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**EXAMINING THE IMPACT OF LEADERSHIP STYLE AND SCHOOL
CLIMATE ON STUDENT ACHIEVEMENT**

by

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Old Dominion University in Partial Fulfillment of the
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May 2010

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Abstract

EXAMINING THE IMPACT OF LEADERSHIP STYLE AND SCHOOL CLIMATE ON STUDENT ACHIEVEMENT

Tina Robinson
Old Dominion University, 2010
Director: William A. Owings

The purpose of this quantitative study was to investigate whether or not leadership style and school climate are significant predictors of student achievement. The target population consisted of elementary and high school teachers from Virginia public schools who had taught under the leadership of their respective current principals for at least 4 years. Nine school divisions were randomly selected from each of the following regions—rural, suburban, and urban—within the Commonwealth of Virginia.

Data were collected using two surveys. Bass's (1985) Multifactor Leadership Questionnaire (Form 5X) was used to assess principals' leadership style—transactional, transformational, or laissez-faire—as perceived by teachers. The Organizational Climate Description Questionnaire (OCDQ), which was originally developed by Halpin and Croft (1963), was used to assess school climate. The OCDQ-RE was administered to elementary school participants; the OCDQ-RS was administered to high school participants. Both versions of the OCDQ identify overall school climate type: open, engaged, disengaged, or closed climate. All participants were also asked to complete a demographics questionnaire. Student achievement was measured using 3-year average scores on the Virginia Standards of Learning tests in reading and math for grades 3 and 11.

The data revealed that both teacher and principal participants most often viewed their school's dominant leadership style as transformational; transactional leadership style was the second most often perceived style. School climate varied—open, engaged, disengaged, or closed—according to teacher participants, whereas principal participants viewed their respective school climates as either open or disengaged. The findings indicate that 6% of variance in scores can be accounted for by leadership style and school climate with the math SOL score as the dependent variable; however, a smaller percentage, only 2%, of the variance in scores is associated with the reading SOL score dependent variable. The researcher found no significant differences in school climate among the three regions: rural, suburban, urban.

This dissertation is dedicated to my parents, Joy and Dennis Robinson, who have taught me everything that really matters. They always told me to “get an education. . . it’s the one thing no one can take away from you.” I would not have been able to complete this journey without their love and support.

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Our talents are the gift that God gives to us...What we make of our talents is our gift back to God.

Leo Buscaglia

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Chapter 1 – Introduction

Parents, employers, and politicians are outraged that many recent high school graduates are unable to perform basic skills such as addition, subtraction, or even reading at an acceptable level. These stakeholders are concerned about the quality of education children are receiving in the nation's public school system. Many believe that other countries are more successful at educating their students and that the United States will be unable to keep up with the competition if drastic changes are not made.

The No Child Left Behind (NCLB) Act of 2001 was signed into law by President George W. Bush on January 8, 2002 to address many of these concerns. One of its main goals is to improve student achievement through strict accountability. Students, teachers, and principals are now being held accountable for student achievement. NCLB requires that all students, including minority and economically disadvantaged students, meet minimum proficiency requirements in reading, math, and science by 2014.

In Virginia, the Standards of Learning (SOL) are the basis for state standardized achievement tests. If schools do not make established gains each year, they incur sanctions. Therefore, school administrators must raise standardized test scores and reduce the achievement gap. Educational leaders must determine the most effective ways to improve student achievement. The stakes are high and the pressure is even higher.

Two constructs that may impact student achievement are principal leadership style and school climate. Deal and Peterson (1999) found that school climate is greatly affected by the leadership style of the building principal. Principals need to be aware of their leadership style and how it impacts the school climate. By creating the right climate, school leaders can then implement school reforms that will in turn increase

student achievement (Sergiovanni & Starratt, 1998). The goal of the current study was to examine the impact of leadership style and school climate on student achievement at the elementary and high school levels.

Background

In response to the current mandates of NCLB, school administrators are continually seeking ways to improve student achievement. One factor involved in school improvement is effective leadership. Leadership has been defined in numerous ways. For example, Cohen (1990) defined leadership as “the art of influencing others to their maximum performance to accomplish any task, objective or project,” (p. 9), whereas Stogdill (1974) stated that leadership “is the initiation and maintenance of structure in expectation and interaction” (p. 411). The current study employed Burns’s (1978) definition of leadership: “inducing followers to act for certain goals that represent the values and the motivations—the wants and needs, the aspirations and expectations—of both leaders and followers” (p. 19).

Each school has a distinctive identity and atmosphere, often referred to as the school’s climate. School climate represents the first interaction people usually have when entering a school building. Halpin and Croft (1963) were the frontrunners in conducting research to investigate the influence of a leader’s behavior on the organizational climate in elementary schools. (Halpin, 1966) found that each school has a different feel or personality, and Halpin and Croft used the following analogy to describe school climate: “Personality is to the individual what climate is to the organization,” (p. 1).

Standardized tests are currently administered yearly to students and are used to compare student achievement on a national and local basis. Walsh (1986) asserted that standardized tests are used for comparison purposes because they are more reliable and acceptable than any other testing measure. In Virginia, the SOL tests are used for state standardized achievement measures. SOL tests are administered in Grades 3, 5, and 8, and for certain high school courses. All tests use a multiple-choice format, with the exception for the writing tests, which require each student to write a composition. The grading scales for all SOL tests range from 0 to 600. Students must receive a minimum score of 400 to pass the SOL test.

Theoretical Framework

The purpose of the current study was to examine the effects of leadership style and school climate on student achievement. It was guided by two separate theories. The theoretical framework for leadership style was based on Avolio and Bass's (1991) full-range leadership theory (FRLT). The theoretical framework for school climate was based on the work of Halpin and Croft (1963), in which the researchers developed the original Organizational Climate Description Questionnaire.

Full-range leadership theory. The FRLT was developed by Bruce Avolio and Bernard Bass in 1991; it is one of the most researched theories of leadership (Barbuto & Wheeler, 2006). With the inclusion of laissez-faire leadership style, the FRLT covers a complete range of leadership styles. The FRLT suggests that every leader may, at one time or another, display elements of each leadership style: transactional, transformational, or laissez-faire (Avolio, Bass, & Jung, 1999).

Transactional leadership consists of three components: contingent reward, management-by-exception–active, and management-by-exception–passive (Bass, 1990). These three components represent relatively low forms of leader activity and involvement. The second leadership style that makes up the FRLT is transformational leadership. According to Bass and Avolio (1997) transformational leadership is not an alternative to transactional leadership but rather an augmentation of it. Transformational leadership is necessary to motivate employees to a higher level of effort and performance (Lee, 2005). The four components of transformational leadership, (a) idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individualized consideration, work together to produce employee performance beyond specified expectations (Hall, Johnson, Wysocki, & Kepner, 2002). The third leadership style of the FRLT is laissez-faire, which represents the absence of any leadership.

Many researchers have supported transformational leadership in the field of education, acknowledging it to be one of the most effective leadership styles (Adams & Hambricht, 2005; Bass & Avolio, 1989; Burns, 1978; Tichy & Devanna, 1986). Several researchers have found that transformational leaders are able to bring about both personal and organizational changes and help employees exceed beyond their performance expectations (Jung & Avolio, 2000). According to researchers, transformational leadership has received more empirical scrutiny in the social science literature than all other leadership theories during the past 2 decades (Bass, 1998; Judge & Bono, 2000; Lowe & Gardner, 2000).

To measure leadership style in the current study, the researcher used the Multifactor Leadership Questionnaire (MLQ), version 5X (Bass & Avolio, 1995). This

version of the MLQ is short, consisting of 45 items. The MLQ is based on the FRLT and encompasses the full range of leader behaviors, from transactional and transformational leadership to laissez-faire leadership (Avolio & Bass, 2004). The widely used MLQ is the most frequently used questionnaire to assess transformational leadership (Hunt & Conger, 1999; Lowe, Kroeck, & Sivasubramaniam, 1996).

School climate. Even though school climate has been a topic of research for many years, there has been no consensus among researchers regarding its definition (Coral & Castle, 2005; Waters, Marzano, & McNulty, 2004). Various definitions of school climate include “feelings that students and staff have about the school environment over a period of time” (Peterson & Skiba, 2001, p. 155) and “the social atmosphere or relationships among members of a learning community” (Moos, 1979, p. 81). The current study incorporated Hoy and Miskel’s (2005) definition of school climate, “the set of internal characteristics that distinguish one school from another and influence the behavior of each school’s members” (p. 185), because it best represents the researcher’s concept of school climate. This definition encompasses the total environment of the organization (physical, social, and relational) and includes all members of the organization, not just the students and teachers.

Halpin and Croft (1963) conceptualized school climate as being either “open” or “closed.” Hoy, Hoffman, Sabo, & Bliss (1996) later identified two additional descriptors of school climate: engaged and disengaged. These terms are used to describe ways in which interactions among group members can influence the climate of the school.

In 1963, Halpin and Croft developed the Organizational Climate Description Questionnaire (OCDQ) to measure school climate. The instrument has been widely

recognized by researchers; in more than 100 research studies conducted between 1963 and 1967, the OCDQ was administered to measure school climate (Anderson, 1982). In the current study, the researcher used two separate versions of the OCDQ. The OCDQ-RE was used to measure perceived school climate at the elementary school level; the OCDQ-RS was used to measure perceived school climate at the high school level.

Problem Statement

With the implementation of NCLB, educational leaders are being held accountable for their students' success or failure on mandated state standardized tests. The school leader must look at new ways to increase student achievement, including examination of his or her own leadership style as well as the school's climate. Principals must be able to effectively and efficiently implement school reforms that will ultimately improve student achievement. Although administrators are challenged by time constraints and limited budgets, they must make changes that will produce the desired results. They cannot waste resources on changes that have not been tested. The relationship of leadership style and school climate to student achievement has not been sufficiently tested.

Although numerous research studies have been conducted to examine the three variables, findings are inconsistent. For example, several researchers have identified a positive correlation between the principal's leadership style and school climate (Chrispeels, 2002; Hallinger & Murphy, 1987; Hoy & Miskel, 1991; Lane, 1992), whereas others have found no relationship between the two variables (Anderson, 1993; Dickson, 1991; Hardin, 1995; Nichols, 1991).

Studies have indicated an inconsistent relationship between leadership style and student achievement. Leitner (1994) surveyed 27 principals and 412 teachers and found that the relationship between leadership behaviors and student achievement was positive, but not statistically significant; other researchers have found positive correlations between leadership style and student achievement (Andrews, Soder, & Jacoby, 1986; Bossert, Dwyer, Rowan, & Lee, 1982; Heck, Larsen, & Marcoulides, 1990; Leithwood & Jantzi, 2000).

The research findings regarding school climate and student achievement, however, have been very consistent. One example includes the research of Bulach, Malone, and Castleman (1995) in which the researchers found a significant positive relationship between student achievement and school climate. Due to the conflicting findings regarding the relationship between leadership style and school climate and the relationship between leadership style and student achievement, additional research was needed to examine these relationships more closely.

Purpose of Study

The purpose of the current study was to examine the impact of leadership style and school climate on student achievement at the elementary and high school levels. The researcher analyzed teachers' perceptions regarding principals' leadership styles and school climate. The information gained from this study will assist educational leaders in making decisions regarding school reform and improvement efforts that could ultimately increase student achievement.

Efforts to create an effective school continue to be a driving force for school administrators. This study builds on previous research and provides new answers to the question of how leadership styles and school climate affect student achievement.

The following research questions were used to guide the study:

- 1a. Can the teacher-perceived leadership style of the principal and the teacher-perceived school climate predict the overall student achievement level?
- 1b. Is there significant variance between the teacher-perceived leadership style of the principal and the self-perceived style of the principal?
2. Are there significant differences in findings among Virginia rural, suburban, and urban regions?

Significance of Study

Many studies examining leadership style and its effect on student achievement have been conducted; separate studies have examined school climate and its effect on student achievement. Nevertheless, only a limited number of studies have assessed both leadership style and school climate together with regard to their impact on student achievement. The researcher sought to fill this gap by conducting this worthwhile analysis. The current study was designed to examine the impact of principal leadership style and school climate on student achievement at the elementary and high school levels to provide another piece of evidence that educational leaders can use when making decisions regarding improving student achievement.

Limitations

The following limitations apply to this study:

1. The study was limited to elementary and high schools within the Commonwealth of Virginia.
2. The study was conducted in the spring of 2009 and the findings pertain to that time frame only.
3. The study was limited to data collected through two survey instruments, the OCDQ and the MLQ, along with demographic information.
4. The study was correlational and did not determine cause and effect.

Assumptions

The following assumptions apply to this study:

1. The perceptions of the randomly selected teachers who participated in the study were representative of other teachers in the organization, thereby allowing the results to be generalized.
2. Participants were honest in all responses.

Overview of Methodology

The researcher conducted a quantitative research study using a correlational design to examine the impact of principal leadership style and school climate on student achievement in Virginia elementary and high schools. Participating schools were randomly selected once they had been categorized into one of three regions: rural, urban, or suburban. Only schools in which the principal had been in the current position for 4 or more years were included in the study. Also, only those teachers who had served under the current principal for 4 or more years were asked to participate.

Data were collected via two survey instruments and a demographics questionnaire. The MLQ was used to identify the principal's leadership style, whereas

the OCDQ was used to identify the school climate type. Both instruments were administered to all participants via the Internet, an increasingly prevalent data collection method. Further, the MLQ and the OCDQ were considered to be reliable and valid, having been widely used and accepted among researchers (Anderson, 1982; Hoy, 2002; Lowe et al., 1996). Student achievement measures consisted of 3-year averages of results from the Virginia Standards of Learning tests in math and reading.

The researcher used descriptive data analysis techniques to examine the findings. Multiple regression analysis was used to determine whether or not leadership style and school climate were predictors of student achievement. Although original plans included two-way analysis of variance (ANOVA) at the elementary and high school levels, low response rates resulted in the use of one-way ANOVA on the three leadership styles and on school climate, with post hoc tests to determine where any differences occurred.

Organization of the Remainder of Study

Chapter 2 provides a review of literature related to leadership, school climate and student achievement. Chapter 3 explains the research design, including the population, sampling procedures, data collection process, instruments, and statistical methods that were used to answer the research questions. Chapter 4 reports the findings and the procedures used to analyze the data. Chapter 5 presents a summary of findings, including conclusions, and offers recommendations for future research and practice related to leadership, school climate, and student achievement.

Chapter 2 – Review of Literature

The purpose of the current study was to explore the impact of leadership style and school climate on student achievement. The following review of literature provides a clearer understanding of these three variables.

Leadership

In response to the current mandates of NCLB, school administrators are continually seeking ways to improve student achievement. One factor involved in school improvement is effective leadership. Many theories have emerged to explain the complex concept of leadership and its importance in the field of education. Each of these theories has produced a different definition of leadership. According to Stogdill (1974), “there are almost as many definitions of leadership as there are persons who have attempted to define the concept” (p. 259).

Leadership means different things to different people and therefore has been defined in numerous ways. The trait leadership theory associates leadership with personality traits, such as intelligence and socioeconomic status, and suggests that a person is born a leader (Stogdill, 1974). Situational theorists have defined leadership according to the situation or setting, claiming that different situations call for different leadership styles (Hoy & Miskel, 1987). Leadership has also been defined by behavioral theorists according to the type of behavior a leader displays with regard to initiation of structures (planning and organizing) and consideration (employee’s social and emotional needs) (Hersey & Blanchard, 1982). Additional definitions of leadership include the following:

- “a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse, 2004, p.3)
- “a complex moral relationship between people, based on trust, obligation, commitment, emotion, and a shared vision of the good” (Ciulla, 1998)
- “the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organizations of which they are members” (House, Hanges, Javidan, Dorfman, & Gupta, 2004, p. 56)
- “the art of influencing others to their maximum performance to accomplish any task, objective or project” (Cohen, 1990, p. 9)
- “the initiation and maintenance of structure in expectation and interaction” (Stogdill, 1974, p. 411)
- “the process (act) of influencing the activities of an organized group in its efforts toward goal setting and goal achievement” (Stogdill, 1950, p. 3)
- “a social process in which one individual influences the behaviour of others without the use of threat or violence” (Buchanan & Huczynski, 1997, p. 606)
- “individuals who establish direction for a working group of individuals who gain commitment from these group members to this direction and who then motivate these members to achieve the direction's outcomes” (Conger, 1992, p. 18)

As noted, leadership has been defined in numerous ways. The similarities and differences between the various definitions are outlined in Table 1. The researcher selected Burns’s (1978) definition of leadership: “inducing followers to act for certain goals that represent the values and the motivations—the wants and needs, the aspirations

and expectations—of both leaders and followers” (p. 19) for use in the current study. In his definition, Burns captured the construct of the researcher’s model of leadership.

