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by

Curtis F. Null

May, 2012

THE IMPACT OF AN ECONOMICALLY DISADVANTAGED STUDENT  
POPULATION ON SCHOOL CLIMATE

A Doctoral Thesis Presented to the  
Faculty of the College of Education  
University of Houston

In Partial Fulfillment  
of the  
Requirements for the Degree

Doctor of Education  
in  
Professional Leadership

by

Curtis F. Null

Houston, Texas  
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## DEDICATION

This work is dedicated to my wife, Tanya, and our children, Kailey, and Travis. So much of my time, that is rightfully yours, has been sacrificed to complete this process. As I complete this degree, I do not look back, but I look forward to the great times that are in our future.

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and I look forward to spending the rest of my life with you and enjoying the blessings that have been given to us.

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### Abstract

The purpose of this study was to determine the relationship between student poverty levels, defined by the number of students identified as economically disadvantaged by qualifying for free and reduced lunch and school climate. The literature review examined school climate and culture, effects of student socioeconomic (SES) status on education, teacher attrition and turnover, and the role of the principal. Schools with large populations of economically disadvantaged students often experience low standardized test scores, poor parental involvement, and dramatically increased teacher turnover rates. This quantitative study examined the results of the 2010 administration of the Organizational Health Inventory (OHI) within a large, Texas, suburban school district in relation to the percentage of economically disadvantaged students in the sample schools. The district's campuses (N=51) were stratified into four groups based on the number of students classified as economically disadvantaged. A multivariate analysis of variance (MANOVA), Tukey's post hoc analysis, and multivariate linear regression were performed to determine if relationships existed between school climate, as measured by the OHI and the level of economically disadvantaged students within the sample population of schools. Organizational health data were reported for overall campus climate, as well as each of the 10 dimensions of organizational health, in an effort to identify possible relationships between school climate and the number of economically disadvantaged students in the sample schools. The results of the study indicated that campus climate was significantly affected by students' SES status. The results of the

MANOVA analysis indicated that all 10 components of organizational health, as well as the composite score, were found to be significant. Post hoc analysis indicated that campuses with greater than 70% of students identified as economically disadvantaged were most likely to experience a negatively affected school climate. The results of the linear regression showed that a negative directional relationship existed between all dimensions of school health and the four groups of students identified as economically disadvantaged.

## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION .....	1
Statement of the Problem.....	2
Purpose of the Study .....	3
Significance of the Study .....	3
Research Questions .....	5
Research Hypotheses .....	7
Definition of Terms.....	9
II. LITERATURE REVIEW .....	11
Introduction.....	11
Social Learning Theory.....	11
Equality and Educational Opportunity Report.....	13
Findings of the Coleman Report .....	15
Criticism of the Coleman Report .....	16
Modern Views of the Coleman Report .....	17
School Climate.....	17
Components of Organizational Health.....	20
Relationship of School Climate and School Culture .....	24
Socioeconomic Status and Culture .....	25
Socioeconomic Status of Students .....	27
Teacher Attrition and Turnover .....	31
History of Attrition .....	32
Trends in Teacher Attrition.....	33
Teacher Turnover.....	34
Principal Leadership and Teacher Commitment.....	39
Instructional and Transformational Leadership .....	45
Synthesis of the Literature Review .....	48
III. METHODOLOGY .....	49
Introduction.....	49
Participants.....	52
Instrumentation .....	54
Data Collection .....	56
Data Analysis .....	56
Limitations .....	56

## TABLE OF CONTENTS

IV.	RESULTS .....	58
	Introduction.....	58
	Description of the Sample and the Study Variables .....	58
	Description of the Sample.....	58
	Descriptive Statistics of the Study Variables .....	59
	Correlations among the Percentile Scores of Each	
	Dimension of Campus Climate .....	64
	Multivariate Analysis and Results .....	66
	Homogeneity of Covariances.....	66
	Multivariate Tests .....	67
	Homogeneity of Variances .....	68
	Post Hoc Test .....	75
	Multivariate Linear Regression.....	80
	Summary of Findings.....	86
	Final Summary of Research Findings.....	89
V.	DISCUSSION .....	90
	Conclusions.....	91
	Recommendations for Principals and Superintendents.....	92
	Instrumentation .....	96
	Recommendations for Future Studies .....	97
	REFERENCES .....	98
	APPENDIX A: UNIVERSITY OF HOUSTON RESEARCH CONSENT FORM.....	112
	APPENDIX B: ISD RESEARCH CONSENT FORM.....	114

## FIGURE

Figure	Page
1      Annual Teacher Attrition Percentages .....	32

## LIST OF TABLES

Table	Page
1 Teacher Attrition by Subject Matter for 2000-2001 .....	33
2 Descriptors of Groups I-IV .....	54
3 Frequency Counts and Percentages for Category of Socioeconomic Status Category .....	59
4 Descriptive Statistics of Percentile Scores of 10 Dimensions on Campus Climate .....	60
5 Descriptive Statistics of Percentile Scores of 10 Dimensions on Campus Climate for Each Student Poverty Level .....	61
6 Correlation among Percentile Score of Each Dimension of Campus Climate .....	64
7 Results of Box's Test of Equality of Covariance.....	67
8 Multivariate Test Results .....	68
9 Levene's Test of Equality of Error Variances .....	69
10 MANOVA Results.....	70
11 Tukey HSD Post Hoc Results .....	77
12 Regression Results for Goal Focus Dimension .....	82
13 Regression Results for Communication Adequacy Dimension.....	82
14 Regression Results for Power Equalization Dimension .....	83
15 Regression Results for Resource Utilization Dimension.....	83
16 Regression Results for Cohesiveness Dimension .....	84
17 Regression Results for Morale Dimension .....	84

## LIST OF TABLES

Table		Page
18	Regression Results for Innovativeness Dimension.....	85
19	Regression Results for Autonomy Dimension.....	85
20	Regression Results for Adaptation Dimension .....	86
21	Regression Results for Problem Solving Adequacy Dimension.....	86

## **CHAPTER ONE**

### **INTRODUCTION**

The role of public education in the United States is to maintain and ensure an educated and engaged populous. The American ideal of equality for all is currently lacking in classrooms across the country. The general public and the private sector have identified flaws in the current system as evidenced by businessman and philanthropist, Eli Broad:

If student achievement doesn't improve, and if the ethnic and income student achievement gaps persist, we risk a lower standard of living, a weaker economy, and a faltering of our democracy and society. The stakes are unbelievably high. There is the real chance that America will become like many second and third world countries, where a bimodal distribution of wealth between rich, upper middle class and poor creates public strife. The health of our democracy relies on bridging the gap between the skills of the middle class and those of the poor. Public education is that bridge. It is the connection that binds our society together. (2004, p. 1)

The achievement gap for students from poverty continues to plague the Texas public school system (Texas Education Agency, 2010). The problem is magnified when one considers that the economically disadvantaged population of Texas is increasing at a rapid rate. In 2003, 51.9% of all students enrolled in Texas public schools met the criteria to be considered economically disadvantaged. By 2010, that group represented over 59% of the student population and continues to grow (Texas Education Agency,



2010). Texas school districts must learn to adapt to the needs of changing demographics to create positive and healthy learning environments for all students.

This study examined the effects of student poverty levels on school climate. A large, suburban, Texas school district provided the results of the 2010-2011 OHI for the purpose of this study. The data were sorted into four stratified groups based on percentages of economically disadvantaged students and analyzed by the researcher. The results represented full-scale campus climate differences between each of the four groups. Additionally, each of the 10 components of campus climate was also compared. This information identified the degree to which climate was affected by poverty, and it will allow practitioners to identify the areas that are most significantly affected in their schools. By fully understanding these dynamics, leaders can tailor their behaviors to address these areas directly, increase overall climate, and recognize the expected improvements in student performance.

### **Statement of the Problem**

A majority of public education students in Texas are living in poverty and attend schools with a large percentage of economically disadvantaged students (Texas Education Agency, 2010). Schools with a majority of students from poverty report poor performance on state standardized exams (U.S. Department of Education, 1999). Healthy school climate has been indicated as a leading indicator of student academic performance (Hoy, Tarter, Woolfolk & Hoy, 2006). Schools with high student poverty rates may experience distressed school climates (Jones, 2006). School leaders and district leadership must identify the percentage of low SES students that may create a negative effect on campus climate. They must also understand which components of

organizational health are most affected by this student demographic. This enables superintendents to identify the proper leadership traits to look for when hiring principals at the most at-risk campuses. Sitting principals must also identify the potential effects on campus climate, adequately address them to improve student achievement, and increase their ability to recruit and retain high quality teachers.

### **Purpose of the Study**

The purpose of this study was twofold. First, this quantitative study attempted to determine how the percentage of students from poverty affected schools' campus climate. Second, this study attempted to identify which of the 10 components of organizational health were most affected by students' SES.

### **Significance of the Study**

The role of educators is to provide each young person an opportunity to excel. The task of schools becomes more difficult when the students they serve come from poverty (Caldas & Bankston, 1997; Epstein, 1987; Sui-Chu & Willms, 1996). The seminal research study in education, *The Coleman Report*, identified that schools have a very difficult time overcoming the shortcomings that students bring with them from home (Viadero, 2006). Coleman identified the importance of school climate on student achievement (Viadero, 2006). It is critical that schools not only address the academic needs of children but also build assets that will build their capacity for the future (Bandura, 1989).

School climate is the measure of the environment of the campus. Characteristics of high-performing schools have been identified and should be replicated to maximize student success (Hoy et al., 2006). An effective school climate fosters relationships

between the students, the teachers, and the campus as a whole (Fenzel & O'Brennan, 2007). A climate that maximizes this cooperation has been shown to improve academic achievement, regardless of other compounding factors (Hoy et al., 2006; Stewart, 2008).

The SES of students plays a key role in school climate and student academic achievement (Jones, 2004; Sirin, 1995; Willms & Raudenbush, 1989). Students that come from poverty may have less parental support for their education and suffer academically due to this lack of support (Epstein, 1987; Sui-Chu & Willms, 1996). In fact, the achievement gap for low-income students tends to grow over time as they matriculate through the school system (Sanchez, 2006). There are no absolutes in working with students of poverty, and studies have identified traits of high-performing, high poverty schools (U.S. Department of Education, 1999). This gives educators hope that if more research-driven methods are sought out, the gap can be closed.

The most influential component in the education of young people is a high quality, dedicated teacher. Teacher turnover and attrition are concerns, as they negatively impact the educational system, (Boe, Cook, & Sundelrand, 2008; Gayton, 2008; Ingersoll, 2003) and numbers continue to rise (Ingersoll, 2003). Teacher turnover has a greater effect on schools with high populations of students from poverty (Ingersoll, 2004; Martinez-Garcia & Slate, 2009). Teachers leave the profession for a variety of reasons from salary to poor administrative support (Walters, 2004). Research in the field of teacher retention has identified key ways that schools can address these problems; most of them center on the leadership capacity and behaviors of the principal (Fredricks, 2002).

Principals must empower teachers and treat them as professionals (Galen, 2005). Teacher survey results indicate that teachers need emotional support, respect, praise, and support in discipline from their principals (Richards, 2003). The preferred leadership styles are instructional and transformational leadership (Hallinger, 2003; Hulpia & Devos, 2010; Leithwood & Levin, 2010; Leithwood, Louis, Anderson, & Wahlstrom, 2004). According to Hallinger (2003), the instructional leader identifies the school's mission, manages the instructional programs, and promotes a positive educational climate. The transformational leader focuses on team building, mutual decision-making, and building capacity of all in the organization (Hallinger, 2003). Great principals must not view themselves as the expert but rather the mediator and consensus builder with a strong background in curriculum and pedagogy (Ackerman, Donaldson, Mackenzie, & Marnik, 2009).

This study provides principals with the data to predict areas of school climate that have a natural tendency to suffer due to the student population on campus. The research suggests that these challenges are likely but not inevitable or insurmountable (U.S. Department of Education, 1999). A proactive school leader will be able to use the knowledge gained in this research to create systems on campus to mitigate the climate challenges and thus, improve student performance.

### **Research Questions**

Research Question One: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Goal Focus dimension of campus climate, as measured by the OHI?

Research Question Two: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Communication dimension of campus climate, as measured by the OHI?

Research Question Three: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Optimal Power Equalization dimension of campus climate, as measured by the OHI?

Research Question Four: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Resource Utilization dimension of campus climate, as measured by the OHI?

Research Question Five: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Cohesiveness dimension of campus climate, as measured by the OHI?

Research Question Six: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Morale dimension of campus climate, as measured by the OHI?

Research Question Seven: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Innovativeness dimension of campus climate, as measured by the OHI?

Research Question Eight: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Autonomy dimension of campus climate, as measured by the OHI?

Research Question Nine: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Adaptation dimension of campus climate, as measured by the OHI?

Research Question Ten: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Problem Solving Adequacy dimension of campus climate, as measured by the OHI?

Research Question Eleven: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Composite Organizational Health of the campus, as measured by the OHI?

### **Research Hypotheses**

Directional Research Hypothesis One: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Goal Focus of campus climate, as measured by the OHI.

Directional Research Hypothesis Two: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Communication of campus climate, as measured by the OHI.

Directional Research Hypothesis Three: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Optimal Power Equalization dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Four: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Resource Utilization of campus climate, as measured by the OHI.

Directional Research Hypothesis Five: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Cohesiveness of campus climate, as measured by the OHI.

Directional Research Hypothesis Six: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Morale of campus climate, as measured by the OHI.

Directional Research Hypothesis Seven: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Innovativeness of campus climate, as measured by the OHI.

Directional Research Hypothesis Eight: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Autonomy of campus climate, as measured by the OHI.

Directional Research Hypothesis Nine: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Adaptation of campus climate, as measured by the OHI.

Directional Research Hypothesis Ten: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Problem Solving Adequacy of campus climate, as measured by the OHI.

Directional Research Hypothesis Eleven: The percentage of students classified as economically disadvantaged by the Texas Education Agency will significantly affect the Composite Organizational Health of the campus, as measured by the OHI.

