, Professional Interest and Affiliation*. In an effort to understand this category and the characteristics that exemplify this type of behavior, the following six statements reflect the category on the LPI survey instrument:

- Is clear about his/her philosophy of leadership.
- Asks for feedback on how his/hers actions affects people’s performance.
- Make sure people adhere to agreed upon standards.
- Sets a personal example of what is expected.
- Follows through on promises and commitments (Kouzes & Posner, 2004).

Kouzes and Posner’s extensive work in conducting the research and developing the Leadership Practices Inventory describe an essential element of *Model the Way* is the need for leaders to give voice to their values. In carefully examining the relationship between personal and organizational values they have found similarly to other studies (Blair, 2002; Blasé 1987; Day et al., 2001; Gurr et al., 2006; Sun, 2004) that the importance of congruence between individual values and organizational values make a significant difference in work attitude and performance (2007). The relationship of the three significant dependent variables, *Mission Consensus* (consensus exists within the staff with regard to overarching goals for the school), *Professional Interest* (show interest in their work and seek further professional development), and *Affiliation* (are made to feel accepted by colleagues) all reflect a need for a leader who can create an environment of shared values. The recognition of values as an essential component of organizations was evident in almost every research study reviewed.

Although *Model the Way* presented a relationship to three of the eight dependent variables, two other independent variables of the Leadership Practices Inventory (LPI) reflected significant results. *Enable Others to Act* demonstrated a relationship to the dependent variable
of Empowerment (teachers are encouraged and empowered to be part of decision making process) and Challenge the Process reflected a relationship to Innovation (the school is in favor of planned change and experimentation, and fosters classroom openness and individualism). Explanations and descriptions of each of the two LPI categories reflect alignment and clear correlation would be expected. Research supporting the importance to school climate of collaboration, risk taking, and shared decision making was evident in studies conducted by Anderman et al. (1991), Engels et al. (2008) Kalletsad et al. (1998), Kelley et al. (2005) and Mendel et al. (2002).

The strong evidence provided through the research and these data leads the researcher to suggest that behaviors reflective of Challenge the Process and Enable Other to Act would first align under Model the Way. Behaviors and actions by the leader would first be modeled resulting in the ability for the other two categories to become part of the norms and culture of a school. An integrated approach as suggested by Avolio (2007) would include the concept that the human factor and condition is essential to leadership (values), considering the link between the two groups resulting in a leadership theory which includes cognitive elements (risk-taking, decision—making) and individual and group behavior (collaboration) as key aspects of the theory. Avolio’s suggestion supports the results of this study as did much of the research. While not simply defined, evidence of certain characteristics through the behaviors of the variable Model the Way reflect what has been expressed as important including high performance standards, a caring attitude about people and a sense of uniqueness and pride (Kouzes & Posner, 2007).

Although not as strong, data reflecting principals’ perceptions of their own leadership as they predict teachers’ perceptions of school climate for the following five dependent variables:
Resource Adequacy, Professional Interest, Mission Consensus, Innovation, and Empowerment also showed predictive power to the other leadership behavior of the LPI, which is associated with values, Encourage the Heart. The following six statements reflect this category:

- Gives team members appreciation and support.
- Recognizes people for commitment to shared values.
- Creatively rewards people for their contributions.
- Expresses confidence in people’s abilities.
- Praises people for a job well done.
- Finds ways to celebrate accomplishments (Kouzes & Posner, 2004).

In this area Kouzes and Posner create a direct link to the leader’s ability to develop a culture which includes celebration and creates community. Established shared rituals and a sense of belonging and being part of the organization are powerful tools in the growth of feelings of commitment and connection to the leader. Research conducted by Anderman et al. (1991) provided data suggesting that school cultures stressing recognition and accomplishment demonstrate a strong relationship to defining school mission. Although agreement was found in studies between principal and teacher perceptions regarding leadership (Metropolitan Life Insurance Company, 2003), little evidence of predictive strength of the principals ‘perceptions of their own leadership has been shown. Research conducted by Kelley et al. (2005) and the Metlife Survey (2003), examined principals as self-raters and the ability of leaders’ perceptions to predict teachers’ perceptions, and, supporting the current study, the predictive strength of leaders on teachers perceptions was found to be extremely limited or nonexistent.

The findings from this study are strongly supported by the research and conclusions of other researchers. The creation of symbols and symbolic activities which provide
encouragement and support is one of the most significant roles of the leader (Deal & Peterson, 1999). Although not all research has focused specifically on values, each study included an area or defined characteristic that reflects values as an integral component of the complex relationship between leadership and school climate.

This review suggests that leadership definitions will continue to evolve and climate will remain an important factor in school organizations. Further consideration of the behaviors of leaders as they demonstrate action and beliefs through a process oriented approach will inform the dynamic relationship of leaders and followers and the environments created as a result of these relationships.

**Limitations to the Study**

**Threats to External Validity**

Population validity concerns the extent to which the data results can be generalized from the sample to a larger population (Gall et al., 2003). Sampling restrictions based on participant self-selection were present. Inclusion in the study was completely voluntary, and the researcher had no control over teacher participation or knowledge of pre-existing relationships between teacher and principal that could influence results. The sample consisted of schools from a small region reflecting similar (although not exactly) the same demographic profiles. Generalizability can be expected to target populations of similar type schools but may not apply to a broad target population. The population consists predominantly of K-8 schools and as a result may not be able to be generalized to the high school setting. The researcher considered this a low threat to the study considering similar research studies have been conducted with sample populations at all levels in varied regions informing the researcher of reasonable expectations.
Ecological Validity concerns the extent to which the results can be generalized from the current environmental settings of the study to different environmental settings (Gall et al., 2003). The researcher would expect the results of this study to have high ecological validity. This was considered a low threat, instruments and procedures can be used in any educational setting at all grade levels. Methods and analysis could be duplicated and therefore generalizability can be expected.