Table 1. *Similarities and Differences Among Various Leadership Definitions*

Similarities	Differences
Employees are influenced by the leader to achieve a common goal of the organization	A person is born with leadership traits that cannot be learned
Employees are motivated by the leader	Leadership is dictated by the situation or setting and will change accordingly
The leaders establishes direction towards the organization's goals	Leadership is a process
Threats or violence is not used in meeting the organization's goals	

Full-range leadership theory. The current study was based on the full-range leadership theory (FRLT), which was developed by Bruce Avolio and Bernard Bass in 1991. The FRLT is one of the most researched theories of leadership (Barbuto & Wheeler, 2006); it has also been applied to numerous settings outside education, including religious organizations, nonprofit establishments, various branches of the U.S. military, and corporations. The FRLT suggests that every leader may exhibit, to some degree, transactional, transformational, and laissez-faire leadership behaviors (Bass, 1998).

The FRLT was chosen over other leadership models for several reasons. First, the FRLT encompasses three leadership styles whereas most other leadership models omit the laissez-faire leadership style. Second, the FRLT describes specific, measurable

transactional and transformational leader behaviors. Third, the FRLT emphasizes that effective leaders not only motivate and inspire their followers but also nurture their ability to contribute to the success of the organization. This factor directly relates to Burns's (1978) definition of leadership, which the researcher chose as a basis for this study. Fourth, transformational leadership is currently the most researched leadership theory in the educational field (Gurr & Drysdale, 2008).

James MacGregor Burns first introduced transactional and transformational leadership in his study *Leadership* (Burns, 1978), in which he analyzed political leaders and their behaviors. Burns described the two leadership styles as representing opposing behaviors, with the two styles' being located at opposite ends of a continuum (Yukl, 1989). A transactional leader, at one end of the continuum, works most effectively in a stable and predictable environment and uses rewards, punishments, or both to motivate employees to complete their job assignments. Transformational leaders, at the other end of the continuum, however, successfully guide employees through organizational change by recognizing and developing each employee's potential (Burns). Burns argued that transformational leadership is more effective than transactional leadership (Brown & Moshavi, 2002).

In 1985, Bernard Bass developed Burns's leadership concept into a formal theory known as the transactional/transformational leadership theory. Bass (1985) differed from Burns (1978) in that he did not believe the two leadership styles were opposites; he argued that transformational leadership, in fact, builds on the foundations of transactional leadership (Bass; Bass & Avolio, 1993; Waldman, Bass, & Yammarino, 1990). Bass also declared that both leadership styles are necessary, to some degree, for one to be an

effective leader (Bryant, 2003; Judge & Piccolo, 2004). Within a few years, Avolio and Bass (1994) expanded the transactional–transformational leadership theory into the FRLT. The development of this theory is outlined in Table 2. The FRLT consists of transactional, transformational, and laissez-faire styles of leadership. With the addition of laissez-faire leadership style, the FRLT covers a complete range of leadership styles. Each leadership style of the FRLT is discussed in detail in a subsequent section of this document.

Table 2. *Development of the Full Range Leadership Theory* (Avolio & Bass, 1994)

Leadership Style	Researcher	Theory
Transactional & Transformational	Burns	The two styles are opposites
Transactional & Transformational	Bass	The two styles build on each other and both are necessary to be an effective leader
Transactional, Transformational, & Laissez-Faire	Bass & Avolio	Every leader possesses some amount of the three leadership styles

Transactional leadership. Transactional leadership involves an ongoing transaction between the leader and the employee. Each individual enters the transaction because of the expectation to fulfill self-interests, although it is the role of the leader to maintain the status quo by satisfying the needs of employees. A transactional leader clearly defines the employee's responsibilities, then encourages consistent performance from the employee through rewards or sanctions (Bass, 1985; Hackman & Johnson 2004). Rewards are given for accomplishing specific goals or for achieving a certain

level of performance (Jung & Sosik, 2002; Leithwood, 1992), whereas sanctions are imposed when an employee fails to meet the agreed upon objectives (Barnett, 2003).

As long as employees are meeting their objectives, the transactional leader does not get involved. Feedback, typically in a negative form, is provided only when the employee fails to perform satisfactorily. Furthermore, a transactional leader never seeks input from employees concerning administrative decisions and seldom promotes professional development or increased job performance. A transactional leader is satisfied with simply meeting the established goals of the organization and does not expect more from employees than what is minimally required to complete a task (Erhart & Naumann, 2004). If a nonroutine event is encountered, employees are not encouraged to find a solution but instead are instructed to let their transactional leader intervene and resolve the matter (Bass 1985; Bass, 1990).

Bass (1985) originally identified two transactional leadership behaviors: contingent reward and management-by-exception. Later, Bass (1990) split management-by-exception into two separate dimensions: active and passive. Detailed descriptions of each behavior are provided.

Contingent reward. A transactional leader who implements contingent reward clearly defines and clarifies employee expectations and establishes the rewards (or sanctions) that will be exchanged for meeting (or failing to meet) these expectations (Barbuto, 2005; Blanchard & Johnson, 1985; Seltzer & Bass, 1990). The reward or punishment is contingent upon performance.

Most research has found that contingent reward is a positive way for an organization to reach its goals, providing benefits for both the employees and the leader

(Bass, 1985; Jung & Avolio, 2000; Lowe et al., 1996). Employees collect agreed upon rewards (i.e., salary and other benefits) while the company exercises authority over the employee. One drawback of contingent reward, however, is that it does not motivate employees to perform beyond the specified expectations.

Several researchers have developed theories that relate to contingent reward. For example, Abraham Maslow (1970) developed the hierarchy of needs theory, which assumes people are motivated by unsatisfied needs and that certain lower needs must to be satisfied before higher needs can be meet. Frederick Herzberg expanded Maslow's theory with his motivation-hygiene theory (Herzberg, Mausner, & Snyderman, 1959).

The motivation-hygiene theory involves two factors, hygiene and motivators. Employees become dissatisfied if hygiene factors (dissatisfiers), such as company policy, relationship with the boss, and working conditions, cause, are not met. Meeting these basic needs does not make an employee satisfied, however; it simply prevents the employee's becoming dissatisfied. Motivators (satisfiers), on the other hand, such as achievement, recognition, responsibility, and advancement, provide motivation for employees to grow and become satisfied (Herzberg et al., 1959). A transactional leader motivates employees to complete their assigned tasks by providing rewards that meet their hygiene needs.

Management-by-exception involves the leader's becoming involved with the employee only when the employee fails to meet stated objectives and when corrective action is necessary (Bass, 1985; Bass, 1990). The difference between management-by-exception-active and management-by-exception-passive is the point in time when the leader intervenes (Howell & Avolio, 1993).

Management-by-Exception – Active. An active management-by-exception leader reviews established rewards (and sanctions) for specific duties with their employees prior to the beginning of a task. The leader takes a proactive approach by continually monitoring each employee's performance, anticipating problems, and creating ways to warn employees of impending failures before they occur (Bass, 1997; Hater & Bass, 1988). He or she tries to avoid mistakes by enforcing the rules. If failures do occur, the active leader is responsible for enforcing the established sanctions associated with the specific failure.

Management-by-Exception – Passive. A passive management-by-exception leader does not intervene until it is absolutely necessary and only after problems become serious. A passive leader refuses to develop a plan of action to be implemented when standards are not met or at the point in at which sanctions need to be implemented. Instead, this leader sits back and waits to be alerted about failing employees before taking action (Hater & Bass, 1988). A passive management-by-exception leader is satisfied with an employee's simply getting the job done and does not encourage any additional work from the employee. Furthermore, this leader does not address the weaknesses within the organization.

The three transactional behaviors of the FRLT, contingent reward, management-by-exception–active, and management-by-exception–passive, represent relatively low forms of leader activity and involvement. The second leadership style that makes up the FRLT is transformational leadership, which entails much more leader involvement than transactional leadership.

Transformational leadership. According to the FRLT, transformational leadership is not an alternative to transactional leadership; rather, transformational leadership augments transactional leadership (Bass & Avolio 1997). Transformational leadership is necessary to motivate employees to a higher level of effort and performance (Lee, 2005). Instead of having an agreement or contract with the employee, a transformational leader attempts to gain the employee's commitment to the organization. The leader does so by developing and satisfying the employee's higher-order needs in terms of Maslow's (1954) needs hierarchy (Rowden, 2000). By building on the foundation of transactional leadership, a transformational leader can bring about greater changes within the organization (Howell & Avolio, 1993; Jung & Sosik, 2002; Lowe et al., 1996).

A transformational leader serves as a role model to employees and strives to gain their trust and confidence. It is through this trust and admiration that the leader is able to motivate employees to perform beyond minimum expectations (Bass, 1985; Katz & Kahn, 1978). By reviewing the goals and mission of the organization in an appropriate manner, a transformational leader inspires employees to put the interests of the organization before their own self-interests (Bass & Avolio, 1993; Leithwood, Tomlinson, & Genge, 1996; Sagor & Barnett, 1994). The transformational leader serves as a role model by emulating this type of behavior and putting the employees' needs before their own needs. This way of thinking and acting makes it possible for the organization to achieve at a higher level.

Transformational leadership was originally operationalized by Bass (1985) with three distinct behaviors: charisma, intellectual stimulation, and individualized

consideration. Through theory refinements and research, Bass and Avolio (1990) added inspirational motivation as a fourth behavior. Criticism grew regarding the term “charisma” and how it was not compatible with transformational ideals in the FRLT. The continued skepticism compelled researchers to rename the behavior “idealized influence” (Antonakis, Avolio, & Sivasubramaniam, 2003). The four components, often referred to as the 4Is, work together to produce employee performance beyond expectations (Hall et al., 2002).

Idealized influence. A leader that exhibits idealized influence is dependable and ethical. The leader provides vision and a sense of mission as he or she gains the respect and trust of employees. A leader with this trait uses his or her position to help all employees achieve the goals of the organization while consistently taking a stand on important issues. Employees admire the qualities of a leader with idealized influence and strive to imitate the leader. Because this type of leader continually does what is best for employees instead of putting his or her own needs first, the leader is able to more easily initiate change within the organization (Bass, 1990; Bass, 1997).

Inspirational motivation. An inspirational motivator articulates a clear vision that is appealing and inspiring to employees. He or she encourages employees to envision an idealistic organization that can be shared by all and continually motivates employees toward that goal (Hater & Bass, 1988). Inspirational leaders provide meaning to the employees’ work and challenge them with high expectations (Bass, 1985). This type of leader constantly talks enthusiastically about impending organizational changes, pointing out positive aspects and outlining future advantages that will benefit the employees and the organization.

Intellectual stimulation. Leaders with this trait challenge assumptions and take risks. In an effort to include employees in addressing problems and finding solutions, an intellectually stimulating leader solicits new ideas and creative solutions from employees (Bass, 1985; Deluga, 1988; Avolio et al., 1999). Intellectually stimulating leaders encourage employees to think in new ways by discussing the issues with them and challenging them to question their old beliefs. They are supportive when employees try new approaches (Northouse, 2004) and motivate employees to become more involved in their jobs. This behavior results in higher levels of employee performance, commitment, and satisfaction (Avolio, Gardner, Walumbwa, Luthans, & May, 2004).

Individualized consideration. An individually considerate leader recognizes and supports each employee's needs, values, and abilities. The leader acts as a mentor or coach (Bass & Avolio, 1994) and focuses on helping employees achieve their full potential to positively affect the organization (Bass, 1985). This type of leader provides constant feedback and is able to link the employee's needs to the organization's mission (Hinkin & Tracey, 1999).

In the FRLT, a transformational leader will exhibit at least one of these four leadership factors when leading employees (Marks & Printy, 2003). Bass (1990) argued that transformational leaders are often the only difference between success and failure. Another leadership style included in the FRLT is the laissez-faire style of leadership.

Laissez-faire. The third leadership style of the FRLT is laissez-faire, a French term meaning "leave it be." Bass (1985) defined laissez-faire as the absence of leadership. A laissez-faire leader avoids all leadership duties and responsibilities, including making decisions and intervening when necessary (Antonakis et al., 2003).

This type of leader is not concerned with meeting the goals of the organization and seldom provides support to employees (Hoy & Miskel, 2005). Although laissez-faire leadership is similar to management-by-exception–passive behavior, researchers have contended that laissez-faire leadership, because it represents the absence of any leadership (transformational or transactional), should be treated separately from the other transactional behaviors (Avolio, 1999; Bass, 1998). Accordingly, the FRLT treats laissez-faire leadership as a leadership style separate from transformational and transactional leadership.

School Climate

Leadership is extremely complex and often perceived to be the most vital component of an organization (Marzano, Waters, & McNulty, 2005). Another multifaceted concept is school climate. Each school has a distinctive identity and atmosphere, often referred to as the school's climate. School climate represents the first interaction people usually have when entering a school building. It influences the daily experiences of all members of a school community including students, teachers, and administrators, and impacts the quality of education each student receives (Gilmer, 1966).

The concept of organizational climate was first identified in the late 1950s and early 1960s, as social scientists studied the differences in the quality of work environments (Hoy & Tarter, 1997). Halpin and Croft (1963), who are considered to be pioneers in school climate research, investigated the influence of a leader's behavior on the organizational climate in elementary schools. They found that each school had characteristics and qualities that made it unique, distinguishing it from other schools. They maintained that each school had a different feel or personality (Halpin, 1966) and

used the following analogy to describe school climate: “Personality is to the individual what climate is to the organization” (Halpin & Croft, p. 1). By the late 1970s, researchers began to identify relationships between school climate and student achievement (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979), which led to additional research studies that attempted to identify variables having the most impact on student achievement.

Although school climate has been studied for many years, there has been no consensus among researchers on its definition (Coral & Castle, 2005; Waters et al., 2004). Hoy and Hannum (1997) stated that the “concept of school climate itself is defined in a myriad of ways and is often merely a slogan rather than a carefully defined and meaningful construct” (p. 291). Researchers have agreed, however, that school climate is unique to each school (Anderson, 1982; Hoy, Tarter, & Kottkamp, 1991) and that it involves the quality and consistency of social interactions among the school’s members (Furlong et al. (2005). Various definitions of school climate include the following:

- “a quality of the internal environment of an organization that (a) is experienced by its members, (b) influences their behavior, and (c) can be described in terms of the values of a particular set of characteristics or attributes of the organization” (Tagiuri, 1968, p. 27)
- “the social atmosphere or relationships among members of a learning community” (Moos, 1979, p. 81)

- “the relatively enduring quality of the school environment that is experienced by participants, affects their behavior, and is based on their collective perception of behavior in schools” (Hoy et al., 1991, p. 10)
- “a comprehensive structure made up of cultural, physical plant, organizational structure, social relationships, and individual behaviors” (Kowalski & Reitzug, 1993, p. 16)
- “feelings that students and staff have about the school environment over a period of time” (Peterson & Skiba, 2001, p. 155)
- a sense of community involving the interactions and relationships of students and teachers (Schulte, Shanahan, Anderson, & Sides, 2003)
- perceptions of the school environment, specifically assessing feelings of safety, respect, support, and interpersonal relationships at school (Furlong et al., 2005).

Hoy and Miskel’s (2005) definition of school climate, “the set of internal characteristics that distinguish one school from another and influences the behaviors of each school’s members” (p. 185), best represents the researcher’s concept of school climate for the current study. This definition encompasses the total environment of the organization (physical, social, and relational) and includes all members of the organization, not just the students and teachers. School climate, according to Hoy and Miskel, is the end result once all the organizational members are working together toward a common goal or vision.

Although researchers have not agreed on any one definition for school climate, they have agreed that school climate consists of certain common elements. Poole (1985)

developed the following list of elements that most researchers have agreed are common to school climate:

- Climate is a characteristic of the entire organization.
- Climate is based on collective perceptions of members.
- Climate evolves from routine behaviors that are important to the organization's members.
- Climate influences members' behaviors and attitudes.

Halpin and Croft (1963) conceptualized school climate as being either “open” or “closed.” Hoy et al. (1996) later identified two additional descriptors of school climate: engaged or disengaged. These terms are used to describe ways in which interactions among group members can influence the climate of the school.