## Definition of Terms

- *Organizational Health*: “The school system’s ability to function effectively, but to develop and grow into a more fully-functioning system” (Miles, 1964, pp. 11-12).
- *Organizational Health Inventory (OHI)*: An 80-item assessment tool that utilizes eight questions from each of the 10 domains of organizational health to measure organizational health. The instrument is owned and distributed by Organizational Health Diagnostics & Development Corporation (OHDDC).
- *Components of Organizational Health*: – As defined by OHDDC, 2011:
  - Goal Focus – the ability of persons, groups, or organizations to have clarity acceptance, support and advocacy of school-wide goals and objectives.
  - Communication Adequacy – that state when information is relatively distortion-free and travels both vertically and horizontally across the boundaries of an organization.
  - Optimal Power Equalization – the ability to maintain a relatively equitable distribution of influence between the leader and members of his/her work unit.
  - Resource Utilization – the ability to coordinate and maintain inputs, particularly personnel, effectively with a minimal sense of strain.
  - Cohesiveness – the state when persons or groups have a clear sense of identity, are attracted to membership, want to stay, and are willing to influence and to be influenced.



- Morale – the state in which a person, group, or organization have feelings of security, satisfaction, well-being, and pleasure.
- Innovativeness – the ability to be and allow others to be inventive, diverse, creative, and risk-taking.
- Autonomy – the state in which a person, group, or organization have the freedom to fulfill their roles and responsibilities.
- Adaptation – that ability to tolerate stress and maintain stability while changing to meet the unique needs of their stakeholders.
- Problem Solving Adequacy – an organization’s ability to perceive problems and to solve them with minimal energy. Problems get solved, stay solved and the problem solving procedures are strengthened (p. 1).
- *Economically disadvantaged:* – Students that qualify for free or reduced lunch under the guidelines set forth by the federal government. The terms *poverty* or *low SES* will be interchanged as well (Tieson & Darling, 2008).
- *Campus climate:* – A multi-dimensional construct that describes the feelings and attitudes created by the environment of a school. It includes physical, social, and academic components (Loukas, 2007).

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **Introduction**

The purpose of this study was twofold. First, this quantitative study examined the effects of an economically disadvantaged student population on school climate. Second, this study identified which of the 10 components of organizational health were most affected by students' SES. The literature review includes discussions on social learning or social cognitive theory; the *Coleman Report* as seminal research; campus culture and climate; SES; student achievement; and principal leadership. These topics assisted in establishing a need for the study and set a framework for research and methodologies.

#### **Social Learning Theory**

The theoretical foundation of this study is the social cognitive theory (Bandura, 1991), and this was applied in an attempt to determine at what percentage of students from poverty that a school sees significant loss in campus climate and to identify which of the 10 components of organizational health are most affected by students' SES. Historically, the theory is used interchangeably with the social learning theory that examines the relationship and movement of a person's behavior, cognition, and personal beliefs, as well as the environment (Bandura, 1989). Social behavior in humans is learned through everyday routines, interactions, and societal changes. "Although the ostensible subject is stability and order in social life, students of institutions must attend not just to consensus and conformity but to conflict and change in social structures" (Scott, 2004, p. 408).

The structural reorganization of a large high school to a school-within-a-school for freshman students reduces the amount of change students encounter. Additionally, schools that constitute students that are culturally and economically diverse have the possibility to increase socialization and achievement; however, it can also restrict students from achieving it. It establishes teacher and peer support and creates a space where they are less likely to be harassed by upperclassmen. Bandura (1989) reported, “Among the types of thoughts that affect action, none is more central or pervasive than people’s own judgments of their capabilities to exercise control over events that affect their lives” (p. 42).

Education is the business of learning and achievement for every student. School leaders constantly seek ways to better student experiences and improve academics throughout the educational process. The National Association of Secondary School Principals (NASSP), (2004) reported that students in all academic situations should be surrounded by encouraging and accommodating environments. According to Bandura (1986), environment causes behavior and behavior causes environment. When environments are personalized, relationships are developed and connections are created; students gain the opportunity to own their academic choices and decisions (NASSP, 2004). In order to help students reach their full potential, educators must understand the importance of making personal connections and how to best utilize the students’ motivations, aspirations, and learning styles (NASSP, 2004).

The social cognitive theory describes the bidirectional, influential interrelationship of a person’s behavior, cognition and personal beliefs, as well as the environment (Bandura, 1986, 1989). If visualized as a triangle, each of the three points

represents behavior, cognitive and other personal factors, and the external environment. This social cognitive theory presents a theoretical framework for learning. Knowledge is gained by the learner as his or her personal characteristics and personal experiences come together with environment. The social cognitive theory asserts that one's behavior is typically regulated through cognitive processes (Bandura, 1986). Cognitive factors partially determine what events in the environment will be observed, their possible meaning, if any lasting effect remains, whether any emotional impact and motivating power is possessed, and how the information contained will be sorted for future use. Bandura recognized how important the cognitive processes of thinking, creating, analyzing, evaluating, and reflecting are in the actions of individuals. He explained that critical foundations to learning include the ability of the learner to sort, store, and transfer experiences with symbols, as well as to think into the future. "Educational practices should be gauged not only by the skills and knowledge they impart for present use, but also by what they do to children's beliefs about their capabilities, which affects how they approach the future" (Bandura, 1989, p. 47).

### **Equality and Educational Opportunity Report**

The Civil Rights Act of 1964 was powerful legislation. One of its more obscure provisions directed the United States Commissioner of Education to conduct a survey examining the equal educational opportunities, or lack thereof, by reason of race, color, religion, or national origin in the nation's public schools. The law mandated that this report was to be completed in two years. The task of launching the study fell to Assistant Commissioner, Alex Mood. He selected James Coleman and Ernest Campbell, a

sociology researcher from Nashville's Vanderbilt University, to lead the research team (Viadero, 2006).

Coleman and his team endeavored on what was then the second largest social science research project in American history (Kahlenberg, 2001). Over a two-year period, the team compiled data from almost 600,000 students, 60,000 teachers, and 4,000 schools (Towers, 1992). The project cost was \$1.5 million in 1966 dollars. The size of the study of the study was remarkable and so was the process. Prior to this study, educational researchers paid attention to inputs (e.g., books and facilities). Coleman focused his team on student performance as they studied data. This effort went well beyond the mandate of Congress and changed the direction of future educational studies (Viadero, 2006).

The team produced a final report that weighed as much as the Manhattan, New York phone book (Viadero, 2006). Officially titled *Equality and Educational Opportunity*, the report is more commonly referred to as *The Coleman Report* due to James Coleman's involvement as the principal author (Kahlenberg, 2001). The team published their completed work prior to the July 4<sup>th</sup> weekend in 1966 to very little fanfare or interest (Viadero, 2006). The first widespread attention was brought to the work when *The New Republic* published a piece by Christopher Jencks. He heralded the importance of the work and highlighted that the results are contrary to what most law makers, school boards, and educators believed to be true about educating America's youth (Viadero, 2006).

## **Findings of the Coleman Report**

As one may expect from a study as large as the *Coleman Report*, the researchers pointed out numerous observations based on the data. In many ways, the results were surprising. Many members of Congress expected the results to indicate that predominantly Black schools in the South were underfunded, but the report not only refuted this notion, it went well beyond (Viadero, 2006).

The most noteworthy results noted in the report were that schools can do very little to overcome the academic shortcomings that a student may bring with them to school. The family background, not the school, was the single greatest determinant of a student's potential success. Critics and some politicians oversimplified this information to argue that schools simply didn't matter and funding should be decreased (Viadero, 2006).

The researchers also noted that more than 10 years after the Supreme Court's decision in *Brown v. Board of Education*, most schools were still populated primarily by one race. One of the more surprising assertions was that schools in the North were just as segregated as their counterparts in the South. Black children did attend schools that were less equipped than those attended by White students, but not to the degree expected (Viadero, 2006).

The only school input that was found to positively affect student achievement involved the teaching staff. Teachers who performed well on the verbal exam embedded in the survey had students that were high achievers. These results were amplified in the Black schools. Black children benefitted more from the more excellent teachers than the White children (Viadero, 2006).

The assertion from the study that had the greatest future impact on education involved whom the students attended school with. The population of students that an individual attended school with had almost as much effect on student success as their personal family background. Black students performed better when they attended school with predominantly middle-class White children (Viadero, 2006). The report made it clear that this was an economic situation and not one of race. Poor, White children also improved when they were schooled with middle-class students. There was no indication that middle-class students were adversely affected by the heterogeneous economic make-up of their student population. Coleman believed this economic integration and assimilation was one of the primary purposes of the public education system (Kahlenberg, 2001).

This information was used as a catalyst for desegregation efforts. Due to the political nature of the time, Coleman's argument about economics over race was lost. The busing plans implemented focused on racial integration, thereby creating more adverse conditions for economically disadvantaged children of both races (Kahlenberg, 2001).

### **Criticism of the Coleman Report**

The results of the *Coleman Report* were immediately discounted by many for either political or philosophical reasons. In fact, the project's own advisory committee initially refused to sign the report based on concerns with the methodology (Viadero, 2006).

Valid concerns were raised about the research design. Many researchers cautioned against making far-reaching generalizations based on a non-longitudinal study.

Members of a Harvard seminar also noted an insufficient response rate on the surveys, poor sampling procedures, and faulty testing instruments. Despite these flaws, Mr. Moynihan argued that the findings in the report were valid (Viadero, 2006).

### **Modern Views of the Coleman Report**

The *Coleman Report* is often revisited by researchers. With each milestone anniversary, the number of published retrospectives increases. In 1991, Towers looked back at the report on its 25<sup>th</sup> anniversary. Towers concurred with Coleman that academic achievement was still primarily a function of factors outside of schools' control. He encouraged schools to not get downtrodden by the negative reports about the American education system and encouraged society to quit blaming schools for the failures. He argued that the American society must change the mentality that education is a right and treat it like a privilege—a valuable commodity (Towers, 1992).

The 40<sup>th</sup> anniversary was also marked with new publications. Gamoran (2006) found that levels of segregation were nearly as high as those that existed in 1966. The achievement gap between Black and White students had decreased slightly, but they were still very substantial (Gamoran & Long, 2006). Fellow University of Wisconsin scholar, Borman (2010), used modern data analysis tools to re-examine Coleman's original data. He found that the socioeconomic make-up of the school had a 150% more profound impact on a student's achievement than their own individual economic status (Borman & Dowling, 2010).

### **School Climate**

School systems have become increasingly interested in the study of school climate as the connections have been made to student achievement and the increased



focus of the No Child Left Behind (NCLB) Act on character education and supportive learning environments (Cohen, McCloskey, & Pickeral, 2009). Hoy et al. (2006) coined the term, *academic optimism*, to denote a school environment characterized by a strong academic emphasis, collective efficacy, and faculty trust. The concept of academic optimism grew out of extensive research on school climate and organizational health, leading to the conclusion that certain features distinguished high-performing and low-performing schools with similar sociodemographic profiles.

At the same time, Fenzel and O'Brennan (2007) observed that there were few studies on the effects of school climate on the motivation of urban African American students. Fenzel and O'Brennan used the term, *school psychological environment*, to refer to the aspects of school climate they chose for investigation. Two dimensions of school psychological environment are goals and relationships. Goals can be classified as task (or mastery) goals and ego goals. Schools that give precedence to task goals emphasize learning and intellectual development while those that favor ego goals promote social comparison and competition. Task-oriented learning environments were found to increase students' academic self-efficacy and motivation much more effectively than schools that promote competition among the students.

The relationship aspects of school psychological environment include student and teacher relationships and students' sense of belonging to the school (Fenzel & O'Brennan, 2007). Sense of belonging is the central theme of Booker's (2004, 2006, 2007) work with African American students. Fenzel and O'Brennan (2007) solicited the perspectives of 282 economically disadvantaged African American students enrolled in grades 6-8 in seven urban parochial schools located in four Eastern cities. Two of the

schools were single-sex schools (one girls only and one boys only), and these two schools and three coeducational schools were classified as Nativity schools—small middle schools for at-risk students. The students were asked to rate their schools' climate on a number of factors related to goal orientation and school relationships.

According to the students, a positive school climate is supportive and has rules and regulations that the students consider fair (Fenzel & O'Brennan, 2007). Having teachers and principals who were caring and supportive and being in language arts and mathematics classes focused on learning were features of the learning environment that enhanced the students' motivation to learn and increased their sense of engagement with academic work.

The students' perceptions of the peer social climate at their schools were associated with intrinsic motivation but did not influence the students' academic engagement or academic achievement (Fenzel & O'Brennan, 2009). While acknowledging the importance of social relationships for early adolescents, Fenzel and O'Brennan noted that relationships with caring and supportive teachers were essential to the success of African American students. According to the researchers, creating a learning environment that was respectful and supportive was highly conducive to the academic motivation of at-risk, urban, African American students. The Nativity schools were characterized by very small classes, an extended school day for studying and remedial work, and above all, high expectations for students' behavior and academic performance. In fact, the Nativity school model reflected the features of schools that showed promise in reducing achievement gaps and successfully educating students labeled "at-risk" (Darling-Hammond & Friedlaender, 2008; Fleischer & Heppen, 2009).

Using Bronfenbrenner's ecological model for investigating individual and school factors connected with the academic achievement of African American students, Stewart (2008) found school cohesion to be paramount, overriding all the structural and sociodemographic characteristics generally associated with educational outcomes including social problems, predominate minority population, poverty, size, and location. The large dataset came from the second wave of the National Educational Longitudinal Study (NELS). At the individual level, parent and child discussions about education emerged as a significant predictor of academic achievement, as did school attachment, school commitment, and positive peer relationships.

Based on her findings, Stewart (2008) concluded that "school contexts in which there was a great deal of cooperation among teachers and administrators, support for students, and clear expectations about the mission of the school appeared to translate into higher levels of achievement irrespective of school social ills" (p. 29). Hoy et al. (2006) reached virtually the same conclusion in their research on school climate and culture. According to Hoy et al. (2006), although SES remained a significant factor in academic achievement, school organizational features had the power to supersede economic disadvantage in creating a learning environment committed to high academic achievement.

### **Components of Organizational Health**

In enforcing planned change in schools, the improvement of organizational health should be a primary target in order to create a school system that functions effectively (Miles, 1965). By doing so, it is possible to create an organization that not only survives in its present environment, but is also equipped to face future challenges and survive on a

long-term basis. Organizations that expend resources to cultivate their organizational health are able to develop and extend its survival and coping abilities (Miles, 1965).

Miles (1971) conceptualized organizational health as comprised of 10 specific dimensions which characterizes the aspects of climate that measure the interaction among an organization's members and how this organization as a whole copes with environmental stressors (MacNeil, Prater, & Busch, 2009). Of these 10 dimensions, three are task-centered (Goal Focus, Communication Adequacy, and Optimal Power Equalization), three are focused on the internal state of the system and the needs of its members (Resource Utilization, Cohesiveness and Morale), and the remaining four focus on growth and change (Innovativeness, Autonomy, Adaptation and Problem Solving Adequacy) (Miles, 1965).