Threats to Internal Validity

Mortality refers to the loss of participants during a research study. The researcher anticipated mortality (Gall et al., 2003). As a three part process it was expected that participants would either not complete all three surveys, or schools would not remain in the study as a result of limited school response, not meeting the 25% inclusion rate. The researcher set a higher number of schools as the baseline for completion of the study, allowing for attrition, while still maintaining a sufficient sample size. This was considered a moderate threat to the study explaining the researchers setting a higher inclusion rate.

Location refers to the setting and environment; this was considered a moderate threat to the study, although it was beyond the researcher’s control. Administration of the surveys was an online process and therefore, the researcher had no control of where participants completed the survey. Additionally, participants were able to begin the survey and complete it at a later time, and as a result, varied survey locations could offer different test settings, allowing for more or less concentration, distractions or influence.

Instrumentation refers to a learning gain observed from pretest to posttest because the nature of the measuring instrument has changed (Gall et al., 2003). This was not an experimental treatment, and therefore, this was not a threat to the study.
Instrumentation decay was addressed by the researcher’s extensive search and selection process which produced two instruments that were most aligned with the purpose and goals of the study. Instruments were pre-designed and therefore questions asked of participants were limited to the existing content of selected surveys. In addition, certain questions that the researcher might consider relevant were not considered.

Data collector characteristics were addressed through the researcher’s design of an extensive coding system and maintenance of detailed records allowing for cross referencing at all times. Significant amounts of data were collected. Demographic data from teachers and alignment with principals were required for accurate data analysis. Accuracy of contact information to make surveys accessible to participants was required, and matching the participants’ survey information was critical. This was considered a high threat and, as a result, measures were taken to ensure accuracy.

Data collector bias was addressed through the selection of a neutral person to collect and maintain all data. The data collector had no knowledge of the participants. Therefore this was considered a low threat to the validity of the study.

Testing is a concern in experiments where a pretest is administered, followed by an experiment and posttest (Gall et al., 2003). Testing in this study consisted of the administration of the three surveys. Although the researcher did not make participant information available to other participants, it may be that participants discussed the surveys or completed the surveys at the same time. This could have an effect on response selection. This was considered a low threat to the study.

History is a concern for experimental treatments which extend over time and as a result other events could affect the experimental treatment (Gall et al., 2003). The surveys
were completed over a four month period of time. Therefore, teachers’ perceptions could have differed as a result of the time of year; budget, mandated testing, and end of year events are examples that can influence perceptions. The researcher considered this a moderate threat, and in an effort to reduce this threat, all survey information was sent simultaneously, time lines were set and reminders were sent to encourage efficient completion.

Maturation refers to the possible physical or psychological changes that may happen over the course of an experiment or study (Gall et al, 2003). This was not perceived as a threat to the researcher due to the short time period for collection of data, and because participants were adults.

Attitude of subjects reflected the sampling restrictions of participant self-selection. Inclusion in the study was completely voluntary and the researcher had no control over teacher participation or knowledge of pre-existing relationships between teacher and principal that could influence results. The methods used for contacting potential participants were postal-delivered letters or electronic mail. As a result of this aspect of the research design, explanation and questions may have been unanswered due to lack of face-to-face contact. In an effort to minimize this limitation, an e-mail contact was provided to eliminate unanswered questions.

**Implications**

The research and data from this study offer an opportunity to examine leadership through the thinking of a hierarchical framework to support positive school climate and the role of leader. Understanding the characteristics of leaders and perceptions of teachers offers practitioners a lens for considering specific actions that can be implemented to increase principals’ abilities and teachers’ positive feelings about their school climate. The questions guiding this study explored
perceptions of leadership and school climate in an effort to identify the relationship and determine what possibilities exist that can inform new thinking about positive school climate and the role of leaders. Data indicated teachers would prefer to see a different type of school climate than the one that currently exists in their schools. Examining these data with the understanding and acceptance that teacher self-report instruments are the most reliable in evaluating school climate (Hoyle, English, & Steffy, 1994), supports the importance of these findings. Therefore, the question of leadership characteristics, what they are, and how they can affect change in school climate to better meet the needs of teachers based on this study becomes a question worth asking.

Results indicated that teachers’ perceptions of the principal’s leadership characteristics can predict school climate, specifically in principals’ behaviors under Kouzes and Posner’s (2007) category of Model the Way, which would indicate the importance of the work of the principal as leader in supporting the development of positive school climate. The three variables where a relationship was identified with the SLEQ, Mission Consensus, Professional Interest and Affiliation demonstrates that each of these is critical to the school culture and most specifically to meeting the needs of teachers as adults in the organization. Model the Way as described offers an opportunity to consider what are the important behaviors and actions that leaders must take if they are to be leaders who have moral purpose and defined values. Leadership characteristics do make a difference, Kouzes and Posner (2007) report that in almost every survey conducted, honesty has been selected more often than any other leadership characteristic, overall it emerges as the single most important factor in the leader-constituent relationship. Continued development of specific characteristics is essential, this research would indicate the need to consider “What leadership characteristics do principals need to better
understand and demonstrate? and “What characteristics have evidence of usefulness in establishing one’s own vision, values and purpose?

Fullan (2001) writes extensively on culture, change and leadership. His description of reculturing is different from reorganizing which usually refers to changing structures. Reculturing is the actions taken by the leader to create a collaborative environment guided by moral purpose and reflection. The results of this study indicate that it is important for leaders to consider their own values and accept the power that these values bring as a force for change, and to learn how to develop within themselves an inner strength and conscience that guides the work of the organization and the followers.

Three themes emerge in the values of highly successful, strong-culture organizations: high performance standards, a caring attitude about people, and a sense of uniqueness and pride (Kouzes & Posner, 2007). These themes are strongly related to the critical aspects of school environment identified in this research by teachers. They are reflected in the importance of the leader knowing what teachers know and believe to be true, the work of the leader in creating a culture of reflection by seeking feedback and developing ways to know what people are thinking, and the need to set an example for others by modeling their own reflection and growth. This study indicates that without a leader with moral purpose, and a culture steeped in deeply shared values, it is difficult to do the daily work of schools successfully.