An open school climate refers to a school that is safe and orderly, where the students are enthusiastic and motivated to work hard, and where students' work is prominently displayed throughout the school (Hoy & Tarter, 1992). The principal values teamwork, is supportive of teachers, and does not burden them with busy work (Hoy, Smith, & Sweetland, 2002). In an open climate, teachers are respectful of each other and are committed to helping students succeed (Hoy, Hannum, & Tschannen-Moran, 1998). In a closed climate, the principal is viewed as being rigid, controlling, and unsympathetic (Hoy et al., 1991). The principal and teachers do not work together, and the faculty is uncaring toward students.

An engaged climate describes a school in which the principal closely supervises teachers but does not provide them with a great deal of support (Hoy et al., 1996). Teachers in an engaged climate, however, still strive to work together and are committed

to the students. A disengaged climate is just the opposite. The principal is supportive, but teachers do not work together and do little to help students reach their potential (Hoy et al., 1996).

Hoyle, English, and Steffy (1985) concluded that if a school does not have an open school climate it is almost impossible to obtain high student achievement. Therefore, if a principal wants to implement school reforms to improve student achievement, he or she must identify the existing school climate. Doing so will help the principal pinpoint what needs to be targeted for change.

Although Deal (1993) noted that school climate and school culture are often used interchangeably, there are key differences between the two concepts (Hoy et al., 1991; Owens, 1995; Schein, 2004). School climate refers to the physical and psychological characteristics of the school, which are more prone to change, but necessary for teaching and learning to take place (Tableman & Herron, 2004). Some examples of school climate include the physical appearance of the school building, temperature inside the building, how teachers interact with each other and with students, and how safe people feel when they are on school grounds (Sweeney, 1992).

School culture, on the other hand, reflects the shared ideas—assumptions, values, and beliefs—that give an organization its identity and set the standard for expected behaviors (Tableman & Herron, 2004). School culture is evident in the way the division's buildings are maintained, the way administrators and staff interact, and the beliefs that are taken for granted by all employees. Sackney (1988) explained the differences between culture and climate: Culture deals with how the work of the organization gets done, whereas climate deals with the feeling or tone of the school.

Changes to climate are considered more achievable than changes to culture because climate deals with the everyday, transactional-level interactions of people (Tableman & Herron). The current study focused on school climate and how it, along with leadership style, impacts student achievement.

Student Achievement

A standardized test, according to Popham (1999), is a test that is “administered and scored in a predetermined, standard manner” (p. 8). All students are given the same test under the same conditions; all tests are scored in the same manner. Standardization ensures that the results can be attributed to student performance and not to differences in the administration or form of the test (Wilde, 2004). Standardized test results can be compared across schools, districts, or states to show gains or gaps in student achievement. In the past, standardized tests were given to determine student placement or to identify students needing additional help. Today, scores from standardized tests are one of the most important factors in determining whether a student, teacher, or school is a success or failure.

Standardized tests are currently administered to students yearly and are used to compare student achievement on a national and local basis. Walsh (1986) stated that standardized tests are used for comparison purposes because they are more reliable and acceptable than any other testing measure. Although standardized tests can be useful, Finneran (1999) cautioned that they are not the perfect form of assessment. Some of the problems associated with standardized tests include students’ use of rote memorization and teachers’ teaching limited content. Students may begin to memorize information because of constant drilling of skills (Popham, 2001). Also, some teachers teach to the

test, providing instruction only on skills and knowledge that are going to be on the test instead of teaching all relevant material (Kober, 2002). These practices can help raise test scores on a standardized test but may not necessarily increase student achievement.

Standardized test scores are often used by administrators to make decisions regarding school reforms, student retention, and graduation. The test scores are available to parents and the general public via newspapers and the Internet, thereby allowing citizens to keep informed of the progress school districts are making toward raising student achievement (Virginia Department of Education [VDOE], n.d.). Frequently, real estate agents use test scores to promote homes that are in high-achieving school districts.

The National Assessment of Educational Progress (NAEP) test is given to students who form a statistically representative sample of the nation's students. Not all students at a selected school or all schools within a selected district take the test. Students in 4th, 8th, and 12th grades are chosen every 2 years (longer intervals in other subjects such as science, history, and geography) to take a NAEP test in reading and mathematics. NAEP participation involves 51 states and territories.

A review of NAEP (2004) scores from 1971 to 2004 revealed that the overall average scaled scores for reading and math increased. Table 3 highlights these overall achievement trends, which indicate that improvements are being made in student achievement throughout the nation. Nevertheless, researchers have not determined if the increase is due to mandates from NCLB or to other factors.

Table 3. *Comparison of Overall NAEP Scores*
(NAEP, 2004)

Age	Reading		Math	
	1971	2004	1973	2004
9 year olds	208	219	219	241
13 year olds	255	259	266	281

Virginia Standards of Learning (SOL). The Commonwealth of Virginia measures student achievement through standardized tests called the Virginia Standards of Learning (SOL) that were adopted by the Virginia Board of Education in 1995. The Virginia SOL set the minimum standards that students in K-12 must master in English (reading and writing), math, science, and social studies. The quality of the Virginia SOL has received national recognition; Virginia is the only state to receive the American Federation of Teachers' highest rating in all four subject areas. Also, many states in the U.S. have used the Virginia SOL as a model to create their own state standardized tests (VDOE, 2001).

SOL tests are administered in Grades 3, 5, and 8, and in certain high school courses. All tests use a multiple-choice format, with the exception of the writing tests, which require each student to write a composition. The grading scales for all SOL tests range from 0 to 600. Students must receive a minimum score of 400 to pass the SOL test. A student earning a score of 500 or higher is considered to have passed at an advanced level. Schools have the option of giving the tests via paper and pencil or having students take the tests online. One advantage of online testing is that the test score is available

immediately after a student completes the test. Paper-and-pencil tests must be sent offsite for grading, and it can take several weeks before scores are received (VDOE, 2001).

The current study compared each school's average SOL test scores for the previous 3 years to determine if student achievement had been impacted. For the elementary schools, Grade 3 math and English–reading scores were analyzed; at the high school level, geometry and Grade 11 English–reading scores were analyzed.

Direct Linkages

Figure 1 depicts how the majority of past research studies have examined leadership style, school climate, and student achievement. Researchers have investigated the effects of leadership style on school climate, with some finding a significant correlation and others not. Relationships between leadership style and student achievement have also been analyzed, as has the relationship between school climate and student achievement. This section of the literature review presents discussion of findings and conclusions from these various studies.

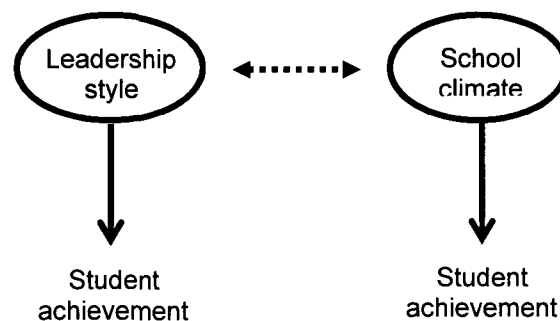


Figure 1. Past examination of research variables.

Leadership style and school climate. A positive school climate rarely occurs by chance but is shaped, primarily, by the building principal. Over the past several decades, many researchers have identified a positive correlation between the principal's leadership

style and school climate (Bailey, 1988; Chirichello, 1997; Chrispeels, 2002; Hallinger & Murphy, 1987; Hawkins, 2002; Hoy & Miskel, 1991; Kelley, 1980; Lane, 1992; Rubio, 1999; Sergiovanni, 1995). For example, Bulach and Corvers (as cited in Bulach, Boothe, & Pickett, 2006) investigated six Louisiana schools to examine the relationship between the principal's leadership style and the school climate. All six participating schools had failed to meet AYP. A Pearson correlation of +.984 was found between the overall school climate and the leadership style of the principal, indicating a strong, positive relationship. The two schools with the highest culture and climate scores had the highest leadership scores, whereas the two schools with the lowest culture and climate scores had the lowest leadership scores. Cheng (1991) also identified a strong relationship between leadership style and school climate in his study that examined 64 secondary schools in Hong Kong. In yet another study, Cey (1992) found a strong, positive relationship between leadership style and school climate in 20 secondary schools in Michigan.

On the other hand, several researchers have found no relationship between school climate and leadership style (Anderson, 1993; Dickson, 1991; Hardin, 1995; Nichols, 1991). For instance, Wiggins (1969) surveyed 35 urban California elementary schools and found no significant relationship between leader behaviors and school climate. School climate did not change even when certain school principals were removed and replaced.

Ballard (2008) conducted a study in which 96 participants completed the MLQ-5X to identify principal leadership style, and the OCDQ-RE to identify school climate. After analyzing the data, the researcher concluded there was no statistically significant correlation between a principal's leadership style and school climate. In addition,

Bulach, Lunenburg, and McCallon (1995) examined the influence of the principal's leadership style on school climate and also found no significant difference in perceptions of school climate related to leadership style. They stated, "School climate does not depend on leadership style, that is, any leadership style could be accompanied by a good school climate" (p. 343).

Leadership style and student achievement. The relationship between leadership style and student achievement is inconsistent. Prior to the 1960s, it was believed that student achievement was predetermined by factors beyond a school's control, primarily the student's family background and socioeconomic status (Teddlie & Reynolds, 2000). The Equality of Educational Opportunity study, more commonly known as *The Coleman Report* (Coleman et al., 1966), was a landmark study that greatly contributed to this viewpoint. James E. Coleman of John Hopkins University and his colleagues examined school resources and practices and how they impacted student achievement. Coleman et al. argued that a student's family background was the crucial determinant of student achievement and that the school had little or no effect on student achievement.

Most Dutch studies that were conducted in the 1990s agreed with Coleman's finding and concluded that educational leaders did not have a positive or significant relationship with student achievement (Bosker & Witziers, 1995; Scheerens & Bosker, 1997; Van de Grift & Houtveen, 1999). Leitner (1994) surveyed 27 principals and 412 teachers and found that the relationship between leadership behaviors and student achievement was positive, but not statistically significant. Leadership appeared to account for only a very small portion of the variance in student achievement gain.

In the 1970s, educational researchers began to question these findings and to investigate the relationship more closely to prove that schools did make a difference in student achievement. Among these early researchers were Edmonds et al. (1977) who produced results showing high academic achievement for students of low socioeconomic status. Furthermore, over the past 35 years, researchers have continued to find positive correlations between leadership style and student achievement (Andrews, Soder, & Jacoby, 1986; Bossert, Dwyer, Rowan, & Lee, 1982; Hallinger, Bickman, & Davis, 1996; Heck, Larsen, & Marcoulides, 1990; Leithwood & Jantzi, 2000; Leithwood, Louis, Anderson, & Wahlstrom, 2004; McGuigan & Hoy, 2006).

For example, O'Donnell and White (2005) surveyed 75 middle school principals in Pennsylvania who had been in their current positions for at least 2 years, along with 250 eighth-grade English and math teachers. Their findings revealed that as teachers' perceptions of the principal's leadership skills increased, so did student achievement. Conversely, as teachers' perceptions decreased, so did student achievement. In a study conducted by Andrews and Soder (1987), gain scores of elementary students in schools that were rated as having strong leaders were significantly greater in both reading and math than those of students in schools rated as having average or weak leaders. This finding was more prominent when student ethnicity and free-lunch status were analyzed (Andrews & Soder).

Waters et al. (2004) conducted a meta-analysis of 70 principal leadership studies, which included 2,894 schools, 14,000 teachers, and more than 1 million students. The data from this study, *School Leadership That Works*, revealed an average effect size between leadership and student achievement of .25, thereby indicating that as leadership

improves, so does student achievement. Also, after analyzing their data, Ubben and Hughes (1987) concluded that the principal impacts student achievement but noted that it is difficult to make a direct cause-and-effect relationship. They stated that recent studies “give substance to the belief that it is the leadership of the school that makes the difference between mediocrity and excellence” (Ubben & Hughes, p. 6).

Despite numerous research studies that have found a relationship between principal leadership and student achievement, Heck et al. (1990) warned that “researchers are still not sure whether the association between effective principal instructional leadership and student achievement reflects a cause and effect or coincidental relationship” (p. 95). Some researchers have found indirect links between the two variables (Sergiovanni, 1990; Hoy, Tarter, & Bliss, 1990). For instance Leithwood, Jantzi, Silins, and Dart (1992) found that leadership behaviors directly affect teacher behaviors, which in turn indirectly impact student achievement.

School climate and student achievement. School climate, according to Hoyle et al. (1985), “may be one of the most important ingredients of a successful instructional program. Without a climate that creates a harmonious and well functioning school, a high degree of academic achievement is difficult, if not downright impossible to obtain” (p. 15). Researchers have investigated school climate and found that it is directly related to student achievement (Brookover & Lezotte, 1979; Edmonds, 1979; Freiberg, 1999; Fullan & Hargreaves, 1996; Goddard, Sweetland, & Hoy, 2000; Heck, 1992; Hoy & Sabo, 1998; Leithwood, 1994; Lezotte, Hathaway, Miller, Passalacqua, & Brookover, 1980; Purkey & Smith, 1983; Rutter, Maughan, Mortimore, Ouston, & Smith, 1979).

In their study, Bulach, Malone, and Castleman (1995) found a significant, positive relationship between student achievement and school climate. The sample in their study consisted of 27 elementary schools located in western Kentucky. Student enrollment varied among the schools, ranging from 93 to 700 students. Results indicated a positive correlation of +.517 between school climate and student achievement. Also, the relationship between school climate and achievement was stronger than the relationship between achievement and the socioeconomic status of the students. This finding is important as school climate can be more easily changed than the socioeconomic status of students. In addition, Heck (2000) and Goddard et al. (2000) suggested that school climate can be one of the most important factors in obtaining increased student achievement. Findings from these varied studies indicate that school climate has a significant impact on student achievement. Consequently, after conducting an exhaustive examination of the literature, the researcher was unsuccessful in locating any studies to the contrary.

Effects of Leadership Style and School Climate on Student Achievement

In previous sections of the literature review, leadership style and school climate were discussed separately with regard to their effects on student achievement. Although researchers have fluctuated in their opinions regarding the impact of leadership style on student achievement, research findings have overwhelmingly confirmed that school climate has a significant effect on student achievement. The current study examined how leadership style and school climate, together, impact student achievement (see Figure 2). Previous research investigating the relationships among all three variables was scarce.

Bossert et al. (1982) conducted a study in which they found that the actions of the principal influenced school climate and instructional organization, both of which are linked to student achievement. Bossert et al. stated that principals indirectly affect student achievement by influencing teachers' instructional practices. Through their research, Bossert et al. created a framework for understanding the effects of principal behaviors on student achievement. They concluded that even though there is no single management style that is appropriate for every school, principal leadership and school climate have a positive effect on student achievement.

Schulman (2002) collected data from 30 elementary schools in Westchester County, New York. Participants, consisting of 30 principals and 429 fourth-grade teachers completed the OCDQ-RE by Hoy et al. (1991). Schulman found no significant relationship between leadership styles and student achievement or between school climate types and student achievement. Kelley and Williamson (2006), however, found that an open school climate and a servant leadership style had a positive impact on student achievement. Their study involved 42 high schools located in western Michigan; they also surveyed participants using the OCDQ-RS (Hoy et al.). Individually, each variable had an impact on student achievement, but when both were present, the impact was greater. Due to these conflicting findings, further studies were needed. Figure 2 depicts the research variables examined in the current study.

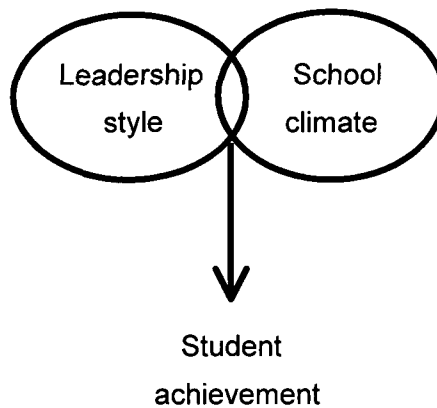


Figure 2. Current examination of research variables.