The first three task-oriented indicators are connected with the organizational goals, the transmission of information, and decision making processes. Goal Focus is defined as the organization's ability to have clarity, acceptance, and support of organizational goals and objectives. Apart from making the organization's goals clear to the members to gain the members' acceptance of these goals, leaders should ensure that these goals are achievable given the organization's resources and in consideration of the organization's environment (MacNeil et al., 2009; Miles, 1965).

Communication Adequacy is achieved when the information that travels vertically and horizontally throughout the organization is relatively free from distortion. Information that comes from the organization and to the outer environment and vice versa should also stay relatively free from distortion. The information is readily available to those who need it, when it is needed, and data on the problems encountered by the

organization is enough to ensure that diagnosis and resolution of the problems may be achieved with a minimum of strain or stress on the members (MacNeil et al., 2009; Miles, 1965).

Optimal Power Equalization indicates the ability to maintain a balance in the distribution of influence between the members of the work unit and the leaders. In a healthy organization, while inter-group conflicts are present, they are not bitter and the relationships between these groups may be characterized as collaborative, rather than antagonistic. In most cases, the influence is exercised by the most competent person; the amount of power is not affected by factors that are not directly related to the problem at hand, such as organizational position or office politics (MacNeil et al., 2009; Miles, 1965).

The next three dimensions deal with the internal state of the organization and how it responds to the needs of its members. Resource Utilization means that the organization is able to maximize the use of its resources by effectively coordinating the efforts of the members of the work unit without straining the rest of the organization. No one member is overloaded with work or unutilized. A healthy organization that has a good state of Resource Utilization has members who feel self-actualized because there is a good fit between their talents or capabilities and the organization's demands. In cases like these, members of healthy organizations perceive a sense of personal growth and development along with helping achieve the organization's goals (MacNeil et al., 2009; Miles, 1965).

Cohesiveness indicates the clarity of the identity of the organization, and members feel the desire to become part of the organization. An organization that displays cohesiveness has workers who want to become and remain active members of

the organization by contributing their talents to influencing the growth of the organization (MacNeil et al., 2009; Miles, 1965). In connection to this, Morale describes the feelings of well-being, satisfaction, and pleasure members take in being part of an organization. (MacNeil et al., 2009; Miles, 1965).

The last four components of a healthy organization pertain to how the organization deals with growth and change. Innovativeness refers to the organization's ability to let its members take their own course, allowing these members to be inventive and creative. A healthy organization characterizing innovativeness changes and grows over time, possibly through producing new products or diversifying interests instead of staying the same through the years. Innovativeness may also be manifested through the development of new procedures that increase efficiency or moving towards new organizational goals (MacNeil et al., 2009; Miles, 1965).

Autonomy pertains to the organization's ability to maintain its identity, especially its ideals and its goals, and meet its needs in relation to external conditions. In the same way that an autonomous individual does not passively submit to the authority of others, a healthy organization that is autonomous is not a victim to its circumstances and does not surrender to external demands. Rather, a healthy, autonomous organization enjoys a healthy relationship with others and responds to external conditions without letting these conditions determine its direction (MacNeil et al., 2009; Miles, 1965).

Adaptation is demonstrated when the organization is able to maintain its stability while dealing with the stresses and demands of its external environment. This situation usually occurs when the demands of the environment and the resources of the organization are not matched well and the organization is required to implement a new

approach that requires the organization to change in some way. A key indicator of a healthy organization in this respect is the internal system's ability to affect corrective change within the organization at a rate that is faster than the change cycle of the external environment (MacNeil et al., 2009; Miles, 1965).

Lastly, Problem Solving Adequacy is the organization's ability to use minimal resources in perceiving and solving problems, with all the problems resolved and the problem-solving mechanism strengthened. A healthy organization has a well-organized system or standard procedures to detect organizational problems, deciding on solutions, implementing these solutions, and evaluating their effectiveness. Problems are dealt with actively, and instances of scapegoating or denial rarely exist (MacNeil et al., 2009; Miles, 1965).

### **Relationship of School Climate and School Culture**

In organizational theory, climate and culture have been described as overlapping ideas (Miner, 1995), but these two ideas may be differentiated based on the perspective from which they are viewed (MacNeil et al., 2009). School climate is viewed from a psychological perspective, while school culture is viewed from an anthropological perspective. School climate was described as the organization's holistic internal environmental quality (Lunenburg & Ornstein, 2004), while culture was determined to be comprised of the school's values and norms (Heck & Marcoulides, 1996) and dictates the school's collective personality (Gruenert, 2008). It was also determined that a school's climate is a manifestation of its culture (Schein, 1996). Between the two ideas, climate has fewer abstractions and is therefore more empirically measurable, making it the preferred construct when measuring a school's organizational health (Hoy and Feldman,

1999). Both culture and climate were found to be top influences in affecting student achievement (Hoy et al., 2006; Maslowski, 2001), and it was also determined that school principals are direct influences on school culture and climate (Leithwood, Louis, Anderson, & Wahlstrom, 2004). An assessment of the literature indicates a need for studies on which aspects of school climate and culture should be addressed to positively affect student achievement (MacNeil et al., 2009).

### **Socioeconomic Status and Culture**

Low socioeconomic status had been linked to patterns of underachievement. The academic difference between the achievement levels of students with low socioeconomic status vis-à-vis middle-class students tends to increase over time (Sanchez, 2006). Payne (2001) argued that poverty was not only a financial situation, as viewed by the original Title I Act and NCLB. Rather, it was relative and a state of mind. Payne also stated that financial resources were very important; however, it did not explain why people who experienced financial success still choose to remain in poverty. Payne regarded these decisions to other sources, such as emotional, physical, support systems, mental, spiritual, relationships, role models, and knowledge of hidden rules.

There have been criticisms of Payne's framework and idea. Osei-Kofi (2005) argued that Payne's framework was based on the work of anthropologist Oscar Lewis and his theory of a subculture in poverty with its own structure and rationale. Furthermore, Osei-Kofi argued that Payne's work "does not have sufficient merit academically to warrant scholarly critique" (p. 368). Bohn (2006) also pointed out many flaws in terms of the verifiability and reliability of Payne's work and argued that Payne's books and lectures "present a superficial and insulting picture of children and families in poverty"



(p. 2). However, despite the criticisms of expert educators such as Gorski (2008) and Dworin and Bomer (2008), who reported that Payne's program worked to support the stereotypes that middle-class educators already carry into the classroom with them, significant portions of the education community continued to embrace Payne's work and supported its legitimization.

According to Ansalone (2003), based on reading assessments and state assessments, America's public schools have failed low-income students as over half of fourth graders in a particular county cannot read with understanding. This statement was supported by the National Assessment of Title I Final Report (Stullich, Eisner, & McCrary, 2007) which reported that based on the trend data for 36 states, most of the students will be unable to meet the goal of 100% proficiency under the NCLB Act by 2013-2014 unless the proficiency level in reading increases at a faster rate.

Despite the current low achievement in American public schools, there were some recommendations to improve the situation. Grogan (2004) listed seven common traits that can help high poverty schools to achieve high performance. These were: (a) principals need to be free to make decisions in the best interest of the school; (b) measurable and tangible goals must be established; (c) attention must be paid to teacher quality in order to improve instruction; (d) high expectations must be established through assessment; (e) the use of achievement must be used to enforce discipline; (f) parents must be involved; and (g) time must be spent on academic tasks (e.g., extended school day and year). By combining these seven traits, students in high poverty schools will be successful academically, regardless of their social class and income level, when assessed in terms of reading performance (Casey & Howe, 2002; Grogan, 2004).

## **Socioeconomic Status of Students**

Many parents and educational leaders realize that student achievement is directly related to variables other than allocations of funds (Okpala, Smith, Jones, & Ellis, 2000). When studying the effects of schools, Willms and Raudenbush (1989) contended researchers should consider the variables affecting the outcome of student achievement. Variables affecting student achievement can be classified into two sets: contextual variables and school climate variables (Willms, 1992). Contextual variables are often the rules that govern the school's operation, while school climate variables are controlled by parents, teachers, and administration.

SES has been studied and documented for nearly a century (Chapin, 1928). SES is the total combined economic and sociological measure of parents' education, parents' occupation, and family income (Duncan & Magnuson, 2005). Students' participation in free/reduced school lunch programs indicates students' SES status as reflected by poverty status and family social status (Caldas & Bankston, 1997). A number of studies suggested that parents of higher SES were more involved in their children's education, and this greater involvement helped develop positive attitudes toward school, established better homework habits, and improved academic achievement (Epstein, 1987; Sui-Chu & Willms, 1996). Fowler and Walberg (1991) reported that low SES families were the most influential and consistent factors in determining school outcomes. Regardless of SES, research also suggested that smaller districts are more efficient at improving student outcomes (Fowler & Walberg). The term, *academic achievement*, refers to student achievement test scores, grades, and IQ (White, 1982). SES is often linked to many student outcomes. White (1982) described this relationship as one of the most enduring

sociological findings. Sirin (1995) replicated White's SES meta-analysis, and the results showed medium to strong SES-academic achievement relation, but it also indicated a slight decrease in the average correlation. These results did not disprove White's findings.

Researchers reported that academic achievement gaps existed across socioeconomic groups, regardless of race or ethnicity (Caldas & Bankston, 1997). Research indicated that services provided were not adequate to address the achievement gap between children in high and low-poverty schools. Studies suggested that students in high-poverty schools produced relatively low academic performance when compared to their peers at school with fewer students from poverty (U.S. Department of Education, 1999). The Planning and Evaluation Service of the Department of Education added that "attending high poverty schools had a negative effect on student achievement, independent of the effect of the student's own family background" (U.S. Department of Education, p. 5).

Jacob and Lefgren (2007) reported that higher-poverty families strongly preferred student achievement over the teachers' ability to promote student satisfaction and just the reverse for wealthier families. They also reported that more advantaged families were considerably more likely to request a teacher of their liking. Lam (1997) mentioned that of the assorted measures of socioeconomic status, income was most correlated with academic achievement. When combined, two or more of these measures of socioeconomic status were more highly correlated with academic achievement than any single measure. Like other authors and researchers, Lam suggested that parenting and parent involvement in their children's education was a significant contributor to academic

success. Research indicated students' academic performance was related to SES and gender (Jones, 2004).

The U.S. Department of Education addressed the belief that campus status as a high-poverty school was an indicator of low achievement among students. The presented data aimed to prove that belief as purely a myth. Accordingly, there were significant numbers of classified high-poverty schools presented that proved that challenges of poverty were surmountable barriers to high achievement (U.S. Department of Education, 1999). The key attributes of high-performing yet high-poverty schools are as follows:

1. Use standards extensively to design curriculum and instruction, assess student work, and evaluate teachers;
2. Lengthen instructional time in reading and mathematics as a strategy for increasing the number of students meeting the standards;
3. Use the available flexibility in the law to spend more on professional development that can improve instructional practice;
4. Have comprehensive systems to monitor students' mastery of standards and provide extra support to students who need it;
5. Tightly focus parental involvement efforts on helping students meet standards by helping parents understand the standards; and
6. Tend to be located in districts and/or states that have accountability systems with built-in consequences for school staff (U.S Department of Education, 1999).

These characteristics significantly directed policymakers to invest in programs geared toward improving system and building the capacity of the stakeholders to participate in the school reform and achieve high student performance. The

characteristics of urban and rural school settings marked up by the gap of poverty were not necessarily the factors that could be attributed to students' academic performance. While it may be true that students from rural schools are disadvantaged in terms of attributes expected of a school to function and achieve better performance, rural schools also have attributes that were relatively absent in urban schools. These attributes (Eppley, 2009) marked the uniqueness of rural schools in which they function as a system in coping with the standard education of the country.

The investigation of students' characteristics in rural areas was a significant concern for academic institutions whose role was to produce professionals who contributed to the social and economic development of the community. In 2009, the rural population comprised 16.37 percent of the total U.S. population spread over 80 percent of the nation's land mass, which excluded the increasing number of in-migration retirees from urban metropolis, high immigration, and birth rates. These characteristics made rural communities become more racially and ethnically diverse (Strong, Del Grosso, Burwick, Jethwani, & Ponza, 2003). The rapid change in rural characteristics places additional emphasis on ensuring that the provision of education contributes to the development of human capital.

After entering high school, rural students are less likely to dropout than students in urban areas. Although rural students are just as likely to attend college as students in urban areas, they are less likely to complete two- or four-year degrees. Marks, Dewees, Ouellette, and Koralek (1999) stated that people in rural areas who attained higher educational levels often sought and found employment outside their own rural communities.

Academic performance of a student is a result of several factors (Driscoll, Halcoussis, & Svorny, 2005). Many standardized test were designed to measure academic performance of students enrolled across public and private schools in the U.S. Although there were issues associated with standardizing academic performance across school settings, it was decided that only academic performance tests can determine how well students performed.

On the other hand, Lam (1997) suggested that socioeconomic status has little to do with academic achievement. Lam stated, “Although there is a considerable amount of evidence for an association between socioeconomic status and academic achievement, some researchers challenged the hypothesis” (p. 19). Lam concluded that combinations of measures of socioeconomic status were highly correlated with academic achievement. Similarly, Driscoll, Halcoussis, and Svorny (2005) recognized that although socioeconomic status may be an important factor in determining academic achievement, the relationship between socioeconomic status and academic achievement may be misleading. Strong et al. (2003) also downplayed the significance of socioeconomic factors with academic achievement.