Although not as strong in its predictive power, significance was found for the relationship between principals’ perceptions of leadership as they predict teachers’ perceptions of school climate. The results of this aspect of the study found that Encourage the Heart as a leadership characteristic demonstrated a relationship to climate variables of Professional Interest, Mission, Consensus, Empowerment, Innovation and Resource Adequacy. Encourage the Heart is
reflective of the basic premise of having high expectations and believing that people can meet them. The specific actions that leaders take, lead to what constituents believe about what can be accomplished by both the individuals as well as the organization as a whole. The findings here support the work of Goleman et al. (2002) and emotional intelligence. As previously stated, the importance of relationships between principals and teachers is critical to school climate. Goleman et al. (2002) observes that the leader’s perceptions, ideas and words carry a special weight and as a result, leaders manage meaning for the group by guiding interpretation and emotional reaction of the followers. These actions inherently link principal and teacher relationships and school climate. Additionally, it is in alignment with the components and characteristics of *Modeling the Way*.

The complexities of schools as organizations run by human beings compels us to think about leadership in the context of schools, while at the same time informs our learning and knowledge through research in business. Gupton makes the point that:

Navigating successfully the turbulent seas of today’s school leadership requires that principals have a compass, an inner strength, derived from having examined carefully who they are, what they believe and value, and why they are in the business of education. Such self assessment and reflection enable leaders to understand and thus manage better their emotions and the intense stress related to educational leadership positions. (2003, p. 2)

The findings of this research confirm the need for principals to be aware and mindful of what teachers believe and how the principal is being perceived. More importantly, it isolates key areas for leaders to focus on when considering their school climate and what makes a difference. The daily work of teachers and principals is evidenced in the total school environment including student achievement. Some aspects of the environment are apparent upon entering a school;
others require a more in-depth understanding of organizations and the ability to see the nuances that exist. Positive and negative relationships affect the school atmosphere, the climate is predicated on so many aspects of school life, and the successful integration would appear to be in the hands of the leader. The layers and levels by which school organizations function, most critically the human factors, create a complex set of understandings requiring a high level of expertise to navigate. This research supported previous research including the value of knowing oneself as a leader, collecting feedback from teachers and the relationship of leadership to school climate. This study and supporting research would indicate a significant need for the educational community to rethink how we manage school from the point of view of principals and teachers. Prioritizing the development of stronger relationships and deepening the understanding of how these relationships influence the total environment and the purpose of schools are important considerations.

**Suggestions for Future Research**

The extensive amount of research on leadership reflects studies in education as well as in business. Educators themselves have explored the similarities and differences between business environments and educational ones to determine what can be learned and inform the thinking as we seek commonalities of leaders and how we define success. Separate but related ideas are organizational climate and culture. Research linking leadership and climate through both qualitative and quantitative methods have surfaced observations and questions that seek to guide deeper understanding of how these influence each other, and create a reciprocal relationship which can define school culture. This section will recommend areas for future research when considering leadership, school climate, and the combination of leadership and school climate.
Quantitative Research and Principals’ Perceptions

This research indicates a need for quantitative studies which will explore the characteristics of school leaders in the context of the school environment and individual beliefs. The literature thoroughly supports the theory that leaders and leadership are a product or reflection of values, beliefs, and an individual’s ability to guide people. Goleman et al.’s (2002) development of emotional intelligence demands a deeper understanding of leaders as self. As indicated in this research study, the concept that leaders are not born with one set of characteristics would support the need to identify the observable behavioral characteristics in current school leaders and the personal characteristics as they relate to values and beliefs. Data from a study examining the daily actions of leaders in school environments and actions and beliefs of leaders as individuals designed to explain the relationship between leaders and leadership would inform the professional community of administrators on specific areas of need and how the relationship of self is inherently linked to the role of leader.

Qualitative Research and The Principalship

The daily life in schools can be difficult to measure. The relationship between principals and teachers as reflected in this research suggests a need for additional, qualitative research designed to understand teacher’s perceptions of principals’ as they relate to beliefs and values. It is suggested that teachers’ own personal values are what measures their perception of the principal, and that values are a critical component of school culture. Evidenced in this study, values are an important component of understanding the relationships in organizations and especially school organizations which are rooted in the human factor at all levels. Although some learning can be found through quantitative procedures, in-depth interviews revealing beliefs about teaching and learning as they compare and contrast to principal’s beliefs about
teaching and learning might provide an understanding of the teacher’s perception of their school’s culture. Through the collection of deeper knowledge, it may be possible to grow stronger cultures through purposeful professional learning and group activities designed to promote environments which are conducive to the particular needs of schools and their cultures.

**Longitudinal Studies and the School Principalship**

The principalship in context was included in this study as part of the literature review. Additional studies of context would be suggested to measure the effectiveness of leaders over time as it relates to teachers perceptions of their school climate. Studies reflecting the same changes in perceptions of teachers at different times in the tenure of a principal would offer valuable information in understanding the importance of relationships, which has been put forward as an essential element of leadership and positive school climate. (Fullan, 2001; Goleman et al., 2002; Gupton, 2003). Future studies considering the length of time teachers have been in the school and their perceptions of their role as educators as they relate to school climate and leadership would also provide an understanding of the complex relationship between teachers and principals.

Change and the expectation of long-term results rather than short term results (Fullan, 2001) supports the importance of longitudinal studies. Experimental research where principals receive focused professional learning over a period of time, measured by observed changes in behaviors and perceptions of teachers could offer the educational community opportunities to learn about how principals learn, whether setting makes a difference, and if sustainable change is possible.
Summary

The role of school leader has become a complex and demanding position. The needs, wants, and changing pressures of local, national, and international communities are having a profound effect on schools today. Leaders are expected to balance a large number of tasks, mandates, and expectations, while tending to the human needs that are the foundation of learning organizations. This study was guided by the extensive research that has been conducted, as well as current theory of education, leadership, and school climate. The findings of this study indicate the need for leaders of schools to examine their own values and beliefs. The results challenge the leader to let those values guide the work of their schools. This study revealed a narrow focus for school leaders to explore in relationship to school climate. Data indicated that teachers’ current school climates are not representative of what they would like their school climates to be. Indicators of potential change can be found in the characteristics of school leaders that predict school climate as presented in this research. While leaders are responsible for many aspects of school and learning, data indicated that attention to leading by modeling what one believes and expects, has the strongest relationship to how teachers feel about their school climate.