Summary

Over the past 25 years, considerable attention has been given to educational leadership and its impact on student achievement. NCLB now holds educational leaders and teachers accountable for student achievement. Therefore, improved academic performance for all students is a must. The accountability mandate makes it necessary for principals to put a great amount of effort into raising test scores along with managing the day-to-day activities of the building. By understanding how leadership style can positively affect school climate, the principal can lead his or her school into becoming more effective, maximize student learning, and raise student achievement. Due to conflicting results of past research studies and the fact that very few studies had been conducted that examine the relationship between leadership styles, school climate, and student achievement, the current study carried out an analysis that explored the relationships among these three variables.

Chapter 3 – Methodology

This chapter describes the approach the researcher used to examine the impact of leadership style and school climate on student achievement. The chapter sections are organized as follows: research questions, research design, population, and instruments. The researcher outlines the data collection process and the method of data analysis. The chapter concludes with discussion of the study's limitations and delimitations and information about protection of human subjects, followed by a brief summary.

Research Questions

The purpose of the current study was to examine the impact of leadership style and school climate on student achievement. The study analyzed the perceptions of teachers regarding their principal's leadership style and the current school climate. The researcher focused on public elementary and high schools in three regions within the State of Virginia. The information gained from this study will assist educational leaders in making decisions regarding school reforms and improvement efforts that will ultimately increase student achievement. The following research questions were used to guide the study:

- 1a. Can the teacher-perceived leadership style of the principal and the teacher - perceived school climate predict the overall student achievement level?
- 1b. Is there significant variance between the teacher-perceived leadership style of the principal and the self-perceived style of the principal?
2. Are there significant differences in findings among Virginia rural, suburban, and urban regions?

Research Design

The researcher conducted a quantitative research study using a correlational design and employed descriptive data analysis techniques to examine the findings. A quantitative study was most appropriate because its goal is to determine the relationship between an independent variable and a dependent variable in a population (Creswell, 2009). The current study examined the relationship between two independent variables, teacher perceived leadership style and teacher perceived school climate, and one dependent variable, student achievement.

A quantitative study was chosen for several additional reasons. First, the instruments needed to measure leadership style and school climate were readily available and had already been tested for validity and reliability. Second, identifying correlations between leadership style, school climate, and student achievement was accomplished through statistical analysis, a quantitative method. Third, the researcher was able to remain objective regarding the findings given that the researcher's feelings, opinions, and biases did not come into play while analyzing the results. Fourth, the researcher did not manipulate any of the variables or attempt to establish causality. Surveys were administered, numbers were calculated, and findings were reported. For these reasons, a quantitative approach was best suited for this study.

A correlational study is used to identify possible relationship between variables or to predict an outcome (Shaughnessy & Zechmeister, 2000; Wilde, 2004). Correlation does not imply causality. Two variables' being related does not necessarily mean that one caused the other (Cook & Cook, 2008). It is important to know how variables relate even if causality is not demonstrated (Cook & Cook). Using a correlational design for

the current study, the researcher sought to determine if teacher perceived leadership style of the principal and teacher perceived school climate could predict the overall student achievement level.

The current study involved use of a cross-sectional design in the administration of two online surveys for data collection. One survey collected data regarding the teachers' perceptions of their principal's leadership style, whereas the second survey obtained teachers' perceptions regarding the school climate. Student achievement was measured using each school's overall math and reading SOL pass rates for the previous 3 years. Creswell (2009) compared cross-sectional research to a snapshot in time because it collects data only once or twice and provides a quick picture. By using a cross-sectional design, the researcher was able to collect data from a large number of participants in a relatively short period of time.

Once all data had been collected, the researcher conducted an analysis of the data and drew conclusions regarding the significance of the correlations between principal leadership style and school climate with regard to student achievement.

Population

The population for the current study consisted of elementary and high school teachers from Virginia public schools who had each taught under the leadership of the current principal for at least 4 years. Participating school divisions were randomly selected from three regions—rural, suburban, and urban—within the Commonwealth of Virginia. Rural, suburban, and urban regions were chosen to obtain a random sample representative of the Commonwealth. This process allowed the findings to be

generalizable to similar regions or states. The information regarding each school district's enrollment was obtained from the VDOE.

Nine school divisions within each region were randomly selected to participate in the study. The researcher then used purposeful sampling to select elementary and high schools within each of the nine school divisions. Only those schools in which the principal had been in his or her current position for 4 or more years were included in the study. Purposeful sampling was also used to select teacher participants. Only teachers who had served under the current principal for 4 or more years were asked to participate.

Both elementary and high schools were chosen for this study for two reasons. First, the researcher planned to investigate whether the school climate made a more significant difference at one school level over the other; second, the researcher wanted to determine if there was a more significant variance between principal leadership style as perceived by teachers and the principal's self-reported leadership style in elementary settings or in high school settings. There are many differences between public elementary and high schools, which could result in different findings. For example, it is a common belief that elementary teachers do what is best for their students, whereas high school teachers do what is best regarding their subject matter. If a teacher is asked what he or she teaches, an elementary teacher usually responds with "I teach children," whereas a high school teacher responds with "I teach math" (Lieberman & Miller, 1992, p. 43).

Elementary teachers teach all subject areas to the same group of students, whereas high school teachers teach a single subject to different groups of students (Marston, Brunetti, & Courtney, 2005). This practice has resulted in elementary teachers' being

referred to as generalists and high school teachers' being referred to as content specialists. This phenomenon is reflected at the high school level when teachers lecture and focus on content. It is also reinforced in other ways, including having hallways or certain areas of the school designated for specific subjects such as the "English hallway" or the "Science wing" (Lieberman & Miller, 1992). Due to these differences, the researcher wished to examine the variance among leadership style and school climate at both the elementary and high school level.

The researcher's requirement of the principal's having been in his or her current position for 4 or more years and each participating teacher's having served under his or her current principal for a minimum of 4 years is consistent with the research of Heck et al. (1990); Heck, Marcoulides, and Lang (1991); and Leitner (1994). They stated that because student achievement was measured using test scores for the previous 3 years, it was reasonable to require the participating principal and teachers to have been there during that time. Also, it takes a principal several years to implement changes after being assigned to a new school. For example, if a new principal is using a transformational leadership style, it takes time before he or she can gain the trust of staff members and begin to implement effective school reforms. Avolio (1994) stated, "Building trust takes time.... Depending on the culture and size of the organization, one can expect the changeover process to take from 3-5 years" (p. 132). Furthermore, after 4 years with a new principal, teachers will have had time to develop their own perceptions regarding the principal's leadership style and the school climate.

Instruments

The current study involved administration of separate survey instruments to measure the two independent variables. Surveys allow researchers to accurately and efficiently measure the participants' perceptions, attitudes, or behaviors (Creswell, 2009). Bass's (1985) MLQ (Form 5X) was used to measure perceived leadership style; the OCDQ, originally developed by Halpin and Croft (1963), was used to measure perceived school climate. Both instruments were easily administered, took approximately 10 minutes to complete, and consisted of closed-ended questions with Likert-scale response options.

A Likert scale is often used when a researcher wants to obtain participants' feelings or attitudes about something (Thomas, 2004); the scale is relatively easy to quantify and analyze (Gall, Gall, & Borg, 2003). The participant is asked to select the one option that best represents his or her view for each item on the survey. The most common number of options provided is five, but the total can range from four to seven (Nunnally, 1978). The options are provided horizontally and are usually consecutively numbered. The option located on the left end of the scale represents the option of least agreement, such as *0 - Rarely Occurs*; to the right, toward the opposite end of the scale, responses increase in agreement. The last option on the scale represents most agreement, such as *4 - Frequently or Always*.

A demographics questionnaire was attached to the end of each survey instrument. Thomas (2004) found that participants are more likely to complete the information if it is at the end of a survey as participants have already committed time to completing the survey questions. The demographics information was collected so that descriptive

statistics could be generated about the respondents. This information also allowed the data to be disaggregated and compared. This will help readers determine if the results can be generalized to their specific school districts.

Both survey instruments were administered via the Internet. Online surveys have gained popularity and are considered a practical way to collect data for several reasons. First, the cost associated with online surveys is relatively inexpensive; second, the turnaround time to get the data back is much shorter than the time necessary if the survey is sent through the mail. Third, responses can be automatically transferred to a database, thereby eliminating data entry errors. Nevertheless, important considerations must be addressed concerning online surveys: Participants must have easy access to a computer and the Internet, and they need the technical skills to access the survey. Another issue to consider involves potential technology-related issues, including the fact that the questionnaire may look different in different browsers.

The Multifactor Leadership Questionnaire (MLQ). The MLQ, which was originally developed by Bass (1985), was used to determine the principal's leadership style. The MLQ measures how often the participants (both principal and teachers) perceive the principal's leadership style to be transformational, transactional, or laissez-faire. The MLQ is based on the FRLT and encompasses the full range of leader behaviors, from transactional and transformational leadership, to laissez-faire leadership (Avolio & Bass, 2004). The MLQ has been used widely and is the most frequently used questionnaire to assess transformational leadership (Hunt & Conger, 1999; Lowe et al., 1996).

Because of criticisms, the MLQ has undergone many revisions. These revisions have made the instrument a better measure of leadership style (Avolio, Bass, & Jung, 1995). For example, Charisma was renamed and split into Idealized Influence Attributed and Idealized Influence Behavior, whereas Management by Exception was divided into active and passive (Avolio et al., 1999). The current study used the MLQ-5X (Bass & Avolio, 1995) version of the questionnaire that measures nine facets of leadership: five transformational leadership factors, three transactional leadership factors, and one laissez-faire leadership factor. This version of the MLQ is short, consisting of 45 items; 36 items that measure the nine leadership factors and nine items that assess the leadership outcomes.

As shown in Table 4, the MLQ-5X measures transactional leadership through three subscales, transformational leadership through five subscales, and laissez-faire leadership through one scale. It also measures three outcome factors. Outcomes for the principal are the rater's perception of how successful his or her leader is at being motivating, how effective his or her leader is at interacting at different levels of the organization, and how satisfied the rater is with his or her leader's methods of working with others. Table 4 also provides the number of questions associated with each subscale and provides an example of each dimension item.

Responses for all MLQ-5X subscales were measured using a 5-point Likert scale. Respondents were asked to indicate how frequently their leader exhibited specific behaviors using the following scale: 0 = *Not at all*; 1 = *Once in a while*; 2 = *Sometimes*; 3 = *Fairly often*; 4 = *Frequently or always*.

Table 4. *Breakdown of MLQ Dimensions and Subscales*
(Avolio & Bass, 2004)

Dimension	Subscale	Description of Leader	No. of Questions	Item Sample
Transactional Leadership	Contingent Reward	rewards achievement	4	Provides me with assistance in exchange for my efforts
	Management-by-Exception (Active)	monitors mistakes	4	Focuses attention on irregularities, mistakes, exceptions, and deviations from standards
Transformational Leadership	Idealized Influence (Attributes)	builds trust	4	Instills pride in me for being associated with him/her
	Idealized Influence (Behaviors)	acts with integrity	4	Talks about their most important values and beliefs
	Inspirational Motivation	inspires others	4	Talks enthusiastically about what needs to be accomplished
	Intellectual Stimulation	encourages innovative thinking	4	Seeks differing perspectives when solving problems
	Individualized Consideration	coaches others	4	Spends time teaching and coaching
Laissez-faire Leadership	Laissez-Faire	avoids involvement	4	Avoids making decisions
	Management-by-Exception (Passive)	waits for problems to appear before taking corrective action	4	waits for things to go wrong before taking action
Outcomes	Extra Effort	Staff has an increased desire to succeed	3	Gets me to do more than I expected to do
	Effectiveness of Leader		4	Is effective in representing me to higher authority
	Satisfaction with Leader		2	Uses method of leadership that are satisfying

The scoring procedures described by Bass and Avolio (2000) were followed for this study.

Reliability and validity of the MLQ-5X. The MLQ-5X is a valid and reliable instrument that can effectively measure the nine components constituting the FRLT (Antonakis et al., 2003). Reliability ensures that the instrument will be interpreted consistently by all respondents and will yield uniform results when used multiple times. Validity refers to how well an instrument measures the construct it is intended to assess (Vogt, 1999).

The MLQ-5X has excellent reported validity and reliability; the instrument has been used extensively worldwide. The ML-5X has consistently shown alpha reliability coefficients over 0.90 in more than a decade of published research (Antonakis et al., 2003; Avolio & Bass, 1999; Avolio et al., 1995; Tepper & Percy, 1994).

Once the leadership style of each principal was determined, the researcher determined the school climate for each participating school. The OCDQ was administered to determine school climate.

Organizational Climate Description Questionnaire (OCDQ). In 1963, Halpin and Croft developed the OCDQ to measure school climate. The instrument has been widely recognized by researchers; more than 100 research studies conducted between 1963 and 1967 involved administration of the OCDQ to measure school climate (Anderson, 1982). The current study involved the use of two separate versions of the OCDQ. The OCDQ-RE was used to measure perceived school climate at the elementary school level, whereas the OCDQ-RS was used to measure perceived school climate at the high school level. Both required the participant to respond to survey items using the following scale: RO = *Rarely Occurs*; SO = *Sometimes Occurs*; O = *Often Occurs*; VFO = *Very Frequently Occurs*.

The original version of the OCDQ was developed by Halpin and Croft in 1963 to specifically evaluate elementary school climates. In developing the questionnaire, Halpin and Croft involved 1,151 respondents from 71 elementary schools in 6 different regions of the country. From teachers' descriptions of their school experiences and from previous research, Halpin and Croft constructed 64 simple descriptive statements such as "The morale of the teacher is high" and "The principal sets an example by working hard,"

which were grouped into eight dimensions. Four of the dimensions referred to characteristics of the group, and four pertained to the characteristics of the principal as leader. Teachers were then asked to indicate, using a four-point Likert scale, the extent to which each item characterized his or her school. The findings from the 71 elementary schools revealed six types of school climate, ranging from “open” to “closed.”

In the 1980s, criticism began to grow regarding the OCDQ’s usefulness (Hoy et al., 1996). Schools had gone through many changes, and many of the items on the OCDQ were outdated (Avolio & Bass, 1999; Avolio et al., 1995; Tepper & Percy, 1994). Based upon these criticisms, Hoy et al., revised the survey and renamed it the Organizational Climate Description Questionnaire–Revised for Elementary School (OCDQ-RE). The OCDQ-RE, which consists of 42 items, was used in the current study to measure school climate at all participating elementary schools. The OCDQ-RE includes three principal dimensions and three teacher dimensions, which are summarized in Table 5 (Hoy et al., 1991).

Table 5. *Dimensions of the OCDQ-RE*

Behavior	Dimension	Description	Item #s	Item Sample
Principal	Supportive	Principal listens and is open to teacher suggestions	4, 9, 15, 16, 22, 23, 28, 29, 42	The principal uses constructive criticism
	Directive	Principal constantly controls and monitors teachers and all school activities	5, 10, 17, 24, 30, 34, 35, 39, 41	The principal corrects teachers' mistakes
	Restrictive	Principal burdens teachers with paper work and other demands that interfere with teaching	11, 18, 25, 31, 36	Teachers are burden with busy work
Teacher	Collegial	Teachers are proud of their school and are respectful of each other	1, 6, 12, 19, 26, 32, 37, 40	Teachers are proud of their school
	Intimate	Teachers support each other and socialize together	2, 7, 13, 20, 27, 33, 38	Teachers invite faculty members to visit them at home
	Disengaged	Teachers are just putting in time and have no common goals	3, 8, 14, 21	Faculty meetings are useless

The original OCDQ was designed specifically for the elementary school setting; it received strong criticism for not being a good measure of school climate in secondary schools (Carver & Sergiovanni, 1969; Rafferty, 2003). Secondary schools are different from elementary schools in such elements as size, complexity, and culture. In response to this criticism, Hoy et al. (1991) developed the Organizational Climate Description Questionnaire for Secondary Schools (OCDQ-RS) to measure school climate specifically in secondary schools.

The OCDQ-RS consists of 34 items that measure school climate using a four-point Likert-scale. Table 6 outlines the five dimensions of the OCDQ-RS, which include two principal dimensions and three teacher dimensions.