### **Teacher Attrition and Turnover**

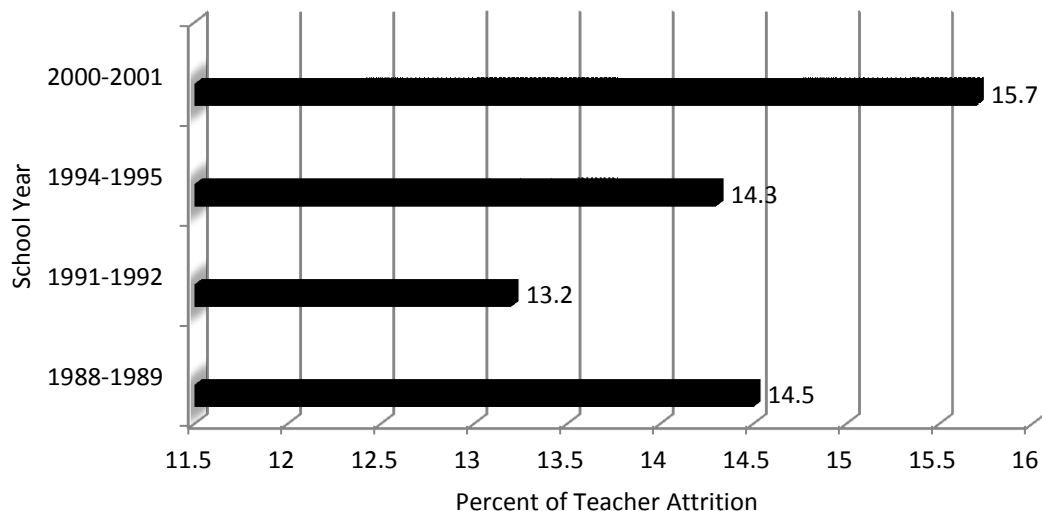
In a concerted effort to clearly articulate the phenomenon of teacher attrition presented in current literature, the history of attrition, current trends in attrition, and potential cases for teacher attrition were examined for presentation in this literature review. Depending upon the educational researcher, the estimated number of teachers who chose to abdicate the education field varied. Despite the variance in the estimated attrition rate, there was a general consensus among researchers that teacher attrition rates

were high and of critical importance (Boe, Cook & Sundelrand, 2008; Gayton, 2008; Ingersoll, 2003).

**History of attrition.** The prevalent data source utilized in current attrition literature was the nationally sampled School and Staffing Survey (SASS) and its companion survey, the Teacher Follow-up Statistics of the U.S. Department of Education National Center for Education Statistics (NCES). The NCES conducted a national research study with data collection occurring in 1987-1988, 1990-1991, 1993-1994, and 1999-2000. This unprecedented study randomly sampled approximately 53,000 U.S. teachers from various states, school districts, and levels of education in each data sample cycle. As of 2009, the NCES has conducted additional data collection cycles, but the data has not been fully released for public access. A historical view of teacher attrition is best presented visually.

Figure 1

*Annual Teacher Attrition Percentages*



Source: Richard M. Ingersoll, adapted for dissertation use from "Teacher Turnover and Teacher Shortages: An Organizational Analysis." *American Educational Research Journal*. 38 (Fall, 2001): 499-534.

According to Ingersoll (2003), North Carolina's teacher attrition is progressively rising. In the 1999-2000 school year, 58% of all U.S. schools had at least one or more teacher openings, despite a slight decline in teacher attrition in the early 1990s (Ingersoll, 2003). Attrition rates among teachers remain problematic and do not show signs of decline according to current literature. Ingersoll summarized the National Center for Educational Statistics data on teacher attrition as steadily increasing since 1991. Teacher attrition rates vary across teaching disciplines, with vocational and technical showing the lowest attrition rates at 12%. Attrition rates for teachers in each specialization field are included in Table 1.

Table 1

*Teacher Attrition by Subject Matter for 2000-2001*

All Teachers	15.7%
Math	16.1%
Science	14.1%
Elementary	15.4%
English	15.0%
Vocational Technical	12.7%

Source: Richard M. Ingersoll, adapted for dissertation use from "Teacher Turnover and Teacher Shortages: An Organizational Analysis." *American Educational Research Journal*. 38 (Fall, 2001): 499-534.

**Trends in teacher attrition.** A thorough review of current literature supported the belief that novice teacher attrition is particularly problematic. Most teacher attrition occurred among novice teachers (Ingersoll, 2003). Novice teachers were consistently reported in literature as having high attrition rates. It is believed this high rate is due to



the stress of learning a new work environment, developing collegial relationships, managing their classrooms, developing curriculum, and teaching for the first time. Ingersoll reported a steady rise in attrition rates in novice teachers extending through the fifth year of teaching. This trend becomes increasingly challenging for high-poverty schools, as novice teachers are twice as likely to work at these at-risk campuses (Tileston & Darling, 2009).

**Teacher Turnover.** Teachers are leaving the classroom soon after starting their careers, according to a report issued by the National Center for Statistics. Currently, one fifth of new teachers do not finish their first year, and up to 50% leave the field completely within five years (Barnes, Crowe, & Schafer, 2003). This situation has led to teacher shortages throughout the country and has negatively affected classroom instruction. As such, school districts face a great deal of pressure to attract highly qualified teachers to the classroom. The cost of teachers leaving school districts is substantial. States invest funds in training and professional development for newly hired teachers (Barnes, Crowe, & Schafer, 2003). For example, in Chicago, 86 million dollars per year is wasted on teachers who resign before the state can get a return on its investment, as exemplified by the training and bonuses given to the teachers. Furthermore, the same study maintained that an upfront investment in teacher retention is paramount if there is to be any hope of seeing positive changes in this area.

The increasing teacher turnover rate is a rising problem in the United States that must be addressed if a quality education is to be provided for the continuous growth of the student population (Connors-Krikorian, 2005). The teacher retention rate has been positively associated with student performance (Corbell, 2009; Miller 2009; NCTAF,

2003), while teacher preparation programs influence teacher effectiveness and eventually student learning outcomes (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009). The NCLB Act recognized the importance of student achievement and aimed to resolve the achievement gap in the education sector. The need to address the achievement gap implied the existence of an unequal educational system. School quality and teaching quality have been deemed to be contributing factors to the student achievement gap (Martinez-Garcia & Slate, 2009); consequently, the quality of education and student achievement have been increasingly affected by the high turnover rates of teachers (NCTAF, 2003). Therefore, it is necessary to investigate the relationship of teacher turnover rates and student performance by examining end-of-course test scores, specifically in North Carolina's public school districts, as the major stakeholders of education are students.

According Connors-Krikoran (2005), teacher turnover has been categorized into two types: migration and attrition. Ingersoll (2001) referred to teacher migration as the transfer of teachers to different teaching jobs in other schools, while teacher attrition pertains to the phenomenon of leaving the teaching occupation. The high rate of teacher turnover has increasingly been a problem in the United States (Corbell, 2009). Ingersoll (2003) and Allen (2005) similarly cited that 50% of the teachers leave for alternative professions during the first five years of their teaching careers and even as early as during their first three years of teaching at a rate of 30% (NCTAF, 2003). Teachers leave the profession for a variety of reasons. Walters (2004) pointed out that teachers are likely to leave due to a lack of teamwork, poor or low student achievement, very little, if any, support from site-based administrators, and low salary. In light of such issues, it is not

surprising that teachers are leaving the profession. According to Allen (2005), teacher attrition was particularly high among beginning teachers, declining after four to five years of teaching and continuing after 25 to 30 years of teaching years. The highest rate of teacher attrition appeared to be in middle and high school (Allen, 2005). Indeed, the U.S. Department of Education (2007) found that 15% of public school teachers who were younger than 30 years of age have migrated, while 9% have left teaching altogether. Meanwhile, in private schools, 12% of the teachers younger than 30 years of age have migrated, while 20% have left the profession. One consistency among teachers is the rate at which they are leaving the profession within the first five years of entry. By year one, 14% of all new teachers leave the profession; by year two, an additional 10% have exited. By the fifth year of entering the profession, close to 50% of new teachers have chosen another profession (Carroll, 2007).

Researchers have also discovered that subject matter or specialty areas may be a predictor in whether a teacher stays or leaves the field. Science teachers, on average, leave the profession two years earlier than other specialty areas (Allen, 2005). Researchers have deduced that science-related careers tend to bring in higher wages in the private sector (Strunk & Robinson, 2006). Teachers have traditionally received less pay than any other comparable field. In 2001, the average teacher's salary was \$44,040, whereas nurses earned \$48,240, accountants \$50,700, and computer programmers \$71,130 (Darling-Hammond, 2003). Placki, Effers, Loeb, Zahir, & Knapp (2005) determined that teacher pay, lack of professional relationships, student misbehavior, and compensation have been the fundamental reasons of teacher attrition. Moreover, preservice teachers may be confronted with a decision to pursue teaching or not upon

completion of their respective programs, as non-competitive wages can make teaching less attractive as an option. Furthermore, approximately 46% of private school teachers responded that better benefits and pay have been significant contributors to their decision to migrate to other schools (U.S. Department of Education, 2007). Hence, compensation is a critical component in teacher attrition and retention (NCTAF, 2003; Placki et al., 2005).

However, novice teachers are not the only ones who have been leaving; experienced teachers are participating in a mass exodus as well. Tye and O'Brien (2002) sought to understand why teachers with more than five years of experience were leaving the classroom and identified three primary reasons: (a) accountability, (b) increased paperwork, and (c) student attitudes. Increased accountability refers to high stakes testing and other state and district standards. Meanwhile, respondents reacted strongly to increased workloads, particularly tasks that had little to do with instruction or student achievement (Tye & O'Brien, 2002). Approximately 33% of the private and public school teachers indicated that opportunities for better teaching assignments were critical to their decisions to migrate (U.S. Department of Education, 2007). Many teachers have also indicated (via surveys and questionnaires) that if the workloads were more manageable, they would consider staying in the profession (Ash, 2007). Indeed, 45% of the public school teachers who left teaching claimed that they had more control in their new careers than when teaching (U.S. Department of Education, 2007), while 65% of teachers who left the profession reported that they were more able to manage their new careers, which have also provided them with more opportunities to balance their personal and work lives (U.S. Department of Education, 2007).

Ingersoll (2001) identified school characteristics that served as predictors of increased teacher turnover and migration. One indicator involved the SES of the student body. Schools classified as having a low percentage of students from poverty experienced a migration rate below 6%, while schools classified as high poverty had 9% of their teaching staff leave campus for a different school each year. Teachers leaving the profession accounted for less than 5% of the loss in low poverty schools and over 6% in high poverty schools. The sum total of migration and those leaving the field accounted for a turnover rate of 10.5% in the low poverty schools. The schools with more economically disadvantaged students suffered total teacher loss rates over 15% annually or a rate of 40% higher than their counterparts with more affluent students (Ingersoll, 2001). When urban, high poverty schools were isolated, the annual turnover rate exceeded 22% (Ingersoll, 2004). In simple terms, teachers often begin their teaching career in poor schools, but as soon as they acquire the requisite years of experience, they transferred to the more prosperous and successful schools where the tasks that were asked of them were easier (Tileston & Darling, 2009).

The lack of administrative support also contributes to teacher turnover; however, Fredricks (2002) reasoned that this can be more easily addressed as it usually involved changing the behavior of only one individual, the principal, as opposed to an entire teaching staff. Fredricks (2002) offered advice for site-based administrators seeking to be supportive of their staff and possibly reduce attrition rates. She highlighted five areas that principals can focus on to help retain staff and create a positive place to work: (a) empowering the staff, as empowered staff members may feel as if they can take chances in efforts to enhance their instructional techniques; (b) coming out of the office so the

principal is more visible in the building; (c) going out of his or her way to praise staff; (d) fostering a unified staff by not allowing conflicts to divide the instructional staff; and (e) enlisting the help of the community around the school and within the district (Fredricks, 2002). However, NCTAF (2003) emphasized that no strategy for keeping qualified teachers will be effective unless the problem of increasingly high turnover rates is addressed.

### **Principal Leadership and Teacher Commitment**

As schools continue to be pressured to show student achievement by standardized measures, teachers remain at the forefront of making that success happen (Meister, 2010). Teachers are most likely to leave teaching within their first five years (Richards, 2003). Driven by the assumption that the principal's leadership may be a major factor in teachers' decisions about whether to continue in their chosen career, Richards undertook a study of novice teachers and principals from a range of southern California school districts. The teachers were K–8 teachers in their 2nd through 5th years of teaching and enrolled in master's degree programs at two universities. The mixed methods study began with interviews with 15 teachers who provided detailed descriptions of principals' behaviors related to encouragement and support, the degree of support they received, and the impact of support on their decisions to stay or leave the profession. The interviewers also gathered information regarding job stress, job satisfaction, and commitment as they related to the principals' behaviors.

Responses were synthesized into a list of 22 principal behaviors deemed important to teachers' job satisfaction and commitment to the profession (Richards, 2003). An additional 100 teachers and 100 principals were presented with the list and

requested to rate the importance of each behavior. According to Galen (2005), the first step for principals to take in empowering teachers and school support personnel is to listen and communicate. Not only is mutual communication essential for fostering trust, but it ensures that principals are aware of the “real world” inhabited by teachers and staff (p. 32). The vital importance of real world understanding underlies Richards’ (2003) phenomenological approach. The interviews from which the list of behaviors arose revealed seven key themes: (a) the need for emotional support; (b) love for students/making a difference; (c) respect for teachers as professionals; (d) the power of praise and acknowledgement; (e) support in matters of discipline; (f) school morale/colleague support; and (g) powerlessness. The need for emotional support was the overriding theme.

Operationalized into the 22 behaviors for the teacher and principal surveys, the list of behaviors was refined into four clusters for a simpler, more meaningful analysis (Richards, 2003). These were (a) effective administrative behaviors, (b) emotional support behaviors, (c) valuing teachers’ judgment behaviors, and (d) respect and care for teachers as professionals behaviors. Not surprisingly, the principals gave higher priority to the behaviors classified under “effective administrative behaviors” than did the teachers. However, the three behaviors ranked by teachers and principals alike as among the five most important principal behaviors were highly congruent with the tenets of transformational leadership. These were: respects teachers as professionals; is fair, honest, and trustworthy; and has an open door policy. An open door policy denoted that the principal was accessible, available, and willing to listen to teachers--all empowering behaviors (Galen, 2005).

The current accountability mandates undermine teachers' sense of professional expertise (Galen, 2005). Although teachers welcome guidance for improving classroom instruction, they resent top-down imperatives that they view as narrowing the curriculum (Sawchuk, 2008). Respecting teachers' professional expertise is key to creating professional learning communities in which teachers and principals share in instructional leadership (Galen, 2005; Liebman, Maldonado, Lacey, & Thompson, 2005; Printy & Marks, 2006). Honesty and trust are essential qualities of a good leader across organizational settings (Kouzes & Posner, 2007). The importance of trust in the school cannot be overemphasized (Bryk & Schneider, 2003; Tschannen-Moran & Hoy, 2000). Listening and supporting needs for personal and professional growth are intrinsic to individualized consideration (Avolio, Bass, & Jung, 1999; Bass, 1999; Bass, Avolio, Jung, & Berson, 2003).

Two principal behaviors ranked as the five most important by teachers, but not principals, were unique to the school context (Richards, 2003). These were: *is supportive of teachers in matters of discipline* (ranked second by teachers but eighth by principals) and *supports teachers with parents* (ranked fifth by teachers and 15th by principals). This discrepancy underscored Galen's (2005) call to principals to be attuned to the world teachers inhabit. Principals seemed to be unaware of the extent that teachers value their support on the two issues of discipline and interacting with parents. Interestingly, principals placed higher value on the behaviors of being a *motivator and team builder who encourages collaboration* and *gives praise and acknowledgement for a job well done* than teachers (Richards, 2003). These behaviors were distinct reflections of transformational leadership (Avolio et al., 1999; Bass, 1999; Bass et al., 2003).