Future research can build on this body of knowledge. The evolving role of leader drives us to keep asking questions, and reflecting on actions. Examining characteristics as they relate to behaviors and understanding of how teachers perceive their leader was essential to this study and deepening the understanding of what is important. The research and findings in this study reflect current educational beliefs about the role of leadership, the significant demands and the need for “values driven” leaders who maintain personal integrity and lead with moral purpose.
References


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Marzano, R., Waters, T., & McNulty, B. (2005). *School leadership that works from research to results*. Aurora: McREL.


Statistical Package for Social Sciences (Version 16) [Computer Software]. Chicago, IL: SPSS Inc.


Appendix A: E-mail of Initial Contact
Dear Colleagues,

Some of you I know, and some of you I don’t. My name is Raina Kor and I am the Principal of the Main Street School in Irvington. I am beginning my research for my dissertation and I am looking for building principals who would like to participate. My study is examining the relationship between leadership and school climate.

Participation would include:

The principal completing a self assessment survey

Teachers taking the same survey based on their perceptions of the principal

Teachers also taking a climate survey

All information would be completely confidential and will be coded by a neutral person not familiar with the Westchester schools or principals. I will only access the information through a coded system and will not be able to match the data to your specific school.

Principals, and Principals only will have access to their school’s data if they would like it. In addition, results of the study will be shared with you.

If you would be interested in possibly participating, please e-mail me and I would be happy to contact you with more detailed information. I do need at least 25 schools to participate, and will need 30% of your teachers to participate. Their data will be anonymous. You will have access to the overall data but not individual teacher responses.

I hope you will consider being part of this study, I do need your help, and believe that this study has the potential to help all of us learn more about creating positive school climate.

Thank you for considering this, and please do not hesitate to ask me any questions. Response to this e-mail does not obligate you to participate.

Thanks

Raina
Appendix B: E-mail with Supporting Documents
Thank you for expressing an interest in being part of the research for my dissertation. If you are receiving this e-mail it is because you have either agreed to participate or have asked for additional information in order to make your decision. I am attaching several different documents, below is a description to help you read the ones that will be helpful in providing you with what you need to know.

**For a quick overview look at this document first**
**Data Collection Procedures** - this is an overview and time line, it will provide you with an checklist outlining the tasks to be completed and who will complete them

**Sample Letters** - These are samples of letters that will be sent requesting consent to participate (Please do not share these at this time with any school personnel)

- Principal Letters
- Teacher Letters
- Superintendent Letter

**Samples of Surveys**
SLEQ - School Climate - this is the paper copy, the actual survey will be done online
LPI - Sample of report the principal will receive

Please note that all participating teachers will be entered in a $15 Barnes and Noble gift card raffle (20 will be selected)
all participating principals will be entered in a $25 Amazon gift card raffle (3 will be selected)

Please let me know if you have any questions or need clarification. I will be back in touch early next week to confirm your participation.
Again, thank you for supporting this project.
Raina
Appendix C: Time Line for Data Collection Procedures
## Data Collection Procedures –
### Relationship between Leadership and School Climate Research
#### February – April 2009

<table>
<thead>
<tr>
<th>Task</th>
<th>Principal</th>
<th>Teacher</th>
<th>Researcher</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request principal’s interest in participation in the study.</td>
<td></td>
<td></td>
<td>✓</td>
<td>This was done via e-mail</td>
</tr>
<tr>
<td>Principals review process and plan</td>
<td>✓</td>
<td></td>
<td></td>
<td>Included:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Sample Letters</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Sample Survey</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Sample Report</td>
</tr>
<tr>
<td>Request permission from Superintendents of school districts for principal and teacher participation</td>
<td></td>
<td></td>
<td>✓</td>
<td>Letter will be mailed/e-mailed to Superintendents.</td>
</tr>
<tr>
<td>Request formal participation from principals. (this includes both a letter of explanation and consent form)</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>A formal letter will be e-mailed/mailed which will require a signature and or e-mail consent.</td>
</tr>
<tr>
<td>Provide researcher with names of all teachers in their school</td>
<td></td>
<td></td>
<td>✓</td>
<td>This can be general staff list mailed/e-mailed including e-mail addresses (or e-mail format, with any exceptions)</td>
</tr>
<tr>
<td>Request teacher participation in the study (this includes both a letter of explanation and consent form)</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>A letter addressed to each teacher by name will be sent to your school and will need to be distributed into each teacher’s mailbox.</td>
</tr>
<tr>
<td>Collect consent forms from teachers</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>Teachers wishing to participate will be asked to sign the consent form and return, or respond to an e-mail providing consent.</td>
</tr>
<tr>
<td>Information distributed to principals and teachers outlining the specific steps and expectations for the completion of surveys</td>
<td></td>
<td></td>
<td>✓</td>
<td>This information will be provided to all consenting teachers and principals. Schools will be provided with a school code and teachers will be provided with a participant code.</td>
</tr>
<tr>
<td>Participants will complete surveys online. (mid-late March) Time lines will be set and individuals will receive reminder e-mails. Participants will have approximately two weeks to complete the surveys</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Leadership – 10 minutes Climate (part I) – 10-15 minutes Climate (part II) – 10-15 minutes</td>
</tr>
<tr>
<td>Names will be drawn from both principal and teacher raffles and winners will be notified.</td>
<td>✓</td>
<td>All participating teachers will be entered in a Barnes and Noble $15 raffle, twenty teachers will be selected. All participating principals will be entered in an Amazon $25 raffle, three principals will be selected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data reports will be provided to principals</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study results will be shared with all participants. (Spring 2010)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: Sample LPI Data Report
KOUZES
POSNER

LEADERSHIP PRACTICES INVENTORY

Feedback Report
for Sample Leader
Administration Date:
December 12, 2003
Sample Organization

December 22, 2003
Contents

The Five Practices Data Summary 1
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Challenge the Process Data Summary 8
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Encourage the Heart Data Summary 12
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Percentile Graph 14
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The Five Practices Data Summary

This page summarizes your LPI scores for each Practice. The Self column shows the total of your own responses to the six statements about each Practice. The AVG column shows the averages of all your Observers' ratings. The Individual Observers columns show the total of each Observer's rating. Scores can range from 6 to 60.