Table 6. *Dimensions of the OCDQ-RS*

Behavior	Dimension	Description	Item #s	Item Sample
Principal	Supportive	Principal listens and is open to teacher suggestions	5, 6, 23, 24, 25, 29, 30	The principal compliments teachers
	Directive	Principal constantly controls and monitors teachers and all school activities	7, 12, 13, 18, 19, 31, 32	The principal rules with an iron fist
Teacher	Engaged	Teachers are proud of their school and work collaboratively	3, 4, 10, 11, 16, 17, 20, 28, 33, 34	Teachers are proud of their school
	Frustrated	Teachers are assigned busy work and find co-workers annoying	1, 2, 8, 9, 15, 22	Teachers have too many committee requirements
	Intimate	Teachers support each other and socialize together	14, 21, 26, 27	Teachers socialize with each other on a regular basis

Hoy, Tarter, and Kottkamp (1991)

With each version of the OCDQ, an overall school climate type is determined and is described as open, engaged, disengaged, or closed (Hoy & Tarter, 1997; Hoy et al., 1991). The scoring procedures described by Hoy et al. were followed for this study.

Reliability and validity of the OCDQ-RE and OCDQ-RS. Hoy (2002) found relatively high reliability scores for each of the subtests on the OCDQ-RE. Alpha coefficients were reported as follows: Supportive (.94), Directive (.88), Restrictive (.81), Collegial (.87), Intimate (.83), and Disengaged (.78). Similarly, the reliability scores for the OCDQ-RS were also relatively high. Alpha coefficients were reported as follows: Supportive (.91), Directive (.87), Engaged (.85), Frustrated (.85), and Intimate (.71).

By correlating each dimension of openness against the original OCDQ index of openness, Hoy (2002) examined the OCDQ-RE for its construct validity (Hoy, 1972). The OCDQ-RE's index of teacher openness correlated positively with the original OCDQ openness index ($r = .67, p < .01$). Likewise, the OCDQ-RE's principal openness correlated positively with the original OCDQ openness index ($r = .52, p < .01$). In addition, Hoy et al. (1991) conducted a factor analysis that supported the construct validity of organizational climate.

Demographics questionnaire. A demographics questionnaire was included for completion by all participants. The questionnaire was used to collect the following data: gender, age, number of years teaching experience in a public school, and highest degree earned.

Student achievement. The Virginia Standards of Learning (SOL) were developed to inform all stakeholders involved in K-12 public education of the expectations regarding teaching and learning. SOL comprise the basic skills and knowledge that students need to master to be productive citizens. Students must pass SOL tests in core subject areas that include English, math, science, and history to earn a high school diploma.

The VDOE mandates that SOL tests be administered in Grades 3, 5, and 8 and in specific courses in high school. All tests use a multiple-choice format, with the exception of the writing tests, which require each student to write an essay on a given topic. Students are allowed as much time as needed to complete SOL tests and are provided with approved manipulatives for certain tests, including calculators and graph paper. Students must obtain a minimum score of 400 of a possible 600 to pass each test. Individual test results are sent to parents, and school and division results are posted on the VDOE Web site.

The SOL tests are reviewed and updated on a 7-year cycle. Once SOL tests are released by the VDOE, they are posted on the VDOE Web site. Students and teachers often access these released SOL tests for study purposes. According to the American Federation of Teachers (AFT), the SOL tests are considered to be among the best state standardized tests in the nation. The AFT stated that the Virginia SOLs are “worthy of a close look by other states.”

This researcher averaged each elementary school’s math Grade 3 and reading Grade 3 SOL scores for the previous 3 years. The researcher also averaged each high school’s geometry and reading Grade 11 SOL scores for the previous 3 years. Math and reading were chosen because they are the two tests that are most often compared and analyzed among the four core tests.

Data Collection

Upon receiving approval from the Institutional Review Board (IRB), the researcher obtained a current list of student enrollment counts for each school division in the Commonwealth of Virginia from the VDOE Web site. Each division was assigned to

one of three regions: rural, suburban, or urban. The researcher also contacted the publisher of the MLQ-5x and purchased the appropriate number of surveys. Permission to use either version of the OCDQ was not required.

The researcher randomly selected nine school divisions from each region. A letter was then sent to each school division requesting permission to conduct a study involving the district's elementary and high schools. Once permission was granted by the district, the names of elementary and high school principals within each division, along with the number of years at their respective schools, were obtained from the district's administrative staff. Each elementary and high school principal who had been in his or her current position for 4 or more years was sent an introductory letter requesting that the principal and the teaching staff participate in the study. Once the researcher received written agreement from the building principal for the school to participate, names of all teachers who had been at the school for 4 or more years were obtained from the school's administrative staff.

A random numbers table was used to assign each participating teacher to one of two groups at each school. One group completed the MLQ-5X; the other group completed the OCDQ. All elementary level participants in the OCDQ group completed the OCDQ-RE, whereas all high school level participants completed the OCDQ-RS. Principals were requested to complete both the MLQ-5X and the OCDQ so that additional analysis could be conducted. Furthermore, all participants completed the demographics questionnaire.

The rationale for splitting participants into two groups was to reduce the time it took to complete the surveys. Participants might have viewed the project as too time

consuming if asked to complete two surveys and might have declined to participate, thereby negatively affecting response rates. Also, Bass and Avolio (1990) suggested implementing a split-response method, limiting participants to comments on only one variable. This practice minimizes the potential for same-source bias, which is caused when the same rater evaluates more than one study variable (Avolio, Bass, & Yammarino, 1988).

Each qualifying teacher was sent an e-mail requesting them to voluntarily participate in the study. Data collection was facilitated using Inquisite. The researcher established a Web site through which all participants completed the survey instruments. The Web site kept track of participants that had not completed the questionnaires. Response rates were monitored, and a follow-up e-mail was sent one week after the initial mailing to nonrespondents encouraging them to complete the survey (Ritter & Sue, 2007).

Data Analysis

Descriptive statistics (mean, median, and standard deviation) were computed for each variable using SPSS 15.0 for Windows (2006). The descriptive statistics are provided to better understand the researcher's statistical inferences.

According to McMillan (2004), a prediction is more accurate if more than one predictor variable is involved. When a researcher uses several predictor variables, a multiple regression analysis can be conducted to provide a single index of predictive power for all the predictor variables combined. The current study utilized multiple regression analysis to examine the relationship between the two independent or predictor

variables, leadership style and school climate, and the dependent or criterion variable, student achievement.

A two-way ANOVA allows the researcher to simultaneously test the effects of two independent variables. It also assesses the ways in which these variables interact with one another to influence scores on the dependent variable (Arkkelin, n.d.). The researcher had planned to conduct a two-way ANOVA on the three leadership styles (transactional, transformational, and laissez-faire) and possible school climates (open, engaged, disengaged, closed) at both the elementary level and high school levels, using a post hoc test to determine where the differences were or were not. Due to low response rates, a one-way ANOVA was performed.

Limitations and Delimitations

The nature of social science research does not allow a researcher to control for every extraneous variable that may affect a study. Nevertheless, variables over which one has control must be addressed. The current study has several limitations, including the fact that it did not examine every factor that can affect school climate; only the leadership style of the principal as perceived by teachers was examined. The study was also limited to teachers' perceptions and did not include students' perceptions of leadership style and school climate. It was also limited to a single perception of school climate although school climate fluctuates over time.

Data collection was limited to two survey instruments, the MLQ and the OCDQ, along with the demographics questionnaire. Other types of data collection, including interviews, observations, and case studies, might have offered more in-depth information. One weakness of a survey relates to the validity and reliability of responses obtained.

Respondents may not be able to provide an accurate description of how they actually feel about something using a Likert type scale. Also, there is a possibility of nonresponse bias in that the teachers who do not respond may be different from those who complete the surveys.

Human Subjects Protections and Ethics

All participants were informed that their participation was completely voluntary and that they could withdraw from the study at anytime. The instruments were not coded with any identification marks and all participants remained anonymous. All data obtained from the surveys were kept confidential; only the researcher viewed the individual survey results. Once the data had been recorded the survey data were deleted. The researcher did not identify individual schools or school division; they were given alternative names (e.g., School Division #1, High School 21) to protect their identity.

Summary

In this study, the researcher examined leadership style, school climate, and student achievement in elementary and high schools at three different regions in the Commonwealth of Virginia. The study involved use of quantitative research methods. Data from the two survey instruments, the MLQ and the OCDQ, were analyzed to determine the perceived leadership style of each principal and the perceived school climate, respectively. The demographic data and SOL scores were also examined. The researcher then determined whether or not any correlations existed among the variables.

Results – Chapter 4

The purpose of the current study was to examine the impact of leadership style and school climate on student achievement. Four sets of data were collected. The first set of data consisted of information regarding the perceived leadership style of the building principal for each participating school. The data were gathered using the MLQ-5X. The second set of data consisted of information on the perceived school climate for each participating school; these data were gathered using the OCDQ. The third set of data consisted of each participating school's 3-year average Virginia SOL scores for math and English; these data were gathered from the VDOE Web site. The final set of data consisted of information collected from each participant through a demographic questionnaire. Results of the study were analyzed using the SPSS software program.

Data Collection

Data collection for the current study began during the summer of 2009. All 132 school divisions across the Commonwealth of Virginia were categorized into one of three groups: rural, suburban, or urban. After approval was granted from the Institutional Review Board, nine school divisions from each group were randomly selected, and an e-mail invitation was sent to each school division's superintendent. Once permission to contact individual schools was granted by the superintendent of a school division, all elementary and high schools whose principals had been in their current positions for 4 or more years were invited to participate in the study via an e-mail invitation. The 4-year stipulation was imposed because it was reasonable to assume that if the building administrator had been working within a particular building for at least 4 years, his or her

leadership style would have had an influence on each student's learning experience while at the school.

As each principal granted permission for his or her school to participate in the study, a list of staff members who had been under the building principal's supervision for 4 or more years was requested. In most cases, a secretary provided the information or the information was available on the school's Web site. Once a list of qualifying staff members was obtained, each person was sent an invitation to participate in the study via e-mail. Teachers who agreed to participate were each assigned to one of two groups; assignment was accomplished through the use of a random numbers table. Teachers assigned to group one completed the OCDQ survey, whereas teachers assigned to group two completed the MLQ-5x survey. Principals were asked to complete both surveys. Additionally, both teacher groups and all principals were asked to complete the demographics questionnaire.

The researcher encountered several problems with the initial setup of the surveys using Inquisite, which delayed survey administration by 2 weeks. Surveys were scheduled to be administered between September 21, 2009 and October 2, 2009, but were not sent out until October 6, 2009. Initial response rates were very low, and a reminder e-mail was sent on October 12, 2009 to all participants who had not yet completed a survey. A second reminder e-mail was sent on October 30, 2009. Due to continued low response rates, the survey administration window was extended.

In an attempt to boost participation, the researcher decided to include an incentive for all participants. Each person who completed a survey was entered into a drawing for a \$50 gift card. A final e-mail reminder, which notified participants of the drawing, was

sent on November 16, 2009 to anyone who had not completed a survey. Response rates improved slightly, and the survey administration window was closed on November 20, 2009.

Survey responses for each participating school were numerically coded and entered into SPSS so that the data could be analyzed. Descriptive statistics were computed; they are presented in the following sections to provide a summary of the participants' characteristics. These statistics are not intended to address the study's research questions.

Participation and Response Rates

Of the nine rural school divisions selected to participate in the study, three did not respond to the researcher's request. From the six divisions that gave permission to participate, five schools could not participate because the principals had not been at their current schools for 4 or more years. Three schools agreed to participate but had no participants respond to the surveys. Also, one school division agreed to participate but had no teachers respond from eligible schools; however, one principal from this division completed the survey.

Of the nine suburban school divisions, four did not respond to the request to participate. One school division stated they were too busy to participate, and another stated that they preferred not to participate. Of the five school divisions that agreed to participate, 17 schools could not take part because the principals had not been at their respective schools for 4 or more years, and 5 schools had no teachers respond to the survey.

Of the nine urban school divisions selected, four did not respond. One school division stated that they allowed only employees within their school division to survey staff, whereas another school declined to participate because they had recently completed a survey for a different researcher. Another school division declined to participate because the researcher could not agree to several requested changes to the study. From the five school divisions that agreed to participate, 20 schools could not take part as their principals had been at their schools for fewer than 4 years. Ten schools had no participants; at one school only the principal responded. Table 7 provides a breakdown of participation by division and school.

Table 7. *Division and School Participation by Category*

Category	Participated		Elementary Schools			High Schools		
	Yes	No	Number Eligible	Number Participated	Number of Principals Participated	Number Eligible	Number Participated	Number of Principals Participated
Rural								
School Division R1	x		1	1	0	1	1	1
School Division R2	x		2	0	0	1	0	1
School Division R3		x						
School Division R4	x		1	0	0	1	1	0
School Division R5	x		1	0	0	1	1	0
School Division R6	x		1	0	0	1	0	0
School Division R7		x						
School Division R8		x						
School Division R9		x						
Suburban								
School Division S1		x						
School Division S2		x						
School Division S3	x		9	3	2	2	0	0
School Division S4	x		6	1	0	1	0	0
School Division S5	x		6	1	1	1	0	0
School Division S6	x		5	3	3	2	1	0
School Division S7		x						
School Division S8		x						
School Division S9		x						
Urban								
School Division U1	x		11	5	4	2	2	0
School Division U2		x						
School Division U3		x						
School Division U4	x		21	0	0	4	1	0
School Division U5		x						
School Division U6		x						
School Division U7		x						
School Division U8		x						
School Division U9		x						

Table 8 provides an outline of response rates for each survey that was used to collect data for the current study, which were well below anticipated response rates. Of

the 356 teacher participants that were sent the MLQ, 81 completed the survey, thereby generating a 23% response rate. Twenty-four elementary teacher participants completed the OCDQ-RE, for a 17% response rate, whereas 51 of the 228 high school participants completed OCDQ-RS, for a 22% response rate. Of the 15 elementary principals, 10 completed both surveys, thereby generating a response rate of 67%. Two of the eight high school principals completed both surveys, for a 25% response rate.

Table 8. *Survey Response Rate*

Survey	# Sent	# Completed	Response Rate
MLQ	356	81	23%
OCDQ-RE	144	24	17%
OCDQ-RS	228	51	22%
OCDQ-RE/MLQ Self Rater	15	10	67%
OCDQ-RS/MLQ Self Rater	8	2	25%

Demographic and Descriptive Data

Each participant was asked to complete a demographics questionnaire that requested gender, age, number of years working in a public school, and highest degree earned. The results are summarized in Table 9 for teacher participants and Table 10 for principal participants. Note that some teacher participants did not complete all information.

Table 9. *Teacher Participant Demographics*

	MLQ			OCDQ-RE			OCDQ-RS		
	Rural	Suburban	Urban	Rural	Suburban	Urban	Rural	Suburban	Urban
Gender									
Male	3	1	11	0	0	0	3	1	12
Female	10	10	29	2	10	10	3	4	17
No Response	6	2	9	1	1	0	2	5	4
Average Age	47	46	48	31	47	38	46	40	42
No Response	1	1	5	0	0	0	1	0	3
Highest Degree Earned									
Bachelors	8	5	17	2	3	4	1	5	9
Masters	4	6	22	0	6	6	4	4	18
EdS	1	0	1	0	1	0	1	0	2
PhD	0	0	0	0	0	0	0	0	0
No Response	6	2	9	1	1	0	2	1	4
Average No. of Years Teaching Experience in a									
No Response	18	17	20	4	20	13	18	20	11
No Response	0	0	1	0	1	0	1	3	2
Average No. of Years Under Current Principal									
No Response	7	8	6	4	8	8	4	7	4
No Response	1	1	0	1	1	0	2	4	2

Table 10. *Principal Participant Demographics*

	Rural	Suburban	Urban	Total (#)	Total (%)
Gender					
Male	2	2	2	6	50%
Female	0	4	2	6	50%
Average Age	53	52	51	52	
Highest Degree Earned					
Bachelors	0	0	0	0	0%
Masters	2	5	4	11	92%
EdS	0	1	0	1	8%
PhD	0	0	0	0	0%
Average No. of Years as Principal at Current School	7	13	14	11	

Descriptive statistics including mean, range, and standard deviation were determined for each demographic descriptor and were analyzed to identify potential intervening variables influencing the dependent variable.

Gender

Teacher participants. Of the 156 teachers that participated in the research study, 31 (20%) identified themselves as male and 95 (61%) as female; 30 (19%) participants did not provide a response. Table 11 depicts gender frequency for teacher participants broken down by region.

Table 11. *Gender – Teacher Participants*

	Rural	Suburban	Urban	TOTAL
Gender				
Male	6	2	23	31
Female	15	24	56	95
No Response	9	8	13	30

Principal participants. Twelve principals participated in the current study. Six (50%) were male and six (50%) were female as shown in Table 12.