However, they were also more generalized, whereas issues related to discipline and parent involvement were concrete matters that novice teachers found challenging. Parent and community involvement and creating a safe and orderly environment were two key components of balanced principal leadership (Marzano, Waters, & McNulty, 2005). The survey findings implied that teachers needed to feel secure that they had the principal's support in maintaining classroom discipline and interacting with parents (Richards, 2003). To sustain the commitment of teachers, Richards (2003) suggested that principals reflect on the extent to which they engaged in the five behaviors that teachers prized most highly. The prospective advantages included higher teacher job satisfaction, leading to greater commitment to stay, enhanced school morale, and greater dedication and efforts by teachers to meet their students' needs.

In a subsequent study, Richards (2005) explored the perspectives of teachers at various stages of their careers. The study paralleled the earlier study of principal behaviors (Richards, 2003) but included teachers at all stages of experience, dividing them into those with 1 to 5 years of experience, 6 to 10 years of experience, and veterans with 11 or more years of teaching (Richards, 2005). The dominant themes that arose from the analysis were the power of caring, the power of respect, and the power of praise and acknowledgment. The same five behaviors that the teachers gave highest precedence in the first study also topped the list of the most important principal behaviors in the second study, thus further highlighting their importance.

Parkinson (2008) focused on the relationship between principals' leadership style and the career satisfaction of veteran teachers. The participants were 70 Arizona elementary school teachers in the late stage of their careers. The results affirmed the

association between transformational and transactional contingent reward behavior and the positive impact of both (Avolio et al., 1999). Idealized influence was related to external rewards and intrinsic satisfaction (Parkinson, 2008). Because fairness was one of the facets of idealized influence, it was not surprising that it was linked to rewards. The findings suggested that a synthesis of transformational and transactional leader behavior may be the best strategy for enhancing the career satisfaction of veteran teachers. The strong positive impact of idealized influence was consistent with the precedence given honesty, integrity, and fairness by veteran teachers (Richards, 2005).

Sun (2004) investigated the impact of the principals' perceived leadership style on the commitment of 12 teachers drawn from Ontario elementary schools. The information-processing model delineated by Leithwood and Montgomery and Hodgkinson's values in administration theory served as the theoretical framework for the qualitative exploration. According to the synthesis, teachers appraising the actions of the principal initially screen the behavior through the lens of their personal preferences and values, which serve as "the interface of self and world" (Sun, 2004, p. 22). In the second stage, teachers construe meaning from the information by inferring the motivations and values that underlie the leader's behavior. During this stage, the teachers' grasp of the leader's behavior becomes more sophisticated. The third and final stage represents an interplay between teachers' own values and perceptions of the principal's actions and the underlying forces that directly impact commitment.

Sun (2004) noted that all 12 teachers perceived their principal's behavior as either positive or negative. The perceived leadership style comprised three elements: (a) the six factors of actions/words, attitudes, values, motives, understanding, and the self; (b) the

personal relationship between the leader and follower; and (c) authenticity or inauthenticity. These three elements exerted independent effects on commitment. Actions and words affected virtually all facets of commitment. The behaviors that exerted a positive impact on teachers' commitment included intellectual stimulation; providing opportunities for learning and professional development; promoting teamwork; recognition; creating a positive school environment; providing support (including intrinsic and extrinsic support); praise and appreciation; consulting with teachers; modeling exemplary behavior; and making requests based on a good relationship between the teacher and principal. Notably, supporting teachers with discipline was one form of support that affected commitment, adding further evidence of its importance to teachers (Richards, 2003, 2005).

Congruence between the values of the teacher and the values of the principal had a powerful impact on the teachers' commitment (Sun, 2004). Sun invoked Burns (1978), stating that the impact of values was consistent with the idea that transformational leadership raised the morality and motivation of both leader and followers. Sun proposed that the leader's behavior worked to illuminate the teacher's own values. In the third component of perceived leadership styles, authenticity was central to a good relationship between the principal and teacher, supporting the importance of authentic transformational leadership (Bass & Steidlmeier, 1999). The essential components of the teachers' values orientation were interest in children; the need to feel valued; the need to feel at ease interacting with the principal; the desire to achieve as a teacher; and the desire to be the best teacher possible. The findings were consistent regardless of the teacher's

sociodemographic profile, which indicated the importance of these values on the teacher's relationship with the principal and consequently on commitment (Sun, 2004).

### **Instructional and Transformational Leadership**

Instructional and transformational leadership are currently the preferred modes of principal leadership (Hallinger, 2003; Hulpia & Devos, 2010; Leithwood & Levin, 2010; Leithwood et al., 2004). Both models are associated with positive student outcomes, primarily through the establishment of a school climate and culture marked by high expectations for students and support for teachers' professional development and expertise.

Instructional and transformational leadership represent two distinct approaches (Hallinger, 2003; Hallinger & Heck, 2010; Hallinger, 2010). Both, however, are subject to misinterpretation. Transformational leadership is sometimes taken to be synonymous with participatory or democratic leadership, which is inaccurate (Bass, 1999). According to Leithwood, Day, Sammons, Harris, and Hopkins (2006), the terms *instructional leadership* in North America and *learning-centered leadership* in England are often used as labels for whatever the person considers "good" leadership with virtually "no reference to models of instructional or learning-centered leadership that have some conceptual coherence and a body of evidence testing their effects on organizations and pupils" (p. 7). Hallinger's (2003) model of instructional leadership, however, does have a sound conceptual base (Leithwood et al., 2004, 2006).

According to Hallinger's (2003) model, instructional leadership comprises three dimensions: defining the school's mission, managing the instructional program, and promoting a positive educational climate. Defining the school's mission has two aspects:

shaping and communicating school goals. Managing the instructional program focuses on coordinating and controlling curriculum and instruction. The third dimension, promoting a positive educational climate, encompasses a number of activities such as preserving instructional time, advancing professional development, maintaining visibility, providing incentives for teachers, and providing incentives for learning. Embedded in creating a positive climate for learning is the idea that effective schools display an academic focus through “the development of high standards and expectations and culture of continuous improvement” (p. 332). As an instructional leader, the principal is entrusted with the task of aligning the three dimensions.

In the educational setting, transformational leadership has several defining characteristics: vision, mutual goals, individualized support, intellectual stimulation, cultural transformation, high expectations, and modeling (Hallinger, 2003; Leithwood et al., 2004). The major distinction between instructional and transformational leadership is that instructional leadership reflects a top-down approach to school improvement while transformational leadership has a bottom-up emphasis (Hallinger, 2003; Hinkin & Schriesheim, 2008). A second, but lesser, difference is that instructional leadership targets first-order (structural) change, whereas transformational leadership focuses on second-order (attitudes and beliefs) change. Broadly, instructional leadership is concentrated on altering the school climate while transformational leadership is concerned with altering the school culture.

A third difference between the two modes of school leadership is that instructional leadership emphasizes transactional or managerial leadership in the dynamics between the leader and staff while transformational leadership is grounded in

establishing trusting, mutual relationships (Hallinger, 2003; Jung, Yammarino, & Lee, 2009; Nemanich & Vera, 2009). Building relationship trust is an important part of the principal's role, central to successful collaboration and teamwork among constituents in the school, the community, and the district (Birasnav, Rangnekar & Dalpati, 2010; Bryk & Schneider, 2003; Donaldson, Marnik, Mackenzie, & Ackerman, 2009; Nemanich & Keller, 2007).

Donaldson et al. (2009) declared that having good pedagogical knowledge is important, but it is not sufficient for being a successful school leader. To help teachers and parents capitalize on this knowledge, principals must sharpen their consulting skills. As opposed to being “the expert,” the principal should be helping others “examine and reframe their own challenges and develop strategies for action” (p. 11). Emphasizing the critical importance of interpersonal skills, Donaldson et al. (2009) envisioned the principal as a consultant, a mediator, and a consensus builder. The key to developing these qualities lies in embracing a philosophy that awards high value to relationships.

Despite the distinctions between instructional and transformational leaders, there are more similarities than differences between the two leadership styles (Hallinger, 2003). Both models of leadership involve:

- cultivating a sense of collective purpose;
- concentrating on building a climate of high expectations and a culture dedicated to improving teaching and learning;
- creating a reward system that reflects the goals established for school staff and students;

- structuring and providing a wide range of activities that offer intellectual stimulation and professional development for school staff; and
- maintaining a visible presence in the school and modeling the values promoted by the school culture; that is, practicing leadership by example.

### **Synthesis of the Literature Review**

Creating an educational environment that gives all students an opportunity to learn and excel is difficult. Historically, students from poverty have experienced greater difficulty in the school setting than their more wealthy peers. Factors such as school climate, teacher attrition and turnover, and principal leadership actions play a key role in student achievement. Despite the increased challenges facing schools with many students from poverty, the school and students can be successful with great teachers and administrative leadership.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **Introduction**

This quantitative study examined the effects of student poverty levels on school climate. A large, suburban, Texas school district provided the results of the 2010-2011 OHI for the purpose of this study. The independent variable of a population of economically disadvantaged students was studied with the dependent variable of school climate. The data was sorted into four stratified groups based on percentages of economically disadvantaged students and analyzed by the researcher. The results represent full-scale campus climate differences between each of the four groups. Additionally, each of the 10 components of campus climate was also compared.

The study addressed the following research questions:

Research Question One: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Goal Focus dimension of campus climate, as measured by the OHI?

Research Question Two: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Communication dimension of campus climate, as measured by the OHI?

Research Question Three: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Optimal Power Equalization dimension of campus climate, as measured by the OHI?



Research Question Four: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Resource Utilization dimension of campus climate, as measured by the OHI?

Research Question Five: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Cohesiveness dimension of campus climate, as measured by the OHI?

Research Question Six: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Morale dimension of campus climate, as measured by the OHI?

Research Question Seven: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Innovativeness dimension of campus climate, as measured by the OHI?

Research Question Eight: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Autonomy dimension of campus climate, as measured by the OHI?

Research Question Nine: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Adaptation dimension of campus climate, as measured by the OHI?

Research Question Ten: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Problem Solving Adequacy dimension of campus climate, as measured by the OHI?

Research Question Eleven: Does the percentage of students classified as economically disadvantaged by the Texas Education Agency affect the Composite Organizational Health of the campus, as measured by the OHI?

The study addressed the following research hypotheses:

Directional Research Hypothesis One: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Goal Focus of campus climate, as measured by the OHI.

Directional Research Hypothesis Two: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Communication of campus climate, as measured by the OHI.

Directional Research Hypothesis Three: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Optimal Power Equalization dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Four: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Resource Utilization of campus climate, as measured by the OHI.

Directional Research Hypothesis Five: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Cohesiveness of campus climate, as measured by the OHI.

Directional Research Hypothesis Six: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Morale of campus climate, as measured by the OHI.

Directional Research Hypothesis Seven: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Innovativeness of campus climate, as measured by the OHI.

Directional Research Hypothesis Eight: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Autonomy of campus climate, as measured by the OHI.

Directional Research Hypothesis Nine: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Adaptation of campus climate, as measured by the OHI.

Directional Research Hypothesis Ten: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Problem Solving Adequacy of campus climate, as measured by the OHI.

Directional Research Hypothesis Eleven: The percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affects the Composite Organizational Health of the campus, as measured by the OHI.

## **Participants**

The sample for the study included all of the comprehensive campuses of a large, suburban, Texas school district. The total sample consisted of 51 campuses including 27 elementaries serving grades K-4; two campuses serving grades K-6; nine intermediate campuses serving grades 5-6; six junior highs serving grades 7-8; two high school campuses serving grade 9; two high school campuses serving grades 10-12; and three high school campuses serving grades 9-12. These campuses educate 50,644 students and employ 3,694 professional staff members. For the purpose of this study, campuses of

choice and specialty campuses (e.g., Disciplinary Alternative Education Program) were excluded. According to the 2010-2011 district AEIS report, the district demographic breakdown was:

- White – 55.6%
- Hispanic – 24.1%
- African American – 6.0%
- Asian – 3.0%
- Pacific Islander – 0%
- American Indian – 0.5%
- Two or More Races – 3.4%
- Economically disadvantaged – 36.8% (Texas Education Agency, 2011)

For this study, the campuses were stratified into four groups based on the percentages of the student body that were classified as economically disadvantaged by the TEA. Group I consisted of campuses that had an economically disadvantaged student population ranging from 0%-15%. Group I consisted of six elementary campuses, two K-6 campuses, one junior high, one ninth grade high school campus, and two high schools. Group II consisted of six elementaries, three intermediates, two junior highs, one ninth grade campus, and one 10-12 high school. The range of economically disadvantaged students in group II was 16%-40%. Group III ranged from 41%-70% economically disadvantaged students and was composed of seven elementaries, two intermediates, one junior high, and two 9-12 high schools. Group IV schools had student poverty levels greater than 70%. This group included eight elementaries, two intermediates, and two junior highs. Descriptors for each group are best expressed in table form and are included below:

Table 2

*Descriptors of Groups I-IV*

Group	Range of Low SES Students	Total Number of Students	Number of Economically Disadvantaged Students	Average Percentage of Economically Disadvantaged Students	Number of Professional Employees
I	0-15%	17,535	1025	5.85%	1,185
II	16%-40%	12,145	3,350	27.58%	862
III	41% -70%	11,491	6,380	55.52%	912
IV	> 70%	9,473	7,855	82.92%	735
Totals		50,644	18,610	36.75%	3,694

Source: Texas Education Agency, 2011

**Instrumentation**

The study utilized the OHI to quantify the dependent variable of organizational health and school climate. The OHI is owned, distributed, and scored by the OHDDC.

Miles (1971) identified the 10 dimensions that affect organizational health. The components include Goal Focus, Communication Adequacy, Optimal Power Equalization, Resource Utilization, Cohesiveness, Morale, Innovativeness, Autonomy, Adaptation, and Problem Solving Adequacy. Work to define and operationalize these dimensions lead to the creation of a measurement tool, the OHI (Johnstone, 1988).