<table>
<thead>
<tr>
<th>Practice</th>
<th>Self</th>
<th>AVG</th>
<th>Individual Observers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model the Way</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>36.0</td>
<td>30 35 25 48 32 46</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>31</td>
<td>39.7</td>
<td>33 46 38 45 30 46</td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>30</td>
<td>42.5</td>
<td>40 56 38 46 35 40</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>34</td>
<td>42.0</td>
<td>41 48 41 40 38 44</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>38</td>
<td>39.5</td>
<td>30 55 33 44 27 48</td>
</tr>
</tbody>
</table>

Manager Direct Report Co-Worker Other
AVG Average of all LPI Observer Ratings
The Five Practices Bar Graphs

These bar graphs, one set for each Practice, provide a graphic presentation of the numerical data recorded on The Five Practices Data Summary page. By Practice, it shows the total score for Self and the average total for each category of Observer. Scores can range from 6 to 60.

Model the Way

Inspire a Shared Vision

Challenge the Process

Enable Others to Act

Encourage the Heart

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# Leadership Practices Inventory

The rating scale runs from 1 to 10

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almost Never</td>
</tr>
<tr>
<td>2</td>
<td>Rarely</td>
</tr>
<tr>
<td>3</td>
<td>Seldom</td>
</tr>
<tr>
<td>4</td>
<td>Once in a While</td>
</tr>
<tr>
<td>5</td>
<td>Occasionally</td>
</tr>
<tr>
<td>6</td>
<td>Sometimes</td>
</tr>
<tr>
<td>7</td>
<td>Fairly Often</td>
</tr>
<tr>
<td>8</td>
<td>Usually</td>
</tr>
<tr>
<td>9</td>
<td>Very Frequently</td>
</tr>
<tr>
<td>10</td>
<td>Almost Always</td>
</tr>
</tbody>
</table>

## Leadership Behaviors Ranking

This page shows the ranking, from most frequent ("high") to least frequent ("low") of all 30 leadership behaviors based on the average Observers' score. A horizontal line separates the 10 least frequent behaviors from the others. An asterisk (*) next to the Observer score indicates that the Observer score and the Self score differ by more than plus or minus 1.5.

### High

<table>
<thead>
<tr>
<th>Practice</th>
<th>Self</th>
<th>Observers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspire</td>
<td>5</td>
<td>8.3*</td>
</tr>
<tr>
<td>Challenge</td>
<td>4</td>
<td>7.8*</td>
</tr>
<tr>
<td>Enable</td>
<td>4</td>
<td>7.7*</td>
</tr>
<tr>
<td>Enable</td>
<td>5</td>
<td>7.5*</td>
</tr>
<tr>
<td>Encourage</td>
<td>4</td>
<td>7.5*</td>
</tr>
<tr>
<td>Model</td>
<td>4</td>
<td>7.5*</td>
</tr>
<tr>
<td>Challenge</td>
<td>4</td>
<td>7.5*</td>
</tr>
<tr>
<td>Challenge</td>
<td>8</td>
<td>7.3</td>
</tr>
<tr>
<td>Inspire</td>
<td>5</td>
<td>7.3*</td>
</tr>
<tr>
<td>Encourage</td>
<td>9</td>
<td>7.2*</td>
</tr>
<tr>
<td>Enable</td>
<td>4</td>
<td>7.2*</td>
</tr>
<tr>
<td>Challenge</td>
<td>6</td>
<td>7.0</td>
</tr>
<tr>
<td>Model</td>
<td>6</td>
<td>7.0</td>
</tr>
<tr>
<td>Challenge</td>
<td>4</td>
<td>7.0*</td>
</tr>
<tr>
<td>Enable</td>
<td>8</td>
<td>6.8</td>
</tr>
<tr>
<td>Encourage</td>
<td>4</td>
<td>6.8*</td>
</tr>
<tr>
<td>Model</td>
<td>8</td>
<td>6.5*</td>
</tr>
<tr>
<td>Enable</td>
<td>7</td>
<td>6.5</td>
</tr>
<tr>
<td>Inspire</td>
<td>2</td>
<td>6.5*</td>
</tr>
<tr>
<td>Inspire</td>
<td>7</td>
<td>6.3</td>
</tr>
</tbody>
</table>

### Low

<table>
<thead>
<tr>
<th>Practice</th>
<th>Self</th>
<th>Observers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable</td>
<td>6</td>
<td>6.3</td>
</tr>
<tr>
<td>Encourage</td>
<td>5</td>
<td>6.2</td>
</tr>
<tr>
<td>Encourage</td>
<td>9</td>
<td>6.0*</td>
</tr>
<tr>
<td>Encourage</td>
<td>7</td>
<td>5.8</td>
</tr>
<tr>
<td>Inspire</td>
<td>5</td>
<td>5.8</td>
</tr>
<tr>
<td>Challenge</td>
<td>4</td>
<td>5.8*</td>
</tr>
<tr>
<td>Model</td>
<td>7</td>
<td>5.3*</td>
</tr>
<tr>
<td>Inspire</td>
<td>7</td>
<td>5.3*</td>
</tr>
<tr>
<td>Model</td>
<td>6</td>
<td>5.2</td>
</tr>
<tr>
<td>Model</td>
<td>8</td>
<td>4.5*</td>
</tr>
</tbody>
</table>