Table 12. *Gender – Principal Participants*

	Rural	Suburban	Urban	TOTAL
Gender				
Male	2	2	2	6
Female	0	4	2	6

Age

Teacher participants. The ages of the sample participants were diverse. Participants who identified themselves as teachers ranged in age from 26 to 63. Table 13 includes the mean age and standard deviation for each region. The mean age for all teacher participants was 43 ($SD = 4.84$); however, 11 participants did not indicate their age.

Table 13. *Age - Teacher Participants*

	Rural		Suburban		Urban	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Age	41	7.31	44	3.09	43	4.11

Principal participants. Participants who identified themselves as principals ranged in age from 35 to 66, with a mean age of 52 years ($SD = 10.76$). Table 14 outlines the ages of principal participants by region.

Table 14. *Age – Principal Participants*

	Rural		Suburban		Urban	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Age	53	13	52	11.25	51	8.5

Highest Degree Earned

Teacher participants. Respondents were asked to indicate the highest degree earned: bachelor's degree, master's degree, educational specialist degree, or doctorate degree. Of the 156 teacher participants, 49% held a master's degree or higher as their highest level degree. Of the teacher respondents, 54 (35%) had earned a bachelor's degree, 70 (45%) a master's degree, and 6 (4%) an educational specialist degree. No teacher participants had earned a doctorate; 26 participants (17%) failed to indicate the

highest degree earned. Table 15 presents descriptive data regarding the teacher participants' educational attainment by type of region.

Table 15. *Highest Degree Earned – Teacher Participants*

	Rural		Suburban		Urban		TOTAL	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Highest Degree Earned								
Bachelors	11	37%	13	38%	30	33%	54	35%
Masters	8	27%	16	47%	46	50%	70	45%
EdS	2	7%	1	3%	3	3%	6	4%
PhD	0	0%	0	0%	0	0%	0	0%
No Response	9	30%	4	12%	13	14%	26	17%

Principal Participants. Of the 12 principal participants, 11 (92%) had earned a masters degree, and one principal participant earned an educational specialist degree. No principal participants had earned a doctorate degree. Table 16 depicts these data.

Table 16. *Highest Degree Earned - Principal Participants*

	Rural		Suburban		Urban		TOTAL	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Highest Degree Earned								
Bachelors	0	0%	0	0%	0	0%	0	0%
Masters	2	100%	5	83%	4	100%	11	92%
EdS	0	0%	1	17%	0	0%	1	8%
PhD	0	0%	0	0%	0	0%	0	0%

Teaching experience. Participants who identified themselves as teachers reported a range of 4 to 38 years of service in a public school, reflecting a mean of 15

years ($SD = 3.86$). Eight teachers declined to disclose their number of years of experience in a public school. These data are presented in Table 17.

Table 17. *Experience – Teacher Participants*

	Rural		Suburban		Urban		TOTAL	
	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation
No. of Years Teaching Experience in a Public School	13	6.6	19	1.41	15	3.86	16	2.49

Years with current principal. Teacher participants reported a range of 4 to 20 years of service under their respective current principals. The mean years of service under the current principal was 6 years ($SD = 1.25$). These data are presented in Table 18. Twelve teachers did not indicate the number of years they had served under the current principal.

Table 18. *Years With Current Principal – Teacher Participants*

	Rural		Suburban		Urban		TOTAL	
	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation	Standard Mean Deviation
No. of Years under Current Principal	5	1.41	8	0.47	6	1.63	6	1.25

Years as principal at current school. Principal participants averaged 12 years as principal at the current school, with a standard deviation of 6.45, as depicted in Table 19.

Table 19. *Years as Principal*

	Rural		Suburban		Urban		TOTAL	
	Standard		Standard		Standard		Standard	
	Mean	Deviation	Mean	Deviation	Mean	Deviation	Mean	Deviation
Average No. of Years as Principal at Current School	7	2.50	13	6.80	14	5.63	12	6.45

Research Question #1 Analysis and Findings

Research Question 1a. Can the teacher-perceived leadership style of the principal and the teacher-perceived school climate predict the overall student achievement level?

Analysis. In the current study, the researcher utilized multiple regression analysis to examine the relationship between the two independent variables, leadership style and school climate, and the dependent variable, student achievement. The dependent variable was originally defined as each school's average SOL test scores for the previous 3 years. For elementary schools, SOL test scores for Grade 3 math and Grade 3 English-reading were to be analyzed; at the high school level, scores from the geometry and Grade 11 English-reading SOL tests were to be analyzed. Due to the lack of access to these particular SOL scores for each school, it was necessary for the researcher to redefine student achievement as each school's overall averaged SOL scores for math and English for the previous 3 years.

Perceived leadership style of the building principal and perceived school climate were determined for each school using two separate surveys. Half of the respondents from each participating school completed the MLQ-5x to identify leadership style, whereas the remaining participants completed the OCDQ to identify school climate. A

random numbers table was used to assign participants to one of the two groups. Each potential participant was sent an e-mail invitation with a link to the appropriate online survey.

MLQ-5X. The MLQ-5X was used in the current study to determine the leadership style of each participating school's principal. The MLQ measures three leadership behaviors: transformational, transactional, and laissez-faire. It also measures three outcome factors: the leader's willingness to put forth extra effort, the effectiveness of the leader, and the participant's level of satisfaction with the leader.

The MLQ Scoring Key (5x) Short was used to calculate the principal's dominant leadership style. Table 20 summarizes each leadership scale and outcome factor along with the associated survey question numbers.

Table 20. *MLQ Subscales and Related Question Numbers*
(Avolio & Bass, 2004)

Dimension	Subscale	Question #
Transactional Leadership	Contingent Reward	1, 11, 16, 35
	Management-by-Exception (Active)	4, 22, 24, 27
Transformational Leadership	Idealized Influence (Attributed)	10, 18, 21, 25
	Idealized Influence (Behavior)	6, 14, 23, 34
	Inspirational Motivation	9, 13, 26, 36
	Intellectual Stimulation	2, 8, 30, 32
	Individualized Consideration	15, 19, 29, 31
Laissez-faire Leadership	Laissez-Faire	5, 7, 28, 33
	Management-by-Exception (Passive)	3, 12, 17, 20
Outcomes	Extra Effort	39, 42, 44
	Effectiveness of Leader	37, 40, 43, 45
	Satisfaction with Leader	38, 41

Scores were summed for each of the nine leadership scales and three outcome factors, then divided by the number of questions that made up the particular scale. For example, the scores for each question that constituted Inspirational Motivation (Questions 9, 13, 26, 36) were totaled, then divided by 4. Questions that were left blank were not included in the calculation. Table 21 provides a summary of leadership styles as perceived by teacher participants. The principal's dominant leadership style is reflected by the highest percentage.

Table 21. *Leadership Style Summary (Teacher Participants)*

School	Laissez-Faire	Transactional	Transformational
R2	1.25	3.88	4.33
R3	1.25	3.69	4.38
R4	2.63	2.75	2.93
R5	1.60	3.43	4.15
S1	2.00	3.25	4.15
S3	1.54	3.33	3.50
S4	1.38	3.94	4.80
S5	1.50	3.00	3.75
S6	1.66	3.16	4.00
S8	1.00	3.13	4.80
U1	2.60	3.06	3.37
U2	1.58	2.96	3.35
U3	1.97	3.19	4.14
U4	1.52	3.90	3.70
U5	1.68	3.46	4.49
U7	1.88	3.50	4.22

The scores ($n = 16$) indicating a laissez-faire style of leadership ranged from 1.00 to 2.63. Transactional scores ranged from a low of 2.75 to a high of 3.94, and transformational leadership scores ranged from 2.93 to 4.80. All leaders were perceived as transformational leaders by the teacher participants.

Principal participants were asked to self-rate their leadership styles. Table 22 outlines principal leadership styles as self-perceived by the principals.

Table 22. *Leadership Style Summary (Principal Participants)*

School	Laissez-Faire	Transaction	Transformational
R1	2.75	3.25	4.05
R4	1.50	4.00	4.40
S2	2.75	3.13	3.55
S3	1.13	2.50	4.50
S5	1.88	3.13	4.45
S6	1.25	2.88	4.60
S8	2.38	3.38	4.85
S9	1.63	2.88	3.35
U2	1.63	3.38	4.15
U5	1.13	3.25	3.80
U6	2.38	3.63	4.20
U7	1.75	3.63	4.45

The laissez-faire scores ($n = 12$) ranged from 1.130 to 2.75. Transactional scores ranged from a low of 2.50 to a high of 4.00. Transformational leadership scores ranged from 3.35 to 4.85. All principals identified themselves as being transformational leaders.

Outcome measures as perceived by teacher participants are outlined in Table 23. Effectiveness scores ranged from a low of 2.75 to a high of 5.00, satisfaction ratings ranged from 3.00 to 5.00, and extra effort scores ranged from 1.83 to 5.00. All outcome factors were rated highly by the participants, with the exception of leader effectiveness, satisfaction, and extra effort, which were rated at 2.75, 3.25, and 1.83, respectively, by participants from School R4.

Table 23. *Outcome Factor Summary (Teacher Participants)*

School	Effectiveness	Satisfaction	Extra Effort
R2	4.56	4.63	4.25
R3	4.38	4.75	4.50
R4	2.75	3.25	1.83
R5	4.25	4.30	3.67
S1	5.00	5.00	5.00
S3	3.67	3.00	3.00
S4	5.00	5.00	4.33
S5	3.50	4.00	3.00
S6	4.13	4.38	3.92
S8	5.00	5.00	4.67
U1	3.08	3.28	2.78
U2	3.08	3.17	2.67
U3	4.20	4.23	4.09
U4	3.71	3.75	3.33
U5	4.72	4.75	4.58
U7	4.33	4.33	4.00

Outcome measures as perceived by principal participants are outlined in Table 24. Effectiveness scores ranged from a low of 3.50 to a high of 5.00, satisfaction ratings ranged from 3.00 to 5.00, and extra effort scores ranged from 3.33 to 5.00. All principals rated their outcome factors at 3.00 or higher.

Table 24. *Outcome Factor Summary (Principal Participants)*

School	Effectiveness	Satisfaction	Extra Effort
R1	3.75	4.00	4.33
R4	4.25	4.50	4.00
S2	3.75	3.50	3.33
S3	5.00	4.50	4.00
S5	4.25	4.00	4.00
S6	4.00	5.00	4.00
S8	5.00	5.00	5.00
S9	3.50	4.00	3.33
U2	4.75	3.50	3.67
U5	4.50	4.50	4.00
U6	4.50	4.50	3.67
U7	4.25	3.00	4.67

OCDQ. The OCDQ was used in the current study to determine the perceived school climate. The OCDQ focuses on teachers' perception of the principal's behaviors that influence school climate along with teachers' perception of fellow teachers' behaviors, which also influence school climate.

Two versions of the OCDQ were used in the current study. Elementary participants completed the OCDQ-RE, which consists of 42 items, whereas secondary participants completed the OCDQ-RS, which contains 34 items. Respondents used the following four-point scale to answer each statement regarding principal and teacher behavior: 1 = *rarely occurs*, 2 = *sometimes occurs*, 3 = *often occurs*, 4 = *very frequently occurs*.

To compute teachers' perceptions of both teacher and principal openness, the researcher utilized the formulas provided by Hoy et al. (1991) for the OCDQ-RE and by Hoy and Tarter (1997) for the OCDQ-RS. Each formula is explained in further detail in this section. This step allowed the researcher to compute an overall score for the climate of each participating school. The components were used to classify each school as either open, closed, engaged, or disengaged:

Scoring the OCDQ-RE. School climate is described in terms of six specific dimensions. The first three dimensions—supportive, directive, restrictive—describe the teachers' perceptions of principal behavior. The remaining three dimensions—collegial, intimate, disengaged—describe the degree of openness in teacher behavior. To score the OCDQ-RE the researcher followed the guidelines outlined by Hoy et al. (1991):

1. Score each item for each participant with the appropriate number (1, 2, 3 or 4). Reverse score items 6, 31, 37.
2. Calculate an average school score for each item. This is accomplished by adding the scores for each item for each participant, then dividing by the total number of participants.
3. Sum the average school item scores as follows:

$$\text{Supportive Behavior (S)} = 4+9+15+16+22+23+28+29+42$$

$$\text{Directive Behavior (D)} = 5+10+17+24+30+34+35+39+41$$

$$\text{Restrictive Behavior (R)} = 11+18+25+31+36$$

$$\text{Collegial Behavior (C)} = 1+6+12+29+26+32+37+40$$

$$\text{Intimate Behavior (Int)} = 2+7+13+20+27+33+38$$

$$\text{Disengaged Behavior (Dis)} = 3+8+14+21$$

These six scores represent the climate profile of the school. Standardized scores (SdS) were then computed to make comparisons among all schools using a mean of 500 and a standard deviation of 100.

$$\text{SdS of S} = 100 \times (S - 23.34) / 4.85 + 500$$

$$\text{SdS for D} = 100 \times (D - 19.34) / 3.20 + 500$$

$$\text{SdS for R} = 100 \times (R - 12.98) / 1.55 + 500$$

$$\text{SdS for C} = 100 \times (C - 23.11) / 2.69 + 500$$

$$\text{SdS for Int} = 100 \times (\text{Int} - 17.23) / 2.14 + 500$$

$$\text{SdS for Dis} = 100 \times (\text{Dis} - 6.98) / 1.26 + 500$$

The SdS scores were then used to calculate principal openness and teacher openness based on the following formulas:

$$\text{Principal openness} = [(\text{SdS for S}) + (1000 - \text{SdS for D}) + (1000 - \text{SdS for R})] / 3$$

$$\text{Teacher openness} = [(\text{SdS for C}) + (\text{SdS for Int}) + (1000 - \text{SdS for Dis})] / 3$$

The principal openness and teacher openness scores were used to determine the climate type of each school using the following calculations:

1. Open climate – both teacher and principal openness scores are above 500
2. Closed climate – both teacher and principal openness scores are below 500

3. Engaged climate – teacher openness score is above 500 and the principal openness score is below 500
4. Disengaged climate – teacher openness score is below 500 and the principal openness score is above 500

Scoring the OCDQ-RS. School climate is described in terms of five specific dimensions. The first two dimensions—supportive and directive—describe the teachers’ perceptions of principal behavior. The remaining three dimensions—engaged, frustrated, intimate—describe the degree of openness in teacher behavior. To score the OCDQ-RS the researcher followed the guidelines outlined by Hoy and Tarter (1997):

1. Score each item for each participant with the appropriate number (1, 2, 3 or 4).
2. Calculate an average school score for each item. This is accomplished by adding the scores for each item for each participant, then dividing by the total number of participants.
3. Sum the average school item scores as follows:

$$\text{Supportive Behavior (S)} = 5+6+23+24+25+29+30$$

$$\text{Directive Behavior (D)} = 7+12+13+18+19+31+32$$

$$\text{Engaged Behavior (E)} = 3+4+10+11+16+17+20+28+33+34$$

$$\text{Frustrated Behavior (F)} = 1+2+8+9+15+22$$

$$\text{Intimate Behavior (Int)} = 14+21+26+27$$

These five scores represent the climate profile of the school. Standardized scores were then computed to make comparisons among all schools using a mean of 500 and a standard deviation of 100.

$$\text{SdS for S} = 100(\text{S} - 18.19) / 2.66 + 500$$

$$\text{SdS for D} = 100(\text{D} - 13.96) / 2.49 + 500$$

$$\text{SdS for E} = 100(\text{E} - 26.45) / 1.32 + 500$$

$$\text{SdS for F} = 100(\text{F} - 12.33) / 1.98 + 500$$

$$\text{SdS for Int} = 100(\text{Int} - 8.80) / .92 + 500$$

The SdS scores were then used to calculate principal openness and teacher openness based on the following formulas:

$$\text{Principal openness} = [(\text{SDS for S}) + (1000 - \text{SDS for D})] / 2$$

$$\text{Teacher openness} = [(\text{SDS for E}) + (1000 - \text{SDS for F})] / 2$$

The principal openness and teacher openness scores were used to determine the climate type of each school using the following calculations:

1. Open climate – both teacher and principal openness scores are above 500
2. Closed climate – both teacher and principal openness scores are below 500
3. Engaged climate – teacher openness score is above 500 and the principal openness score is below 500
4. Disengaged climate – teacher openness score is below 500 and the principal openness score is above 500

An open school climate refers to a safe and orderly school (Hoy & Tarter, 1992), where the principal values teamwork and is supportive of teachers (Hoy et al., 2002) and teachers are respectful of each other and committed to helping students succeed (Hoy et al., 1998). An engaged climate describes a school climate where the principal closely supervises teachers but does not provide them with a great deal of support (Hoy et al., 1996). Teachers in an engaged climate, however, still strive to work together and are

committed to the students. A disengaged climate is just the opposite. The principal is supportive, but teachers do not work together and do little to help students reach their potential (Hoy et al.). In a closed climate, the principal is viewed as being rigid, controlling, and unsympathetic (Hoy et al., 1991). The principal and teachers do not work together, and the faculty is uncaring toward students.