The OHI is a written instrument in which members of a work unit answer questions regarding their organization. The questionnaire consists of 80 questions, and participants complete the survey independently during a faculty meeting (OHDDC, 2011). Each of the 10 domains is measured with eight questions. Participants are asked to respond to each statement with one of the following choices: *strongly agree*, *agree*, *undecided*, *disagree*, or *strongly disagree*. The surveys are returned to OHDDC, and the raw data is converted into percentile scores in each domain and composite school climate. The percentile scores are based on national norms that have been established based on the work unit being evaluated. Units are only compared with other like units, and the current system includes norms for elementary schools, middle schools, junior high schools, comprehensive high schools, specialty schools, and central office units (OHDDC, 2011).

The OHI has been validated for its use in educational organizations (Fairman, 1982) and has been in use for almost 30 years (OHDDC, 2011). Reliability and validity of the OHI were established soon after it was created (Johnstone, 1988). Much of the recent work with the OHI has been to determine the relationship between OHI results and student academic performance. Over the past two decades, numerous studies demonstrated significant relationships between the dimensions of the OHI and student achievement (Fairman & McLean, 2003; OHDDC, 2011). Specifically, longitudinal research found that Goal Focus, Cohesiveness, Adaptation, and Autonomy had the strongest relationship to student performance (Fairman & McLean, 2003). The relationship of these dimensions and composite organizational health were significant at a  $p < .05$  level: “Adaptation at the .01 level; Autonomy at the .01 level; Goal Focus at the .05 level;

Cohesiveness at the .05 level; and Composite Organizational Health at the .05 level” (Fairman & McLean, 2003, p. 142).

### **Data Collection**

This study utilized archival data collected during the 2010-2011 academic year. All campuses in the school district completed the OHI in November, 2010. Confidential answer documents were collected by district personnel and submitted to OHDDC. The answer documents were scored, and raw scores were converted to percentile scores based on national results for each level of school. The district and each campus principal were provided with a detailed report of the results in January, 2011. The researcher requested and received permission for the use of the masked results for this study. The data were masked by the school district prior to making it available to the researcher.

### **Data Analysis**

School climate data, as measured by the OHI, were collected in 2010 at all 51 campuses involved in this study. Quantitative data for each of the 10 components of school climate, as well as the composite score, were analyzed by the researcher. A MANOVA, Tukey’s post hoc, and logistic regression analysis was conducted to examine the relationship between the independent variable of an economically disadvantaged student population and school climate, the dependent variable.

### **Limitations**

This study was limited by:

1. The sample for this study consisted of only one school district.
2. The study only analyzed results for one school year. The findings would have been more valid if a longitudinal study was performed.

3. The school district declined to make unmasked data available or pair data that revealed the campuses' identity. Therefore, this study did not analyze student achievement. Because no campuses were individually identifiable, principal tenure, teacher tenure, and school racial breakdown were not analyzed. This also limited the ability to identify outlying campuses and determine campus characteristics.
4. The school district created the four groups based on the percentages of students from poverty. The cut-off points for each group were determined to create four equal groups, not based on any research-driven criteria.



## **CHAPTER 4**

### **RESULTS**

#### **Introduction**

The main objective of the current study was to examine the effects of student poverty levels on school climate in terms of the 10 dimensions that affect organizational health. To answer the research questions, an exploratory data analysis was utilized by the researcher. Additionally, a multivariate analysis and regression analysis were conducted in order to determine if various levels of student poverty had an impact on the school climate. The results of the school climate surveys presented by the OHI are presented in the descriptive section, while the results of the multivariate analysis and regression analysis are presented following the descriptive section.

#### **Description of the Sample and the Study Variables**

**Description of the Sample.** The frequency counts and percentages for the sample demographics are presented in Table 3. There were almost equal percentages of students at each poverty level of low (27.5%), moderate (25.5%), medium (23.5%), and high (23.5%).

Table 3

*Frequency Counts and Percentages for Category of Socioeconomic Status Category*

(N=9796)

		Cumulative			
		Frequency	Percent	Valid Percent	Percent
Valid	Group I	14	26.9	27.5	27.5
	Group II	13	25.0	25.5	52.9
	Group III	12	23.1	23.5	76.5
	Group IV	12	23.1	23.5	100.0
	Total	51	98.1	100.0	
Missing	System	1	1.9		
Total		52	100.0		

**Descriptive Statistics of the Study Variables.** The study variables included the 10 dimensions of campus climate, as measured by the OHI. These included Goal Focus; Communication Adequacy; Optimal Power Equalization; Resource Utilization; Cohesiveness; Morale; Innovativeness; Autonomy; Adaptation; and Problem Solving Adequacy. The descriptive statistics of the subject's response (n = 51) in each of the dimensions of school climate are presented in Table 4. These include the mean, standard deviation, and skew values of the continuous variables used in the study. The findings in Table 4 indicate that all the study variables were normally distributed. The skew values all fell within the acceptable range of -1 to +1, except for the dimension of Adaptation

(-1.025) where the value was slightly off from the limit of -1. The findings also show that the mean scores ranged between the values of 61.25% and 76.33%.

Table 4

*Descriptive Statistics of Percentile Scores of 10 Dimensions on Campus Climate*

	Std.						
	N	Minimum	Maximum	Mean	Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Goal Focus	51	24.00%	99.00%	76.33%	22.58%	-.99	.33
Communication	51	16.00%	99.00%	70.25%	25.18%	-.73	.33
Adequacy							
Optimal Power	51	9.00%	99.00%	63.37%	28.78%	-.52	.33
Equalization							
Resource Utilization	51	13.00%	99.00%	73.66%	23.75%	-.96	.33
Cohesiveness	51	7.00%	99.00%	67.50%	25.68%	-.85	.33
Morale	51	10.00%	99.00%	69.88%	25.98%	-.89	.33
Innovativeness	51	12.00%	99.00%	71.56%	24.98%	-.84	.33
Autonomy	51	4.00%	99.00%	61.25%	30.15%	-.55	.33
Adaptation	51	10.00%	99.00%	71.39%	25.75%	-1.02	.33
Problem Solving	51	13.00%	99.00%	67.43%	24.82%	-.62	.33
Adequacy							
Valid N (listwise)	51						

Table 5 summarizes the descriptive statistics of the 10 dimensions of campus climate categorized by the level of student poverty. The categories of student poverty include Group I, Group II, Group III, and Group IV. The findings in Table 5 indicate that the mean percentile scores of each dimension decreased as the level of student poverty increased from Group I to Group IV. This indicates that the campus climate was better in lower levels based on the mean percentile scores. This finding extends across each of the dimensions.

Table 5

*Descriptive Statistics of Percentile Scores of 10 Dimensions on Campus Climate for Each Student Poverty Level*

	SES	Std.		
	Category	Mean	Deviation	N
Goal Focus	Group I	88.92%	15.51%	14
	Group II	82.53%	12.00%	13
	Group III	78.83%	20.09%	12
	Group IV	52.41%	24.37%	12
	Total	76.33%	22.58%	51
Communication	Group I	81.57%	18.59%	14
Adequacy	Group II	75.92%	18.45%	13
	Group III	72.16%	24.19%	12
	Group IV	49.00%	28.61%	12
	Total	70.25%	25.18%	51

Optimal Power	Group I	77.14%	24.87%	14
Equalization	Group II	71.30%	18.99%	13
	Group III	64.50%	28.76%	12
	Group IV	37.58%	27.76%	12
	Total	63.37%	28.78%	51
Resource Utilization	Group I	86.78%	14.96%	14
	Group II	80.69%	14.53%	13
	Group III	74.91%	17.46%	12
	Group IV	49.50%	29.14%	12
	Total	73.66%	23.75%	51
Cohesiveness	Group I	83.78%	16.70%	14
	Group II	71.76%	15.17%	13
	Group III	67.58%	22.05%	12
	Group IV	43.83%	31.00%	12
	Total	67.50%	25.68%	51
Morale	Group I	81.64%	19.40%	14
	Group II	76.46%	14.66%	13
	Group III	71.83%	24.02%	12
	Group IV	47.08%	31.83%	12
	Total	69.88%	25.98%	51

Innovativeness	Group I	83.71%	16.95%	14
	Group II	80.69%	13.73%	13
	Group III	71.25%	23.04%	12
	Group IV	47.83%	29.31%	12
	Total	71.56%	24.98%	51
Autonomy	Group I	79.85%	21.95%	14
	Group II	71.38%	21.92%	13
	Group III	60.33%	26.44%	12
	Group IV	29.50%	26.03%	12
	Total	61.25%	30.15%	51
Adaptation	Group I	90.71%	10.69%	14
	Group II	79.38%	16.21%	13
	Group III	69.58%	20.54%	12
	Group IV	42.00%	25.97%	12
	Total	71.39%	25.75%	51
Problem Solving	Group I	80.64%	19.53%	14
Adequacy	Group II	72.00%	17.91%	13
	Group III	69.41%	20.71%	12
	Group IV	45.08%	27.82%	12
	Total	67.43%	24.82%	51



Resource	Pearson	1	.95**	.94**	.94**	.92**	.91**	.94**
Utilization	Correlation							
	Sig. (2-tailed)		.00	.00	.00	.00	.00	.00
Cohesiveness	Pearson	1	.92**	.92**	.88**	.91**	.94**	
	Correlation							
	Sig. (2-tailed)		.00	.00	.00	.00	.00	
Morale	Pearson		1	.94**	.93**	.88**	.94**	
	Correlation							
	Sig. (2-tailed)			.00	.00	.00	.00	
Innovativeness	Pearson			1	.94**	.90**	.88**	
	Correlation							
	Sig. (2-tailed)				.00	.00	.00	
Autonomy	Pearson				1	.92**	.90**	
	Correlation							
	Sig. (2-tailed)					.00	.00	
Adaptation	Pearson					1	.88**	
	Correlation							
	Sig. (2-tailed)						.00	



Problem	Pearson	1
Solving	Correlation	
Adequacy	Sig. (2-tailed)	

---

*Note.* Correlation is significant at the .01 level (2-tailed).

1 = Goal Focus; 2 = Communication Adequacy; 3 = Optimal Power Equalization;

4 = Resource Utilization; 5 = Cohesiveness; 6 = Morale; 7 = Innovativeness;

8 = Autonomy; 9 = Adaptation; 10 = Problem Solving Adequacy

### **Multivariate Analysis and Results**

**Homogeneity of Covariances.** One assumption of a multiple analysis of variance (MANOVA) is homogeneity of covariances, which is tested using a Box's Test of Equality of Covariance Matrices. Since there were 10 dependent variables of dimensions of campus climate where each was correlated, this resulted to covariation. Covariance is a measure of how much the two variables change together. Based on the results of Table 7, the p-value (0) was less than the level of significance value of .05. This implies that the assumption of homogeneity of covariances was violated. However, this had an effect on the succeeding analysis since the effect of covariances was not investigated. Rather, the individual effect of each dimension of campus climate was investigated.

Table 7

*Results of Box's Test of Equality of Covariance*


---

Matrices	
<hr/>	
Box's M	451.76
F	1.62
df1	165
df2	4642.98
Sig.	.00

---

*Note.* Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + SESCategoryhighmediummoderatelow

**Multivariate Tests**

The multivariate test was the actual result of the one-way MANOVA. The researcher analyzed the Wilk's Lambda results in Table 8 to determine whether the one-way MANOVA was statistically significant. The p-value (sig. = .002) was less than the level of significance value of 0.005. This implies that the percentile score for each of the dimensions was significantly dependent on which level of student poverty a student was categorized. This finding is also true for the intercept values.

Table 8

*Multivariate Tests Results*

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.97	160.29 <sup>a</sup>	10.00	38.00	.00
	Wilks' Lambda	.02	160.29 <sup>a</sup>	10.00	38.00	.00
	Hotelling's Trace	42.18	160.29 <sup>a</sup>	10.00	38.00	.00
	Roy's Largest	42.18	160.29 <sup>a</sup>	10.00	38.00	.00
	Root					
Socioeconomic	Pillai's Trace	.92	1.77	30.00	120.00	.01
Status Category	Wilks' Lambda	.25	2.18	30.00	112.21	.00
	Hotelling's Trace	2.20	2.70	30.00	110.00	.00
	Roy's Largest	1.89	7.56 <sup>b</sup>	10.00	40.00	.00
	Root					

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept + SESCategoryhighmediummoderatelow

**Homogeneity of Variances**

The researcher analyzed the tests of between-subjects effect to determine how the dependent variables differ for the independent variable, or level of student poverty. The homogeneity of the variances was checked using the Levene's test of equality of error variance. The results are presented in Table 9. Homogeneity of variance is achieved if the p-value of the test statistic is greater than the level of significance value of 0.05. With

this, only the dimensions of Goal Focus, Communication Adequacy, Optimal Power Equalization, Autonomy, and Problem Solving Adequacy have homogeneous variances (p-value > 0.05).

Table 9

*Levene's Test of Equality of Error Variances*

	F	df1	df2	Sig.
Goal Focus	2.81	3	47	.04
Communication Adequacy	2.42	3	47	.07
Optimal Power Equalization	1.55	3	47	.21
Resource Utilization	6.46	3	47	.00**
Cohesiveness	5.93	3	47	.00**
Morale	6.13	3	47	.00**
Innovativeness	3.21	3	47	.03**
Autonomy	.55	3	47	.64
Adaptation	4.09	3	47	.01**
Problem Solving Adequacy	2.10	3	47	.11

*Note.* Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + SESCategoryhighmediummoderatelow

The results of the MANOVA for the 10 dependent variances of dimensions of campus climate are presented in Table 10. The MANOVA tested the difference of the dimensions across the different groups of level of student poverty. Based on the data, it was observed that the p-values for each dimensions were significant where the p-values were greater than 0.05. It was concluded that the percentage of economically disadvantaged students had a statistically significant effect on each dimension of campus climate. Thus, for each of the 11 research questions, the null hypothesis was rejected which implies that the percentage of students classified as economically disadvantaged by the Texas Education Agency significantly affected the campus climate, as measured by the OHI. This finding applies to each of the research questions that the 10 components were all affected by students' SES (the groups).