* Difference between Observer's and Self rating was greater than 1.5
**Profile for Sample Leader**
**Sample Organization**
**December 22, 2003**

### Leadership Practices Inventory

- **The rating scale runs from 1 to 10**
  - 1 - Almost Never
  - 2 - Rarely
  - 3 - Seldom
  - 4 - Once in a While
  - 5 - Occasionally
  - 6 - Sometimes
  - 7 - Fairly Often
  - 8 - Usually
  - 9 - Very Frequently
  - 10 - Almost Always

#### Model the Way Data Summary
- Find your voice by clarifying your personal values
- Set the example by aligning actions with shared values

This page shows the scores for each of the six leadership behaviors related to this Practice. The Self column shows the scores you gave yourself for each behavior. The AVG column shows the averages of all the Observers' ratings. The Individual Observers columns show each Observer's rating for each behavioral item. Scores can range from 1 to 10.

Manager | Direct Report | Co-Worker | Other | AVG | Average of all LPI Observer Ratings
--- | --- | --- | --- | --- | ---

<table>
<thead>
<tr>
<th></th>
<th>Self</th>
<th>AVG</th>
<th>Individual Observers</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>C1</td>
<td>C2</td>
<td>D1</td>
</tr>
<tr>
<td>26. Is clear about his/her philosophy of leadership</td>
<td>4</td>
<td>7.5</td>
<td>6</td>
</tr>
<tr>
<td>16. Asks for feedback on how his/her actions affect people's performance</td>
<td>6</td>
<td>7.0</td>
<td>3</td>
</tr>
<tr>
<td>6. Makes certain that people adhere to agreed-on standards</td>
<td>8</td>
<td>6.5</td>
<td>9</td>
</tr>
<tr>
<td>21. Builds consensus around organization's values</td>
<td>7</td>
<td>5.3</td>
<td>4</td>
</tr>
<tr>
<td>1. Sets a personal example of what is expected</td>
<td>6</td>
<td>5.2</td>
<td>4</td>
</tr>
<tr>
<td>11. Follows through on promises and commitments</td>
<td>8</td>
<td>4.5</td>
<td>4</td>
</tr>
</tbody>
</table>

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### Leadership Practices Inventory

The rating scale runs from 1 to 10
- 1 - Almost Never
- 2 - Rarely
- 3 - Seldom
- 4 - Once in a while
- 5 - Occasionally
- 6 - Sometimes
- 7 - Fairly Often
- 8 - Usually
- 9 - Very Frequently
- 10 - Almost Always

#### Model the Way Bar Graphs
- Find your voice by clarifying your personal values
- Set the example by aligning actions with shared values

The set of bar graphs for each of the six leadership behaviors related to this Practice provides a graphic representation of your and your Observers' average ratings for that behavior. Scores can range from 1 to 10.

<table>
<thead>
<tr>
<th>Practice</th>
<th>Self</th>
<th>Manager</th>
<th>Direct Report</th>
<th>Co-Worker</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Is clear about his/her philosophy of leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>11. Follows through on promises and commitments</td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>
Percentile Ranking