Table 25 below outlines the school climate as perceived by teachers. Of the 16 schools, seven were each perceived as having an open school climate, one was perceived as closed, three were perceived as engaged, and five were perceived as having a disengaged school climate.

Table 25. *School Climate as Perceived by Teachers*

School	School Climate Code	School Climate
U1	4	Disengaged
U2	2	Closed
U3	1	Open
U4	3	Engaged
U5	1	Open
U7	1	Open
S1	4	Disengaged
S2	1	Open
S3	3	Engaged
S7	4	Disengaged
S8	1	Open
S9	4	Disengaged
R2	4	Disengaged
R3	1	Open
R4	3	Engaged
R5	1	Open

Table 26 outlines the school climate as perceived by participating principals. Of the 12 participating building principals, nine perceived their respective schools as having open climates; three perceived their respective school as having disengaged climates.

Table 26. *School Climate as Perceived by Principals*

School	School Climate Code	School Climate
U2	4	Disengaged
U5	1	Open
U6	1	Open
U7	1	Open
S2	1	Open
S3	1	Open
S5	4	Disengaged
S6	1	Open
S8	1	Open
S9	4	Disengaged
R1	1	Open
R4	1	Open

Student achievement. The researcher determined student achievement for this study by averaging each school's overall math and reading SOL scores for the previous 3 years. Math and reading were chosen because those two tests are the most often compared and analyzed of the four core tests. Table 27 provides a summary of each school's overall SOL math and reading scores along with a 3-year average. Math pass rates ranged from 68% to 93% for the 3-year average ($n = 21$), whereas 3-year average reading pass rates ranged from 81% to 96%.

Table 27. *Student Achievement by School*

School	Math Pass Rate				Reading Pass Rate			
	06-07	07-08	08-09	3-year Average	06-07	07-08	08-09	3-year Average
R1	80%	86%	80%	82%	85%	88%	85%	86%
R2	46%	77%	86%	70%	98%	97%	94%	96%
R3	64%	76%	78%	73%	74%	86%	88%	83%
R4	62%	69%	73%	68%	86%	86%	76%	83%
R5	78%	90%	90%	86%	92%	97%	98%	96%
S1	90%	84%	88%	87%	82%	86%	83%	84%
S2	82%	84%	88%	85%	91%	93%	91%	92%
S3	84%	91%	93%	89%	87%	89%	90%	89%
S4	81%	87%	95%	88%	94%	92%	98%	95%
S5	88%	89%	87%	88%	88%	83%	81%	84%
S6	81%	81%	86%	83%	85%	84%	83%	84%
S7	-	83%	83%	83%	-	84%	85%	85%
S8	87%	88%	90%	88%	82%	83%	79%	81%
S9	89%	97%	93%	93%	95%	99%	95%	96%
U1	91%	89%	91%	90%	87%	88%	92%	89%
U2	73%	81%	87%	80%	77%	80%	93%	83%
U3	84%	83%	84%	84%	91%	91%	93%	92%
U4	88%	93%	93%	91%	87%	92%	95%	91%
U5	86%	89%	85%	87%	86%	85%	89%	87%
U6	85%	89%	86%	87%	81%	81%	88%	83%
U7	80%	84%	89%	84%	79%	93%	93%	88%

Findings. Once all variables had been defined, a multiple regression was performed to examine the relationship between the two independent variables, leadership style and school climate, and the dependent variable, student achievement. The researcher ran the multiple regression twice, once with math SOL scores as the dependent variable and a second time with reading SOL scores as the dependent variable.

With the math SOL score as the dependent variable, 6% of the variance in scores can be accounted for by leadership style and school climate. With the reading SOL score as the dependent variable, however, a smaller percentage, only 2%, of the variance in scores is associated with leadership style and school climate. The combination of

leadership style and school climate was nonsignificant at .534 for math SOL score and .712 for reading SOL score. The standardized beta coefficient was -.240 for math SOL score and -.144 for reading SOL score. This finding indicates a weak to moderate impact, with the reading SOL score reflecting the weaker relationship of the two.

Research Question 1b. Is there significant variance between the teacher-perceived leadership style of the principal and the self-perceived style of the principal?

Analysis. To answer Research Question 1b, the researcher performed a *t*-test. First, the three leadership styles were determined as perceived by teacher participants and principal participants; these data are depicted in Table 28.

Table 28. *Leadership Style Comparison*

School	Teacher perceived style			Principal self-perceived style		
	Laissez-Faire	Transactional	Transformational	Laissez-Faire	Transactional	Transformational
R4	2.63	2.75	2.93	1.50	4.00	4.40
S3	1.54	3.33	3.50	1.13	2.50	4.50
S5	1.50	3.00	3.75	1.88	3.13	4.45
S6	1.66	3.15	4.00	1.25	2.88	4.60
S8	1.00	3.13	4.80	2.38	3.38	4.85
U2	1.58	2.96	3.35	1.63	3.36	4.15
U5	1.68	3.45	4.49	1.13	3.25	3.80
U7	1.88	3.50	4.22	1.75	3.63	4.45

Findings. Analysis of the data revealed that all participants categorized the leadership style of their respective building principals as transformational, but to varying degrees. Score variations for teacher perceived leadership styles ranged from 2.93 to 4.80, whereas the range for the principals' self-perceived styles ranged from 3.35 to 4.85. Principals' perceptions reflected a much smaller range in scores. The second most common leadership style was the transactional leadership style. According to Bass

(1985; 1990; 1998), leaders exhibit both transformational and transactional leadership styles. The current findings support Bass's conclusion. All participants rated the laissez-faire leadership style well below transformational and transactional styles.

Research Question #2 Analysis and Findings

Research Question 2. Are there significant differences in findings among Virginia rural, suburban, and urban regions?

Analysis. The researcher originally proposed to conduct a two-way ANOVA on the three leadership styles (transactional, transformational, and laissez-faire) and possible school climates (open, engaged, disengaged, closed) at both the elementary level and high school levels to answer Research Question 2. Due to low response rates, however, a decision was made to combine results for the elementary and high schools, thereby changing the analysis to a one-way ANOVA. A post hoc test was run to determine where the differences existed and did not exist.

Findings. A one-way ANOVA revealed that there were no significant differences in school climate among the three regions, $F(2,13) = .550, p < .01$. A closer look among the regions revealed the difference between the means of rural regions and suburban regions to be .583 with a p value of .815; the difference between rural regions and urban regions was .250 with a p value of .963; the difference between suburban and urban regions was .833 with a p value of .810.

Summary

Chapter 4 has presented the data derived from both teacher and principal participants at elementary and high schools from rural, suburban, and urban regions in the Commonwealth of Virginia. Data were collected using the MLQ and the OCDQ, along

with a demographics questionnaire. According to the MLQ data, both teacher and principal participants viewed their schools' leadership styles as transformational. School climate varied from open to closed and from engaged to disengaged among teacher participants and varied between open and disengaged for principal participants. There were no significant differences in school climate among the three regions: rural, suburban, and urban. Chapter 5 presents discussion of the relevance of the findings, including conclusions and recommendations for future research.

Chapter 5 - Conclusion

Summary of Study

The current study builds on previous research and provides new answers to the question of how leadership style and school climate influence student achievement. The following research questions were used to guide the current study:

2. Can the teacher-perceived leadership style of the principal and the teacher-perceived school climate predict the overall student achievement level?
 - Is there significant variance between the teacher-perceived leadership style of the principal and the self-perceived style of the principal?
2. Are there significant differences in findings among Virginia rural, suburban, and urban regions?

The current study involved collecting and analyzing numerical data using quantitative research methods. This method was chosen because "...some quantitative research problems require the investigator to explain the extent to which the two variables are related. Explaining a relationship among variables means the researcher is interested in determining whether one or more variables might influence another variable (Creswell, 2002, p. 31).

The survey instrument used to determine leadership style was the Multifactor Leadership Questionnaire (Form 5x-Short) developed by Bass and Avolio (1990). The MLQ covers a broad range of leadership styles—from passive leaders to leaders who give contingent rewards to followers and to leaders who transform their followers into becoming leaders themselves. Comparative studies and replication studies confirmed that the MLQ is considered a reliable and valid instrument.

The second data collection instrument was the Organizational Climate Description Questionnaire (OCDQ) (Hoy et al., 1991), which was used to determine the school's climate. Two separate versions of the OCDQ were employed. The OCDQ-RE was used to measure perceived school climate at the elementary school level, whereas the OCDQ-RS was used to measure perceived school climate at the high school level.

Data collection began in the summer of 2009. Nine school divisions from each of the three regions (rural, suburban, and urban) in the Commonwealth of Virginia were randomly selected to participate in the study. Superintendents from the selected school divisions were contacted via e-mail requesting their participation in the current study. Once permission was granted, principals who had been in their current positions for 4 or more years were contacted via e-mail and invited to participate in the survey. If the principal gave permission for their staff to participate, a list of teachers who had served under the current building principal for 4 or more years was obtained. These teachers were then sent an e-mail invitation to participate in the current study. As teachers agreed to participate, they were assigned to one of two groups. The first group completed the MLQ, and the second group completed the OCDQ. Principals were requested to complete both surveys, and all participants were asked to complete the demographics questionnaire.

Problems were encountered with the setup of each survey using Inquisite; it took approximately 2 weeks to overcome these problems. Once the problems were resolved, surveys were administered to all participants. Response rates were extremely low; consequently, the survey administration window was extended. An incentive for one participant to receive a \$50 gift card was also added to boost response rates.

Data for this study were analyzed using SPSS 15.0 for Windows (2006). Specifically, descriptive and correlational data analysis techniques were used to address each research question. Multiple regression analysis was used to examine the relationship between the two independent variables, leadership style and school climate, and the dependent variable, student achievement. A paired *t*-test was employed to determine if there were significant variances in the teacher perceived leadership style of the principal and the self-perceived style of the principal. The researcher also conducted a one-way ANOVA on the three leadership styles (transactional, transformational, and laissez-faire) and possible school climates (open, engaged, disengaged, closed) at all participating schools, using a post hoc test to determine specific differences. The researcher had originally proposed to conduct a two-way ANOVA to consider the elementary and high school data separately but, instead, conducted a one-way ANOVA due to low response rates.

The data revealed that both teacher and principal participants viewed their schools' dominant leadership style as transformational, with transactional leadership's being the second most indicated style. Laissez-faire scores were extremely low. School climate varied from open to closed and from engaged to disengaged, according to teacher participants, whereas principal participants viewed their schools as either open or disengaged. There was much more variation reflected in the responses of teacher participants. The findings indicate that 6% of variance in the math SOL score can be accounted for by leadership style and school climate; however, a smaller percentage, only 2%, of the variance in reading SOL scores is associated with the independent variables.

The researcher did not find any significant differences in school climate among the three regions: rural, suburban, urban.

Conclusions and Discussion

The current study has contributed to the literature by examining the relationships among principals' leadership style, school climate, and student achievement in Virginia elementary and high schools. Studies conducted by Verona and Young (2001) suggested that the transformational leadership style is best suited for today's schools. It was interesting, therefore, to note that all participants in the current study identified the leadership style at their respective schools as transformational.

Bass and Avolio (1990) defined transformational leadership as "elevating the desires of followers for achievement and self-development, while also promoting the development of groups and organizations" (p. 56). These results are achieved by the leader's having charisma, meeting the emotional needs of employees, or providing for intellectual stimulation of employees (Bass, 1990). The fundamental idea that transformational leaders believe in their convictions and articulate their own vision of the future allows followers to support and adopt those convictions as their own, thereby ensuring a greater chance for success.

According to Bass (1985; 1990; 1998), leaders exhibit both transformational and transactional leadership styles. In the initial analysis of the MLQ results, all participants perceived their principals' dominant leadership styles as transformational. Upon further investigation, the researcher determined that transactional leadership style scores were very close to transformational leadership style scores. The differences in ratings between transformational and transactional leadership style ranged from .72 to 1.68 for teacher

participants and from .40 to 2.00 for principal participants. Teachers were more likely to view their leaders as using a combination of transformational and transactional leadership styles than were the principals themselves.

Figures 3 and 4 provide a visual comparison of how principals and teachers perceived the leadership styles at their schools. All of the principal participants, with the exception of the principal at School U5, rated themselves higher for transformational leadership than did the teacher participants. Nevertheless, the largest difference between the two ratings was very low at 1.47. Five of the eight principals rated themselves higher for transactional leadership than did teacher participants. The scores for teacher participants ranged from a low of 2.75 to a high of 3.50 whereas the scores for principal participants ranged from a low of 2.50 to a high of 4.00.

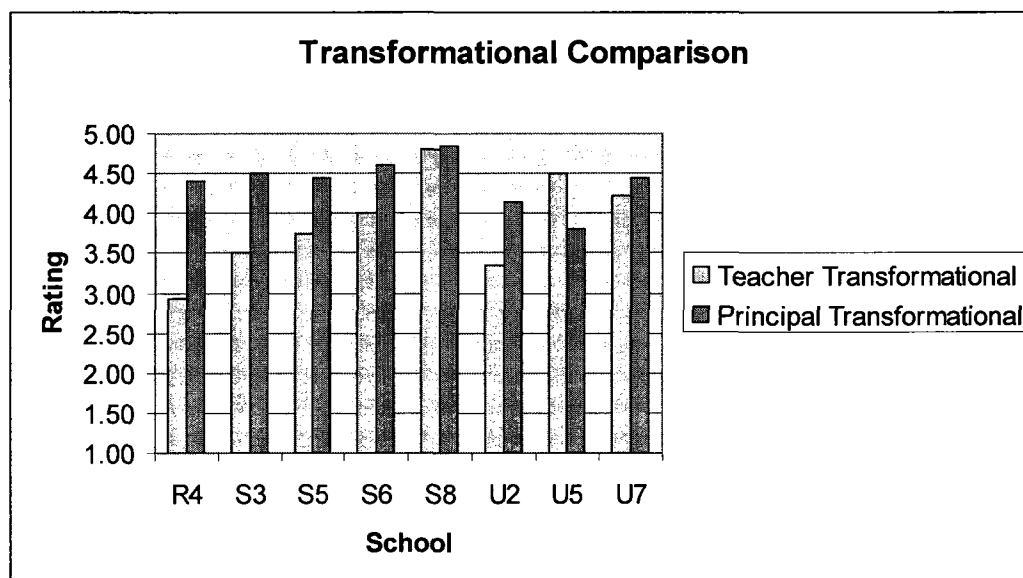


Figure 3. Transformational comparison.

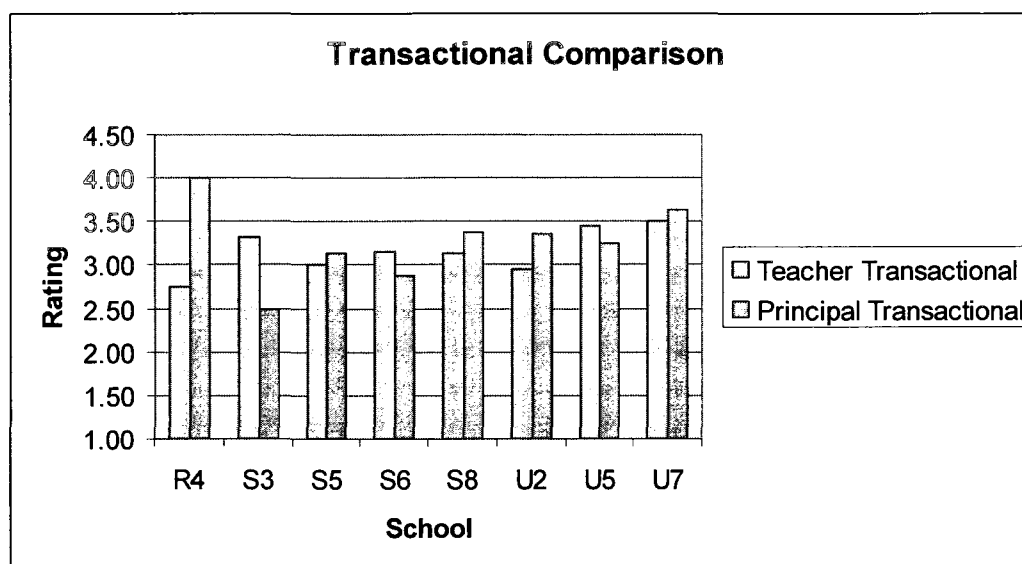


Figure 4. Transactional comparison.