Table 10

*MANOVA Results*

<b>Tests of Between-Subjects Effects</b>						
Type III Sum of						
Source	Dependent Variable	Squares	df	Mean Square	F	Sig.
Corrected Model	Goal Focus	9660.59 <sup>a</sup>	3	3220.19	9.55	.00
	Communication	7675.66 <sup>b</sup>	3	2558.55	5.00	.00
	Adequacy					
	Optimal Power	11469.52 <sup>c</sup>	3	3823.17	5.99	.00
	Equalization					
	Resource Utilization	10078.29 <sup>d</sup>	3	3359.43	8.70	.00
	Cohesiveness	10671.49 <sup>e</sup>	3	3557.16	7.49	.00

	Morale	8782.26 <sup>f</sup>	3	2927.42	5.50	.00
	Innovativeness	9908.96 <sup>g</sup>	3	3302.98	7.29	.00
	Autonomy	18289.22 <sup>h</sup>	3	6096.40	10.53	.00
	Adaptation	16463.30 <sup>i</sup>	3	5487.76	15.44	.00
	Problem Solving	8755.46 <sup>j</sup>	3	2918.48	6.22	.00
	Adequacy					
Intercept	Goal Focus	290896.10	1	290896.10	863.31	.00
	Communication	246500.10	1	246500.10	482.20	.00
	Adequacy					
	Optimal Power	199249.45	1	199249.45	312.65	.00
	Equalization					
	Resource Utilization	270468.43	1	270468.43	700.65	.00
	Cohesiveness	226253.00	1	226253.00	476.57	.00
	Morale	243607.00	1	243607.00	458.40	.00
	Innovativeness	255117.03	1	255117.03	563.05	.00
	Autonomy	184488.32	1	184488.32	318.94	.00
	Adaptation	251873.86	1	251873.86	708.66	.00
	Problem Solving	226543.35	1	226543.35	482.90	.00
	Adequacy					

SES Category	Goal Focus	9660.59	3	3220.19	9.55	.00**
	Communication	7675.66	3	2558.55	5.00	.00**
	Adequacy					
	Optimal Power	11469.52	3	3823.17	5.99	.00**
	Equalization					
	Resource Utilization	10078.29	3	3359.43	8.70	.00**
	Cohesiveness	10671.49	3	3557.16	7.49	.00**
	Morale	8782.26	3	2927.42	5.50	.00**
	Innovativeness	9908.96	3	3302.98	7.29	.00**
	Autonomy	18289.22	3	6096.40	10.53	.00**
	Adaptation	16463.30	3	5487.76	15.44	.00**
	Problem Solving	8755.46	3	2918.48	6.22	.00**
	Adequacy					

Error	Goal Focus	15836.74	47	336.95
	Communication	24026.01	47	511.19
	Adequacy			
	Optimal Power	29952.40	47	637.28
	Equalization			
	Resource Utilization	18143.04	47	386.02
	Cohesiveness	22313.24	47	474.75
	Morale	24977.02	47	531.42
	Innovativeness	21295.54	47	453.09
	Autonomy	27186.45	47	578.43
	Adaptation	16704.85	47	355.42
	Problem Solving	22049.04	47	469.12
	Adequacy			



Total	Goal Focus	322663.00	51
	Communication	283425.00	51
	Adequacy		
	Optimal Power	246242.00	51
	Equalization		
	Resource Utilization	304987.00	51
	Cohesiveness	265421.00	51
	Morale	282820.00	51
	Innovativeness	292430.00	51
	Autonomy	236836.00	51
	Adaptation	293107.00	51
	Problem Solving	262701.00	51
	Adequacy		

Corrected Total	Goal Focus	25497.33	50
	Communication	31701.68	50
	Adequacy		
	Optimal Power	41421.92	50
	Equalization		
	Resource Utilization	28221.33	50
	Cohesiveness	32984.74	50
	Morale	33759.29	50
	Innovativeness	31204.51	50
	Autonomy	45475.68	50
	Adaptation	33168.15	50
	Problem Solving	30804.51	50
	Adequacy		

### Post Hoc Test

The importance of a post hoc test on the MANOVA analysis is important to note due to the need to make an alpha correction to account for multiple ANOVAs being run. In the MANOVA analysis, the hypothesis that there is statistical significance at  $p < 0.05$  was accepted. The researcher followed up these significant ANOVAs with Tukey's HSD post hoc tests which are a multiple comparison. The post hoc test determined the objective to determine if at what point of SES population group (Group I, Group II, Group III, and Group IV) the differences of percentile scores for each dimension became

significant. The results for each post hoc test for each dependent variable are shown in Table 11.

Table 11 illustrates that for mean percentile scores of the dimensions of Goal Focus, the percentile score was significantly different between the Group I and Group IV (.000), Group II and Group IV (.001), and Group III and Group IV (.005), but not with the other pair group levels based on percentage of economically disadvantaged students. For Communication Adequacy, there was a significant difference between percentile scores of Group I and Group IV (.003), Group II and Group IV (.023). For Optimal Power Equalization, the difference was significant only between Group I and Group IV (.001) and Group II and Group IV (.009). For Resource Utilization, the difference was between Group I and Group IV (.000), Group II and Group IV (.001), and Group III and Group IV (.014). For the percentile score of Cohesiveness, these included Group I and Group IV (.000), Group II and Group IV (.013), and Group III and Group IV (.049). For Morale Dimension, the difference was significant between Group I and Group IV (.002) and Group II and Group IV (.013). For Innovativeness, these included Group I and Group IV (.001), Group II and Group IV (.002), and Group III and Group IV (.046). For Autonomy, these included Group I and Group IV (.000), Group II and Group IV (.000), and Group III and Group IV (.015). For Adaptation, these included Group I and Group III (.032), Group I and Group IV (.000), Group II and Group IV (.000), and Group III and Group IV (.004). Lastly, for Problem Solving Adequacy, these included Group I and Group IV (.001), Group II and Group IV (.016), and Group III and Group IV (.040).

As a summary, the difference of the percentile score on every dimension of campus climate was significantly different mostly between the Group I and Group IV

category of student poverty, Group II and Group IV category of student poverty, and Group III and Group IV category of student poverty.

Table 11

*Tukey HSD Post Hoc Results*

Dependent Variable	SES Category	SES Category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Interval	
						Lower Bound	Upper Bound
Goal Focus	Group I	Group II	6.39%	7.07%	.803	-12.44%	25.22%
		Group III	10.09%	7.22%	.507	-9.13%	29.32%
		Group IV	36.51% <sup>*</sup>	7.22%	.000**	17.27%	55.74%
	Group II	Group III	3.70%	7.34%	.958	-15.86%	23.27%
		Group IV	30.12% <sup>*</sup>	7.34%	.001**	10.55%	49.69%
	Group III	Group IV	26.41% <sup>*</sup>	7.49%	.005**	6.45%	46.37%
Communication Adequacy	Group I	Group II	5.64%	8.70%	.916	-17.54%	28.84%
		Group III	9.40%	8.89%	.717	-14.28%	33.09%
		Group IV	32.57% <sup>*</sup>	8.89%	.003**	8.88%	56.26%
	Group II	Group III	3.75%	9.05%	.976	-20.35%	27.86%
		Group IV	26.92% <sup>*</sup>	9.05%	.023**	2.81%	51.02%
	Group III	Group IV	23.16%	9.23%	.071	-1.41%	47.75%

Optimal Power Equalization	Group I	Group II	5.83%	9.72%	.932	-20.06%	31.73%
		Group III	12.64%	9.93%	.584	-13.80%	39.09%
		Group IV	39.55% <sup>*</sup>	9.93%	.001**	13.10%	66.01%
	Group II	Group III	6.80%	10.10%	.907	-20.10%	33.72%
		Group IV	33.72% <sup>*</sup>	10.10%	.009**	6.80%	60.64%
	Group III	Group IV	26.91%	10.30%	.056	-.53%	54.36%
Resource Utilization	Group I	Group II	6.09%	7.56%	.852	-14.06%	26.24%
		Group III	11.86%	7.72%	.425	-8.71%	32.45%
		Group IV	37.28% <sup>*</sup>	7.72%	.000**	16.69%	57.87%
	Group II	Group III	5.77%	7.86%	.883	-15.17%	26.72%
		Group IV	31.19% <sup>*</sup>	7.86%	.001**	10.24%	52.14%
	Group III	Group IV	25.41% <sup>*</sup>	8.02%	.014**	4.05%	46.77%
Cohesiveness	Group I	Group II	12.01%	8.39%	.486	-10.33%	34.36%
		Group III	16.20%	8.57%	.246	-6.62%	39.03%
		Group IV	39.95% <sup>*</sup>	8.57%	.000**	17.12%	62.78%
	Group II	Group III	4.18%	8.72%	.963	-19.04%	27.41%
		Group IV	27.93% <sup>*</sup>	8.72%	.013**	4.70%	51.16%
	Group III	Group IV	23.75% <sup>*</sup>	8.89%	.049**	.05%	47.44%

Morale	Group I	Group II	5.18%	8.87%	.937	-18.46%	28.82%
		Group III	9.80%	9.06%	.702	-14.34%	33.96%
		Group IV	34.55% <sup>*</sup>	9.06%	.002**	10.40%	58.71%
	Group II	Group III	4.62%	9.22%	.958	-19.95%	29.20%
		Group IV	29.37% <sup>*</sup>	9.22%	.013**	4.79%	53.95%
	Group III	Group IV	24.75%	9.41%	.054	-.31%	49.81%
Innovativeness	Group I	Group II	3.02%	8.19%	.983	-18.81%	24.85%
		Group III	12.46%	8.37%	.452	-9.83%	34.76%
		Group IV	35.88% <sup>*</sup>	8.37%	.001**	13.57%	58.18%
	Group II	Group III	9.44%	8.52%	.686	-13.25%	32.13%
		Group IV	32.85% <sup>*</sup>	8.52%	.002**	10.16%	55.55%
	Group III	Group IV	23.41% <sup>*</sup>	8.69%	.046**	.27%	46.56%
Autonomy	Group I	Group II	8.47%	9.26%	.797	-16.19%	33.14%
		Group III	19.52%	9.46%	.180	-5.67%	44.72%
		Group IV	50.35% <sup>*</sup>	9.46%	.000**	25.15%	75.55%
	Group II	Group III	11.05%	9.62%	.662	-14.59%	36.69%
		Group IV	41.88% <sup>*</sup>	9.62%	.000**	16.24%	67.52%
	Group III	Group IV	30.83% <sup>*</sup>	9.81%	.015**	4.68%	56.98%

Adaptation	Group I	Group II	11.32% <sup>*</sup>	7.26%	.411	-8.01%	30.66%
		Group III	21.13% <sup>*</sup>	7.41%	.032**	1.37%	40.88%
		Group IV	48.71% <sup>*</sup>	7.41%	.000**	28.96%	68.46%
	Group II	Group III	9.80%	7.54%	.568	-10.29%	29.90%
		Group IV	37.38% <sup>*</sup>	7.54%	.000**	17.28%	57.48%
	Group III	Group IV	27.58% <sup>*</sup>	7.69%	.004**	7.08%	48.08%
Problem	Group I	Group II	8.64%	8.34%	.729	-13.57%	30.86%
Solving		Group III	11.22%	8.52%	.557	-11.46%	33.92%
Adequacy		Group IV	35.55% <sup>*</sup>	8.52%	.001**	12.86%	58.25%
	Group II	Group III	2.58%	8.67%	.991	-20.51%	25.67%
		Group IV	26.91% <sup>*</sup>	8.67%	.016**	3.82%	50.01%
	Group III	Group IV	24.33% <sup>*</sup>	8.842%	.040**	.78%	47.88%

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Based on observed means.

The error term is Mean Square (Error) = 469.129.

\* The mean difference is significant at the .05 level.

### **Multivariate Linear Regression**

Tables 12 to 21 summarize the multivariate regression results for each of the 10 dimensions of the campus climate, as measured by the OHI. The regression results determined which group levels of student poverty were significant predictors of the percentile score for each of dimension of campus climate. Based from the results of the statistical score, only the percentile scores of Group IV were significant where the p-value was less than the level of significance value (significant predictor are highlighted with \*\*). This was true for all of the dimensions, except for the dimension of Adaptation

where the p-value of Group 3 was also significant. The results indicated that scores of the percentage of students classified as economically disadvantaged by the Texas Education Agency in the Group 4 level of student poverty were the significant predictors of the dimension scores of campus climate. Results for all domains indicated a directional difference by group based on student poverty level. In other words, as the level of students from poverty increased, the scores in each domain decreased. The regression model equations for each of the 10 dimensions of campus climate are enumerated as follows:

1. Goal Focus =  $.8893 - .3651X_{\text{group } 4}$
2. Communication Adequacy =  $.8157143 - .32571 X_{\text{group } 4}$
3. Power Equalization =  $.7714 - .3956 X_{\text{group } 4}$
4. Resource Utilization =  $.8679 - .3729 X_{\text{group } 4}$
5. Cohesiveness =  $.8379 - .3995 X_{\text{group } 4}$
6. Morale =  $.8164 - .3456 X_{\text{group } 4}$
7. Innovativeness =  $.8371 - .3588 X_{\text{group } 4}$
8. Autonomy =  $.7986 - .5036 X_{\text{group } 4}$
9. Adaptation =  $.9071 - .2113 X_{\text{group } 3} - .4871 X_{\text{group } 4}$
10. Problem Solving Adequacy =  $.8064 X_{\text{group } 3} - .3556 X_{\text{group } 4}$

These sets of equations can be used to predict the percentile scores of a particular dimension. Obviously, the only predicting scores were that of Group IV and Group III for Adaptation. This implies that the dimension scores were mostly affected by Group IV.