This page compares your Self scores and those of your Observers to the scores of several thousand people who have taken this version of the LPI. The horizontal lines at the 30th and 70th percentiles divide the graph into three segments, roughly approximating a normal distribution of scores.
Appendix E: School-Level Environment Questionnaire
1. Most students are pleasant and friendly to teachers.  
2. I receive encouragement from colleagues.  
3. Teachers discuss teaching methods and strategies with each other.  
4. The school mission statement and its associated goals are well understood by school staff.  
5. Decisions about the running of this school are usually made by the principal or a small group of teachers.  
6. It is difficult to change anything in this school.  
7. The school or department library includes an adequate selection of books and periodicals.  
8. There is constant pressure to keep working.  
9. Most students are helpful and cooperative to teachers.  
10. I feel accepted by other teachers.  
11. Teachers avoid talking with each other about teaching and learning.  
12. The organisation of this school reflects its goals.  
13. I have to refer even small matters to a senior member of staff for a final answer.  
14. Teachers are encouraged to be innovative in this school.  
15. The supply of equipment and resources is inadequate.  
16. Teachers have to work long hours to complete all their work.  
17. There are many disruptive, difficult students in this school.  
18. I am ignored by other teachers.  
19. Staff meetings are dominated by administrative matters rather than teaching and learning issues.  
20. Teachers regularly refer to the mission of the school when addressing school issues.  
21. Action can be taken without gaining the approval of a senior member of staff.  
22. There is a great deal of resistance to proposals for curriculum change.  
23. Video equipment, tapes and films are readily available and accessible.  
24. Teachers don't have to work hard in this school.  
25. There are many noisy, badly-behaved students.  
26. I feel that I could rely on my colleagues for assistance if I needed it.  
27. Many teachers attend inservice and other professional development courses.  
28. There is a high degree of consensus within the staff with regard to what the school is trying to achieve.  
29. Teachers are asked to participate in decisions concerning administrative policies and procedures.  
30. Most teachers like the idea of change.  
31. Adequate copying facilities and services are available to teachers.  
32. There is no time for teachers to relax.  
33. Students get along well with teachers.  
34. My colleagues take notice of my professional views and opinions.  
35. Teachers show little interest in what is happening in other schools.  
36. My views of the overall mission of this school are very similar to other staff members.  
37. I am encouraged to make decisions without reference to a senior member of staff.  
38. New courses or curriculum materials are seldom implemented in the school.  
39. Tape recorders and cassettes are available when needed.  
40. You can take it easy and still get the work done.  
41. Most students are well-mannered and respectful to the school staff.  
42. I feel that I have many friends among my colleagues at this school.  
43. Teachers are keen to learn from their colleagues.  
44. The operation of this school is consistent with its goals.  
45. I am allowed to do almost as I please in the classroom.  
46. There is much experimentation with different teaching approaches.  
47. Facilities are inadequate for catering for a variety of classroom activities and learning groups of different sizes.  
48. Seldom are there deadlines to be met.  
49. Strict discipline is needed to control many of the students.  
50. I feel lonely and left out of things in the staffroom.  
51. Teachers show considerable interest in the professional activities of their colleagues.  
52. Teachers agree on the school's overall goals.  
53. I have little say in the running of this school.  
54. New and different ideas are being tried in this school.  
55. Class sets of important resource books are available when needed.  
56. It is hard to keep up with your workload.
1. Most students would be pleasant and friendly to teachers.
2. I would receive encouragement from colleagues.
3. Teachers would discuss teaching methods and strategies with each other.
4. The school mission statement and its associated goals would be well understood by school staff.
5. Decisions about the running of the school would usually be made by the principal or a small group of teachers.
6. It would be difficult to change anything in the school.
7. The school or department library would include an adequate selection of books and periodicals.
8. There would be constant pressure to keep working.
9. Most students would be helpful and cooperative with teachers.
10. I would feel accepted by other teachers.
11. Teachers would avoid talking with each other about teaching and learning.
12. The organisation of the school would reflect its goals.
13. I would have to refer even small matters to a senior member of staff for a final answer.
14. Teachers would be encouraged to be innovative in the school.
15. The supply of equipment and resources would not be adequate.
16. Teachers would have to work long hours to complete all their work.
17. There would be many disruptive, difficult students in the school.
18. I would be ignored by other teachers.
19. Staff meetings would be dominated by administrative matters rather than teaching and learning issues.
20. Teachers regularly would refer to the mission of the school when addressing school issues.
21. Action could be taken without gaining the approval of a senior member of staff.
22. There would be a great deal of resistance to proposals for curriculum change.
23. Video equipment, tapes and films would be readily available and accessible.
24. Teachers would not have to work hard in the school.
25. There would be many noisy, badly-behaved students.
26. I would feel that I could rely on my colleagues for assistance if I needed it.
27. Many teachers would attend inservice and other professional development courses.
28. There would be a high degree of consensus within the staff with regard to what the school was trying to achieve.
29. Teachers would be asked to participate in decisions concerning administrative policies and procedures.
30. Most teachers would like the idea of change.
31. Adequate copying facilities and services would be available to teachers.
32. There would be no time for teachers to relax.
33. Students would get along well with teachers.
34. My colleagues would take notice of my professional views and opinions.
35. Teachers would show little interest in what was happening in other schools.
36. My views of the overall mission of this school would be very similar to other staff members.
37. I would be encouraged to make decisions without reference to a senior member of staff.
38. New courses or curriculum materials would be implemented in the school.
39. Tape recorders and cassettes would be available when needed.
40. You could take it easy and still get the work done.
41. Most students would be well-mannered and respectful to the school staff.
42. I would feel that I had many friends among my colleagues at the school.
43. Teachers would be keen to learn from their colleagues.
44. The operation of the school would be consistent with its goals.
45. I would be allowed to do almost as I pleased in the classroom.
46. There would be much experimentation with different teaching approaches.
47. Facilities would be inadequate for catering for a variety of classroom activities and learning groups of different sizes.
48. Seldom would there be deadlines to meet.
49. Strict discipline would be needed to control many of the students.
50. I would feel lonely and left out of things in the staffroom.
51. Teachers would show considerable interest in the professional activities of their colleagues.
52. Teachers would agree on the school's overall goals.
53. I would have little say in the running of the school.
54. New and different ideas would be tried in the school.
55. Class sets of important resource books would be available when needed.
56. It would be hard to keep up with your workload.
Appendix F: Letter and Consent Form (Superintendent)
Dear _____________________,

I am currently enrolled in the doctoral program for Instructional Leadership at Western Connecticut State University. This program requires that I design and implement a dissertation research study. The purpose of the study is to compare principal and teacher perceptions of leadership characteristics and to determine how these perceptions relate to perceptions of school climate.

Two instruments will be used in this study. The Leadership Practices Inventory (LPI), will assess both teacher’s and principal’s perceptions of the leadership characteristics of the building principal. Teachers and principals will complete the same questionnaire with an indication of self-rater for principal, and observer for teacher. In addition, teachers will complete the School-Level Environment Questionnaire; this is a two part form, actual environment and preferred environment. All surveys will be completed online and will take approximately twenty minutes.

This research study has been reviewed and approved by Western Connecticut State University’s Institutional Review Board. Results of this study will enable educators to better understand the leadership characteristics which foster positive school climate. Participation in this study is completely voluntary. The questionnaires are coded to ensure that all responses will be held strictly confidential.

In preparation for my study, I have contacted building principals throughout Westchester, Rockland and Long Island to determine interest in participation.__________________ at __________________________ has consented to participate in my research. I wish to thank the __________________________school district for participating in this study and for contributing to the body of research that supports the growth of strong school leadership and positive school climate.

Sincerely,

Raina Kor

APPROVED BY (signature) __________________________  DATE ____________
Appendix G: Cover Letter and Consent Form (Principal)
Dear Principal,

This cover letter and the accompanying consent form are intended to encourage participation in my doctoral research study in instructional leadership at Western Connecticut State University.

The purpose of the study is to compare principal and teacher perceptions of leadership characteristics and to determine how these perceptions relate to perceptions of school climate. Based on your prior expressed interest, I have contacted, and received permission for participation from your school district’s Superintendent (see enclosed sample of letter).

Two instruments will be used in this study. The Leadership Practices Inventory (LPI), will assess both teachers’ and principal’s perceptions of the leadership characteristics of the building principal. Teachers and principals will complete the same questionnaire with an indication of self-rater for principal, and observer for teacher. In addition, teachers will complete the School-Level Environment Questionnaire; this is a two part form, actual environment and preferred environment. All surveys will be completed online and will take a total time of approximately twenty minutes.