Although each participating school identified their respective principals' dominant leadership style as transformational, school climate was perceived differently among the participants. Seven schools were perceived as having open climates by teacher participants; three schools were perceived as engaged; five were perceived as disengaged; only one school was perceived as having a closed climate by teacher participants. There was less variation among principal participants. Nine principal participants perceived their schools as open whereas three principal participants perceived their schools as disengaged. Thus, it appears that a transformational leadership style does not always yield an open school climate.

The three dimensions to describe the teachers' perceptions of principal behavior at the elementary level included supportive, directive, and restrictive. The three dimensions to describe the teachers' perceptions of teacher behavior at the elementary level included collegial, intimate, and disengaged. In the current study, elementary

principals were perceived as being very supportive of teachers. Principals listened and were open to teacher suggestions. Elementary principals were perceived as average with regard to how they monitored and controlled teachers and school activities. Principals were rated very low with regard to the restrictive dimension, indicating that principals did not burden teachers with paper work, routine duties, or other demands that would interfere with daily instruction.

Elementary teachers rated themselves high for collegial behavior: they supported open and professional interactions among teachers. Teachers rated the intimate dimension very high, indicating that teachers knew each other well and provided strong social support for each other; however, the disengaged dimension was rated very low, indicating they were focused on a common goal.

At the high school level, there were two principal behavior dimensions—supportive and directive—and three teacher behavior dimensions—engaged, frustrated, and intimate. Teachers perceived principals as being highly supportive. The principal was helpful and concerned with the personal and professional welfare of the teachers; however, the principal was not perceived as being rigid and controlling. High school teachers perceived teachers as having high morale and as being proud of their school. They rated the frustrated and intimate teacher behavior dimensions as average to low, thereby indicating there was little interference from administration and colleagues and that teachers socialized occasionally.

Recommendations

The following recommendations are suggested for educators, policymakers, and other researchers who are interested in future investigation of the impact of leadership style and school climate on student achievement.

1. The current research study was limited to a sample population of 27 school divisions. Future research following the same methods and analysis used in this study should be conducted with the inclusion of more school divisions to improve response rates. Populations from across the nation should be analyzed to determine the results on a national level.
2. The current study imposed the stipulation that only schools in which the principals had been in their current positions for 4 or more years were eligible to participate. Additionally, only teachers who had served under their current principals for 4 or more years were eligible to participate. Future researchers could expand the sample size by minimizing restrictions; this expansion would help to make any findings applicable on a larger scale.
3. Future research in this area may benefit from a mixed-methods approach. The addition of qualitative methods in which participants are given the opportunity to express their opinions could result in a deeper understanding of leadership style and school climate and allow for inclusion of additional participants such as parents, students, and community members.
4. In the current study, principals were categorized primarily as transformational and secondarily as transactional. Future research investigating how the two

styles could be used together to raise student achievement would be beneficial.

5. Further research should be conducted to focus on the impact of other variables that may have an effect on student achievement. For example, further research could investigate the size of the school and how it affects school climate and student achievement.
6. Many participants declined to participate in the current study because they could not remain anonymous. A recommendation for future research would be to administer the surveys in person at a faculty meeting where the fear of being identified would be lessened.

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Appendix A - Introductory Letter: School District Superintendent

Date

Dear Superintendent:

My name is Tina Robinson and I am a doctoral student at Old Dominion University in Norfolk, VA. I seek permission to use the (name of school system) in my study entitled "*Examining the Impact of Leadership Style and School Climate on Student Achievement.*" I seek your permission to include randomly selected elementary and high schools in _____ school system in this research.

The purpose of this study is to investigate the impact of leadership style and school climate on student achievement. Researchers have recently linked leadership style and school climate as factors leading to increased student achievement. This is a topic of utmost concern in our schools, given the important emphasis on standards and accountability. A survey of teachers' perceptions regarding principal leadership style and school climate will be collected using the Multifactor Leadership Questionnaire (MLQ) and the Organizational Climate Descriptive Questionnaire (OCDQ-*RE/RS*), respectively.

The research conducted for this study is unobtrusive and will not interfere with the daily operations. Teachers will be asked to complete one of the two surveys, along with a demographic questionnaire that will take approximately 10 to 15 minutes to complete. Principals will be asked to complete both surveys. Participation in this study is voluntary and there are no foreseeable risks or benefits for their participation. All identities (participants and schools) will be kept in strict confidence.

The instruments will be delivered through each participant's e-mail account, which will provide a link to the survey. Upon completion of this study, I will be happy to provide you with the study's findings. Please indicate your approval to my request by replying in written form. If you have any questions, please contact me at (757) 560-9421 or trobi012@odu.edu.

Sincerely,

Tina Robinson
Doctoral Student
Old Dominion University

Appendix B - Introductory Letter: Principals

Date

Dear Principal:

My name is Tina Robinson and I am a doctoral student at Old Dominion University in Norfolk, VA. I have obtained permission from _____ to include _____ in my study entitled "*Examining the Impact of Leadership Style and School Climate on Student Achievement.*" I am sending you this letter in an attempt to solicit your permission (and participation) to include your school as part of this research.

The purpose of this study is to investigate the impact of leadership style and school climate on student achievement. Researchers have recently linked leadership style and school climate as factors leading to increased student achievement. This is a topic of utmost concern in our schools, given the important emphasis on standards and accountability.

The research conducted for this study is unobtrusive and will not interfere with the school's daily operations. Teachers who have been under your supervision for four or more years will be asked to complete one of two surveys (The Organizational Climate Description Questionnaire or the Multifactor Leadership Questionnaire) along with a short demographics questionnaire. Surveys will take approximately 10 to 15 minutes to complete. Additionally, principals will be asked to complete both surveys. Participation in this study is voluntary and there are no foreseeable risks or benefits. All identities (participants and schools) will be kept in strict confidence.

The survey will be delivered to each participant between September 21, 2009 and October 2, 2009 through his or her e-mail account, which will provide a link to the survey.

Upon completion of this study, I will be happy to provide you with the study's findings. Please indicate your approval to my request, along with the number of years you have served as principal at _____ via e-mail. If you have any questions, please contact me at (757) 560-9421 or trobi012@odu.edu.

Sincerely,

Tina I. Robinson
Doctoral Student
Old Dominion University

Appendix C - Invitation E-mail: Principals

Subject Line: Your opinion matters!

Dear Principal,

Your opinion matters! Fifteen minutes of your time is requested to complete two brief surveys regarding your leadership style and the school's climate. Your feedback will help determine the impact of leadership style and school climate on student achievement.

Please take a moment to complete the questionnaire by logging-on to *survey address and password*. Participation is voluntary and there is no risk involved in participating. All identities (participants and schools) will be kept in strict confidence.

If you have any questions about the study or encounter technical difficulties, please contact me at (757) 560-9421 or trobi012@odu.edu. Thank you for your help!

Tina I. Robinson,

Doctoral Student
Old Dominion University

Appendix D - Invitation E-mail: Teachers

Subject Line: Your opinion matters!

Dear Teacher,

Your opinion matters! Ten minutes of your time is requested to complete a brief survey regarding your perceptions of the principal's leadership style or school's climate. Your feedback will help determine the impact of leadership style and school climate on student achievement. Permission from your superintendent and building principal has been granted for me to conduct research at your school.

Please take a moment to complete the questionnaire by logging-on to *survey address and password*. Participation is voluntary and there is no risk involved in participating. All identities (participants and schools) will be kept in strict confidence.

If you have any questions about the study or encounter technical difficulties, please contact me at (757) 560-9421 or trobi012@odu.edu. Thank you for your help!

Tina I. Robinson,

Doctoral Student
Old Dominion University

Appendix E - Follow-up E-mail for Non-Respondents

Subject Line: Your opinion matters!

Dear Teacher,

Last week you received a request to complete a brief survey. Your input regarding perceived leadership style (school climate) is vital and the 10 minutes it will take to complete the survey will be time well spent.

Please take a moment to complete the questionnaire by logging-on to *survey address and password*. Participation is voluntary and there is no risk involved in participating. All identities (participants and schools) will be kept in strict confidence. Your opinions are essential and your participation will be greatly appreciated.

If you have any questions about the study or encounter technical difficulties, please contact me at (757) 560-9421 or trobi012@odu.edu. Thank you for your help!

Tina I. Robinson,

Doctoral Student
Old Dominion University

Appendix F - Multifactor Leadership Questionnaire (MLQ)

Copyright Survey

Appendix G - Organizational Climate Description Questionnaire

OCDQ-RE

DIRECTIONS: THE FOLLOWING ARE STATEMENTS ABOUT YOUR SCHOOL. PLEASE INDICATE THE EXTENT TO WHICH EACH STATEMENT CHARACTERIZES YOUR SCHOOL BY CIRCLING THE APPROPRIATE RESPONSE.

RO=RARELY OCCURS SO=SOMETIMES OCCURS O=OFTEN OCCURS VFO=VERY FREQUENTLY OCCURS

- | | | | | |
|--|----|----|---|-----|
| 1. The teachers accomplish their work with vim, vigor, and pleasure..... | RO | SO | O | VFO |
| 2. Teachers' closest friends are other faculty members at this school..... | RO | SO | O | VFO |
| 3. Faculty meetings are useless..... | RO | SO | O | VFO |
| 4. The principal goes out of his/her way to help teachers..... | RO | SO | O | VFO |
| 5. The principal rules with an iron fist..... | RO | SO | O | VFO |
| 6. Teachers leave school immediately after school is over..... | RO | SO | O | VFO |
| 7. Teachers invite faculty members to visit them at home..... | RO | SO | O | VFO |
| 8. There is a minority group of teachers who always oppose the majority..... | RO | SO | O | VFO |
| 9. The principal uses constructive criticism..... | RO | SO | O | VFO |
| 10. The principal checks the sign-in sheet every morning..... | RO | SO | O | VFO |
| 11. Routine duties interfere with the job of teaching..... | RO | SO | O | VFO |
| 12. Most of the teachers here accept the faults of their colleagues..... | RO | SO | O | VFO |
| 13. Teachers know the family background of other faculty members..... | RO | SO | O | VFO |
| 14. Teachers exert group pressure on non-conforming faculty members..... | RO | SO | O | VFO |
| 15. The principal explains his/her reasons for criticism to teachers..... | RO | SO | O | VFO |
| 16. The principal listens to and accepts teachers' suggestions..... | RO | SO | O | VFO |
| 17. The principal schedules the work for the teachers..... | RO | SO | O | VFO |
| 18. Teachers have too many committee requirements..... | RO | SO | O | VFO |
| 19. Teachers help and support each other..... | RO | SO | O | VFO |
| 20. Teachers have fun socializing together during school time..... | RO | SO | O | VFO |
| 21. Teachers ramble when they talk at faculty meetings..... | RO | SO | O | VFO |
| 22. The principal looks out for the personal welfare of teachers..... | RO | SO | O | VFO |
| 23. The principal treats teachers as equals..... | RO | SO | O | VFO |
| 24. The principal corrects teachers' mistakes..... | RO | SO | O | VFO |

25. Administrative paperwork is burdensome at this school.....	RO	SO	O	VFO
26. Teachers are proud of their school.....	RO	SO	O	VFO
27. Teachers have parties for each other.....	RO	SO	O	VFO
28. The principal compliments teachers.....	RO	SO	O	VFO
29. The principal is easy to understand.....	RO	SO	O	VFO
30. The principal closely checks classroom (teacher) activities.....	RO	SO	O	VFO
31. Clerical support reduces teachers' paperwork.....	RO	SO	O	VFO
32. New teachers are readily accepted by colleagues.....	RO	SO	O	VFO
33. Teachers socialize with each other on a regular basis.....	RO	SO	O	VFO
34. The principal supervises teachers closely.....	RO	SO	O	VFO
35. The principal checks lesson plans.....	RO	SO	O	VFO
36. Teachers are burdened with busy work.....	RO	SO	O	VFO
37. Teachers socialize together in small, select groups.....	RO	SO	O	VFO
38. Teachers provide strong social support for colleagues.....	RO	SO	O	VFO
39. The principal is autocratic.....	RO	SO	O	VFO
40. Teachers respect the professional competence of their colleagues.....	RO	SO	O	VFO
41. The principal monitors everything teachers do.....	RO	SO	O	VFO
42. The principal goes out of his/her way to show appreciation to teachers.....	RO	SO	O	VFO

OCDQ-RS

DIRECTIONS: THE FOLLOWING ARE STATEMENTS ABOUT YOUR SCHOOL. PLEASE INDICATE THE EXTENT TO WHICH EACH STATEMENT CHARACTERIZES YOUR SCHOOL BY CIRCLING THE APPROPRIATE RESPONSE.

R0=RARELY OCCURS SO=SOMETIMES OCCURS O=OFTEN OCCURS VFO=VERY FREQUENTLY OCCURS

- | | | | | |
|--|----|----|---|-----|
| 1. The mannerisms of teachers at this school are annoying..... | RO | SO | O | VFO |
| 2. Teachers have too many committee requirements..... | RO | SO | O | VFO |
| 3. Teachers spend time after school with students who have individual problems..... | RO | SO | O | VFO |
| 4. Teachers are proud of their school..... | RO | SO | O | VFO |
| 5. The principal sets an example by working hard himself/herself..... | RO | SO | O | VFO |
| 6. The principal compliments teachers..... | RO | SO | O | VFO |
| 7. Teacher-principal conferences are dominated by the principal..... | RO | SO | O | VFO |
| 8. Routine duties interfere with the job of teaching..... | RO | SO | O | VFO |
| 9. Teachers interrupt other faculty members who are talking in faculty meetings..... | RO | SO | O | VFO |
| 10. Student government has an influence on school policy..... | RO | SO | O | VFO |
| 11. Teachers are friendly with students..... | RO | SO | O | VFO |
| 12. The principal rules with an iron fist..... | RO | SO | O | VFO |
| 13. The principal monitors everything teachers do..... | RO | SO | O | VFO |
| 14. Teachers' closest friends are other faculty members at this school..... | RO | SO | O | VFO |
| 15. Administrative paper work is burdensome at this school..... | RO | SO | O | VFO |
| 16. Teachers help and support each other..... | RO | SO | O | VFO |
| 17. Pupils solve their problems through logical reasoning..... | RO | SO | O | VFO |
| 18. The principal closely checks teacher activities..... | RO | SO | O | VFO |
| 19. The principal is autocratic..... | RO | SO | O | VFO |
| 20. The morale of teachers is high..... | RO | SO | O | VFO |
| 21. Teachers know the family background of other faculty members..... | RO | SO | O | VFO |
| 22. Assigned non-teaching duties are excessive..... | RO | SO | O | VFO |
| 23. The principal goes out of his/her way to help teachers..... | RO | SO | O | VFO |
| 24. The principal explains his/her reason for criticism to teachers..... | RO | SO | O | VFO |

25. The principal is available after school to help teachers when assistance is needed.....	RO	SO	O	VFO
26. Teachers invite other faculty members to visit them at home.....	RO	SO	O	VFO
27. Teachers socialize with each other on a regular basis.....	RO	SO	O	VFO
28. Teachers really enjoy working here.....	RO	SO	O	VFO
29. The principal uses constructive criticism.....	RO	SO	O	VFO
30. The principal looks out for the personal welfare of the faculty.....	RO	SO	O	VFO
31. The principal supervises teachers closely.....	RO	SO	O	VFO
32. The principal talks more than listens.....	RO	SO	O	VFO
33. Pupils are trusted to work together without supervision.....	RO	SO	O	VFO
34. Teachers respect the personal competence of their colleagues.....	RO	SO	O	VFO

Appendix H - Demographics Survey

Gender: _____ Male _____ Female

Age: _____

Number of years teaching experience in a public school: _____

Highest degree earned: _____ Undergraduate _____ Master's

_____ EdS _____ Doctorate