Participation in this study is completely voluntary. The questionnaires are coded to ensure that all responses will be held strictly confidential. Copies of the results of the study, as well as your school-wide results will be made available to you, please indicate your interest in receiving your data on the enclosed consent form. Individual teacher responses will not be made available.

I appreciate the willingness to participate in this research study by the administration and staff of ________________________________. In appreciation for your participation, your name will be included in a $25.00 Amazon.com raffle drawing for principals. Three principals from all participating schools will randomly be selected by May 2009.

Thank you for your cooperation and contribution to this research study. Please read the attached consent form, you can sign and return to me in the pre-addressed envelope or you will receive an e-mail shortly offering you the opportunity to provide your consent via e-mail.

Sincerely,

Raina Kor
Dear Principal,

I am currently enrolled in the doctoral program for Instructional Leadership at Western Connecticut State University. This program requires that I design and implement a dissertation research study. Please accept this letter as my formal request for you to take part in this research study. This research will take place in the winter/spring of 2009.

The purpose of the study is to compare principal and teacher perceptions of leadership characteristics and to determine how these perceptions relate to perceptions of school climate. Currently research studies have been conducted on leadership styles, as well as attributes of school leaders. There are also studies on school climate, with agreement that school climate makes a difference in increased student achievement, in addition to other aspects of daily life of schools. However, there is limited research on perceptions of specific leadership characteristics and how they relate to school climate.

This research study has been reviewed and approved by Western Connecticut State University’s Institutional Review Board. Results of this study will enable educators to better understand the leadership characteristics which foster positive school climate.

**Participation in this study is completely voluntary. The questionnaires are coded to ensure that all responses will be held strictly confidential. Individual school identities will not be known to the researcher. Copies of the results of the study, as well as your school-wide results will be made available to you, please indicate below your interest in receiving your school’s data. Individual teacher responses will not be made available.**

If you have any questions, or would like further information about the study, please contact me via email me at leadership.studyrk@gmail.com.

Thank you for your cooperation and contribution to this research study. Please sign and return this form in the enclosed pre-addressed envelope, or indicate your consent to participate in the follow-up e-mail that you will be receiving shortly.

Sincerely,

Raina Kor

☐ I would like to receive results of this research study.
☐ I would like to receive data for my school.

Participant Signature________________________________________ Date _______________
Appendix H: Cover Letter and Consent Form (Teacher)
Dear Teacher,

This cover letter and the accompanying consent form are intended to encourage participation in my doctoral research study in instructional leadership at Western Connecticut State University. The purpose of the study is to compare principal and teacher perceptions of leadership characteristics and to determine how these perceptions relate to perceptions of school climate.

This study is dependent on participation of both principals and teachers. Your principal has agreed to participate.

Two instruments will be used in this study. The Leadership Practices Inventory (LPI) will assess both teachers’ and principal’s perceptions of the leadership characteristics of the building principal. Teachers and principals will complete the same questionnaire with an indication of self-rater for principal, and observer for teacher. In addition, teachers will complete the School-Level Environment Questionnaire; this is a two part form, actual environment and preferred environment. All surveys will be completed online and will take a total of approximately twenty minutes.

**Participation in this study is completely voluntary. The questionnaires are coded to ensure that all responses will be held strictly confidential. Individual teacher responses will not be made available.**

I appreciate the willingness to participate in this research study by the administration and staff of __________________________________. In appreciation for your participation, your name will be included in a $15.00 Barnes and Noble raffle drawing for teachers. Twenty teachers from all participating schools will be randomly selected by May 2009.

Thank you for your cooperation and contribution to this research study. Please read the attached consent form, you can sign and return to me in the pre-addressed envelope or you will receive an e-mail shortly offering you the opportunity to provide your consent via e-mail.

Sincerely,

Raina Kor
Dear Teacher,

I am currently enrolled in the doctoral program for Instructional Leadership at Western Connecticut State University. This program requires that I design and implement a dissertation research study. Please accept this letter as my formal request for you to take part in this research study. This research will take place in the winter of 2009.

The purpose of the study is to compare principal and teacher perceptions of leadership characteristics and to determine how these perceptions relate to perceptions of school climate. Currently research studies have been conducted on leadership styles, as well as attributes of school leaders. There are also studies on school climate, with agreement that school climate makes a difference in increased student achievement, in addition to other aspects of daily life of schools. However, there is limited research on perceptions of specific leadership characteristics and how they relate to school climate.

This research study has been reviewed and approved by Western Connecticut State University’s Institutional Review Board. Results of this study will enable educators to better understand the leadership characteristics which foster positive school climate.

**Participation in this study is completely voluntary. The questionnaires are coded to ensure that all responses will be held strictly confidential. A copy of the results will be available upon request.**

If you have any questions, or would like further information about the study, please contact me via email me at leadership.studyrk@gmail.com

Thank you for your cooperation and contribution to this research study.
Sincerely,

Raina Kor

Participant Signature __________________________ Date _______________
Appendix I: Sample E-mail Reminder
Thank you for participating in this study.

Over the weekend my data checker cross checked all codes and completed surveys. If you are receiving this reminder, then you have not completed this survey. This reminder is for the Actual Survey and is sent directly from Survey Methods.

The link in this e-mail is to the School Environment Actual Survey. Click below to begin the survey, you will need to enter your school code and participant code.

If you already completed it, you should not be receiving this e-mail.
I appreciate your help.

Please contact us through leadership.studyrk@gmail.com if you need your codes.

Raina Kor

Click on the following link to take the survey: Click Here<http://www.surveymethods.com/EndUser.aspx?8ABCC2DD8DCBDBDB8FC8>
Or copy and paste the following link in your browser to take the survey:
http://www.surveymethods.com/EndUser.aspx?8ABCC2DD8DCBDBDB8FC8

Click on the following link to not take this and other surveys from us: Click Here<http://www.surveymethods.com/EndUser.aspx?8AB6C2DD8DCBDBDB8FC8>
If clicking on the link does not work, copy and paste the following URL into your browser.