Table 12

*Regression Results for Goal Focus Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Goal Focus						
group						
II	-.0639011	.0707018	-0.90	0.371	-.2061347	.0783325
III	-.1009524	.0722131	-1.40	0.169	-.2462264	.0443216
IV	-.3651191	.0722131	-5.06	0.000**	-.5103931	-.219845
_cons	.8892857	.0490591	18.13	0.000**	.7905915	.98798

Table 13

*Regression Results for Communication Adequacy Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Communication Adequacy						
II	-.0564835	.087084	-0.65	0.520	-.2316738	.1187068
III	-.0940476	.0889455	-1.06	0.296	-.2729829	.0848877
IV	-.3257143	.0889455	-3.66	0.001**	-.5046496	-.146779
_cons	.8157143	.0604266	13.50	0.000**	.6941517	.9372769

Table 14

*Regression Results for Power Optimal Equalization Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Optimal Power Equalization						
II	-.0583516	.0972329	-0.60	0.551	-.2539589	.1372556
III	-.1264286	.0993114	-1.27	0.209	-.3262172	.0733601
IV	-.3955952	.0993114	-3.98	0.000**	-.5953839	-.1958066
_cons	.7714286	.0674688	11.43	0.000**	.6356989	.9071583

Table 15

*Regression Results for Resource Utilization Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Resource Utilization						
II	-.0609341	.075675	-0.81	0.425	-.2131725	.0913044
III	-.1186905	.0772926	-1.54	0.131	-.2741832	.0368023
IV	-.3728571	.0772926	-4.82	0.000**	-.5283499	-.2173644
_cons	.8678571	.05251	16.53	0.000 **	.7622206	.9734937

Table 16

*Regression Results for Cohesiveness Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Cohesiveness						
II	-.1201648	.0839225	-1.43	0.159	-.2889952	.0486655
III	-.1620238	.0857165	-1.89	0.065	-.3344632	.0104156
IV	-.3995238	.0857165	-4.66	0.000**	-.5719632	-.2270844
_cons	.8378571	.0582329	14.39	0.000**	.7207077	.9550066

Table 17

*Regression Results for Morale Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Morale						
II	-.0518132	.0887907	-0.58	0.562	-.2304371	.1268107
III	-.0980952	.0906888	-1.08	0.285	-.2805375	.084347
IV	-.3455952	.0906888	-3.81	0.000**	-.5280375	-.163153
_cons	.8164286	.0616109	13.25	0.000**	.6924835	.9403737

Table 18

*Regression Results for Innovativeness Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Innovativeness						
II	-.0302198	.0819864	-0.37	0.714	-.1951551	.1347155
III	-.1246429	.0837389	-1.49	0.143	-.2931039	.0438182
IV	-.3588095	.0837389	-4.28	0.000	-.5272705	-.1903485
_cons	.8371429	.0568894	14.72	0.000**	.7226961	.9515896

Table 19

*Regression Results for Autonomy Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
<hr/>						
Autonomy						
group						
II	-.0847253	.0926347	-0.91	0.365	-.2710822	.1016317
III	-.1952381	.0946149	-2.06	0.045	-.3855787	-.0048975
IV	-.5035714	.0946149	-5.32	0.000**	-.693912	-.3132309
_cons	.7985714	.0642782	12.42	0.000**	.6692605	.9278824

Table 20

*Regression Results for Adaptation Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Adaptation						
II	-.1132967	.0726137	-1.56	0.125	-.2593766	.0327832
III	-.2113095	.0741659	-2.85	0.006**	-.3605121	-.0621069
IV	-.4871429	.0741659	-6.57	0.000**	-.6363455	-.3379403
_cons	.9071429	.0503858	18.00	0.000**	.8057797	1.008506

Table 21

*Regression Results for Problem Solving Adequacy Dimension*

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Problem Solving Adequacy						
group						
II	-.0864286	.0834242	-1.04	0.305	-.2542565	.0813993
III	-.1122619	.0852075	-1.32	0.194	-.2836774	.0591535
IV	-.3555953	.0852075	-4.17	0.000**	-.5270107	-.1841798
_cons	.8064286	.0578871	13.93	0.000 **	.6899747	.9228825

**Summary of Findings**

The research questions posed in this study sought to determine the level of influence that student body economic status had over school climate. Questions and directional hypothesis were formed for each of the 10 dimensions of organizational health

as well as composite organizational health. The results of the study and the research hypotheses are summarized below:

Directional Research Hypothesis One: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Goal Focus dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Two: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Communication dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Three: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Optimal Power Equalization dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Four: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Resource Utilization dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Five: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Cohesiveness dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Six: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Morale dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Seven: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Innovativeness dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Eight: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Autonomy dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Nine: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Adaptation dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Ten: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas Education Agency did significantly affect the Problem Solving Adequacy dimension of campus climate, as measured by the OHI.

Directional Research Hypothesis Eleven: The hypothesis was accepted. The percentage of students classified as economically disadvantaged by the Texas

Education Agency did significantly affect the Composite Organizational Health of the campus, as measured by the OHI.

### **Final Summary of Research Findings**

The results of the MANOVA, Tukey post hoc, and linear regression indicated that school climate was significantly affected by students' socioeconomic status. All 10 dimensions of school climate, as well as the composite score, showed significance at  $p < .05$  level. A linear directional relationship existed between the dependent and independent variable in all groups. Group IV (i.e., schools with greater than 70% of students classified as economically disadvantaged) were at the greatest risk to experience school climate challenges in all dimensions.



## **CHAPTER FIVE**

### **DISCUSSION**

The purpose of this study was to determine the relationship between student poverty levels and school climate. The number of students from poverty across Texas is increasing at a dramatic rate, and the achievement gap for these students continues to widen (Texas Education Agency, 2010). Campus climate has been indicated as a leading indicator for academic success (Hoy et al., 2006); however, previous researchers have indicated that schools with large percentages of students from poverty are at risk of experiencing distressed school climate (Jones, 2006).

This quantitative study was designed to determine if the population of students from poverty affect school climate and to also specifically identify which of the 10 dimensions of organizational health were most impacted. A large, suburban, Texas school district provided masked results from the 2010 administration of the OHI survey for analysis. The 51 campuses surveyed were stratified into four groups based on percentages of economically disadvantaged students.

The results were analyzed using a MANOVA, Tukey's post hoc, and multivariate linear regression to determine if relationships existed between school climate and the level of economically disadvantaged students within the sample population of schools. The results of the MANOVA indicated that all 10 components of organizational health, as well as the composite campus climate score, were found to be successful. Post hoc analysis indicated that campuses in Group IV, or with a population of greater than 70% of economically disadvantaged students, were most likely to experience a negatively affected school climate. The results of the linear regression showed that a negative

directional relationship existed between all dimensions of school health in all four tested groups.

## **Conclusions**

Student poverty level had a linear effect on school climate in all four groups. This was highlighted by the results of the linear regression analysis. Results of the MANOVA and Tukey post hoc analysis indicated that student poverty level had a significant impact on school climate in all 10 dimensions of organizational health, as well as the composite school climate score. It was also apparent that a “tipping point” of student poverty levels does exist. This phenomenon was discussed as far back as the 1960s by Coleman (Viadero, 2006). Schools in Group IV, or campuses serving greater than 70% of students from poverty, showed statistically significant decreases in all 10 organizational health dimensions when compared to Groups I and II. Additionally, Groups III and IV showed significant differences in seven of the ten domains. Based on these results, it may be concluded that schools with greater than 40% student poverty levels are likely to experience some effects to school climate while those with greater than 70% student poverty levels have exceeded the “tipping point,” and the negative effects must be mitigated.

The results of this study highlighted the significant impact of student poverty level on school climate. However, all hope is not lost for creating a positive school climate at a campus working with a majority of students from poverty. Schools can be the exception to this trend (Hoy et al., 2006). The raw and descriptive data provided in the study highlight this.

Based on group means, statistically significant differences were noted by the researcher. However, an analysis of the raw data clearly identified “outlier” campuses in Groups III and IV. Even in the relatively small study sample, some campuses found ways to overcome the challenges and scored much higher than their peers. In fact, an analysis of the ranges and standard deviations for all groups indicated that there was much more variability in Groups III and IV across all dimensions as compared to Groups I and II.

### **Recommendations for Principals and Superintendents**

**Principals.** Serving as the principal of a school that serves a majority of students from poverty creates many challenges. Typically, these schools experience standardized test scores that fall far behind schools with a more affluent student body (U.S. Department of Education, 1999), and the task of reaching students is more difficult when working with low SES students (Caldas & Bankston, 1997; Epstein, 1987; Sui-Chu & Willms, 1996). The task of leading a campus community through these obstacles is the challenge facing principals.

Based on the data obtained from the survey, Group IV schools scored the lowest in the dimensions of Autonomy (29%), Optimal Power Equalization (37%), Adaptation (42%), and Cohesion (43%). This indicated that the campus leadership at these stressful campuses became micromanagers. This is understandable considering the high stakes testing and accountability system that is currently in place. This plan may lead to short term success; however, sustained student achievement and campus success requires a positive campus climate (Hoy et al., 2006; Stewart, 2008).

Campus climate plays a key role in recruiting and retaining an effective staff of teachers. Teacher turnover has a negative effect on student educational outcomes, and

this is magnified at campuses that serve students from poverty (Ingersoll, 2004; Martinez-Garcia & Slate, 2009). The one person that has been identified as able to significantly affect the campus climate and turnover rate is the campus principal (Fredricks, 2002). By adjusting their leadership behaviors, the campus principal can change the campus climate, engage and inspire the teachers, and create a successful academic program that has the potential to be long lasting.

Based on the results of this research and previous studies, the following is a list of behaviors, which if followed by principals at high poverty schools, may result in improved campus climate and student achievement:

- Provide opportunities for meaningful and effective professional development (Sun, 2004; U.S. Department of Education, 1999);
- Promote an atmosphere of teamwork and collegiality (Fredricks, 2002; Richards, 2003; Sun, 2004);
- Be visible on campus and aware of the “real world” of what occurs on campus (Fredricks, 2002; Galen, 2005);
- Praise and recognize the work of teachers (Fredricks, 2002; Richards, 2003; Sun, 2004);
- Treat the teachers as professionals. Empower teachers to provide input and make decisions (Fredricks, 2002; Richards, 2003; Sun, 2004);
- Be an effective two-way communicator with teachers (Galen, 2005);
- Enlist support and involvement from parents and the community (Fredricks, 2002; Grogan, 2004; U.S. Department of Education, 1999);

- Build positive and meaningful relationships with teachers (Richards, 2003; Sun, 2004); and
- Model exemplary behavior, including a deep love and passion for the students and their success (Richards, 2003; Sun, 2004).

To summarize the effective behaviors, one can look back on Hallinger's (2003) work with leadership modes. While instructional and transformational leadership are both associated with positive student outcomes, this list of behaviors indicates that the principal must be a transformational leader (Hallinger, 2003; Leithwood & Levin, 2010). Based on this theory, the transformational leader works to create a vision, mutual goals, individualized support, intellectual stimulation, cultural transformation, high expectations, and modeling (Hallinger, 2003; Leithwood et al., 2004). Transformational leadership behaviors are grounded in establishing trusting and mutual relationships with all campus stakeholders (Hallinger, 2003; Jung, Yammarino & Lee, 2009; Nemanich & Vera, 2009). It is important for the campus principals of high poverty schools to have a firm grasp on pedagogy and curriculum, but it is not enough (Donaldson et al., 2009). The principal must also be highly proficient with interpersonal and communicative skills.

**Superintendents.** The findings of this work may be useful to school superintendents as well as campus leadership. District leaders play a critical role in creating a campus environment that fosters successful students.

The most important impact superintendents have on the campus level is the hiring of the individual that has the greatest impact on campus climate, teacher retention, and teacher efficacy—the building principal (Fredricks, 2002). Understanding that campuses with a majority of students from poverty are likely to suffer school climate and academic

achievement deficiencies, the principals of these campuses must be prepared and enabled to do the job. The special challenges presented on these campuses dictate that the principals must have solid pedagogical knowledge, but beyond that, they must be effective communicators gifted with interpersonal skills (Donaldson et al., 2009). Superintendents must work to recruit these great leaders and create an environment that encourages districts' best principals to want to work at the most challenging schools. This may need to take the form of financial incentives.

Superintendents need to take note of the "tipping point" indicated in this work. School climate is affected when the majority of students come from poverty, but when the percentage of low SES students eclipses 70%, significant challenges are created. This is not a call for bussing; as school boundaries are redrawn, this fact should be considered. If possible, the creation of schools with lower ratios of poverty students could benefit those students from poverty without harming their middle class peers (Borman & Dowling, 2010).

Finally, superintendents that engage in the OHI survey in their respective districts must consider the results of this work as they analyze campus data. If the OHI results are factored into principals' evaluations, a sliding scale must exist to account for student poverty. This helps to "level the playing field" as principals are compared with each other, and it may also encourage successful principals to accept more challenging positions without being perceived as failures if their OHI results declined from the previous assignment.

## **Instrumentation**

The OHI is a valid and reliable source for measuring school climate and has been in use for over three decades (Johnstone, 1988). The results provided to district and campus leadership allow for self-reflection and action plans. Currently, the OHDDC collects all of the answer documents and converts the raw scores into percentiles, comparing a campus's results with similar schools based on school type. Currently, the OHDDC has established databases and norms for elementary schools, middle schools, junior high schools, comprehensive high schools, specialty schools, and central office units (OHDDC, 2011).

Based on the findings of this study, the current databases may need to be adjusted to account for the socioeconomic status of the campuses. The socioeconomic status of students has been shown to significantly affect the results of the inventory and should be accounted for in the conversion of the data. This adjustment will benefit participants on both ends of the economic spectrum.

The schools with very few students of poverty, Group I in this study, received limited feedback in the current version of the OHI. All schools in Group I scored very high in all 10 dimensions with a small standard deviation and range. Group I principals may be unable to see true weaknesses on their campuses due to this lack of variance. If schools of similar demographics were compared, problems at the more affluent campuses would become more apparent and could be addressed to improve the academic environment and student achievement.

The more poverty stricken campuses could also benefit from a redefined scoring structure. Due to the significant influence of student poverty level on each of the

dimensions, the current system is likely to show that a high poverty school is weak in all 10 dimensions. Compared to similar schools, the campus' strengths and weaknesses would become more apparent. This would produce more prescriptive and precise action plans for the principals and campuses to address the improvement of campus climate.

### **Recommendations for Future Studies**

This work was a small scale exploration into the relationship between student poverty level and school climate. The results suggested a significant relationship, and based on the work of Hoy et al., (2006) linking school climate and student achievement, further research is warranted regarding the added variable of student poverty level.

Future investigation would be beneficial with the following considerations:

1. Replicate the current study using a larger sample size and multi-year data to validate the current findings.
2. Create a similar study within a district that will allow unmasked OHI data to be used. Add the additional variable of student achievement to increase understanding of the relationship between school climate, student poverty level, and student achievement.
3. Create a mixed methods study using unmasked data. Once analysis has been completed, identify outlying campuses that show more positive results than campuses with similar poverty levels. Using qualitative techniques, study the characteristics of these high performing campuses.



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APPENDIX A

UNIVERSITY OF HOUSTON RESEARCH CONSENT FORM

UNIVERSITY of **HOUSTON**  
DIVISION OF RESEARCH

November 17, 2011

Mr. Curtis Null  
c/o Dr. Steven Busch  
Curriculum and Instruction

Dear Mr. Curtis Null,

Based upon your request for exempt status, an administrative review of your research proposal entitled "The Impact of Economically Disadvantaged Student Population on School Climate" was conducted on November 8, 2011.

At that time, your request for exemption under **Category 4** was approved pending modification of your proposed procedures/documents.

The changes you have made adequately respond to the identified contingencies. As long as you continue using procedures described in this project, you do not have to reapply for review. \* Any modification of this approved protocol will require review and further approval. Please contact me to ascertain the appropriate mechanism.

If you have any questions, please contact Alicia Vargas at (713) 743-9215.

Sincerely yours,



Anne Sherman  
Director, Research Compliance

\*Approvals for exempt protocols will be valid for 5 years beyond the approval date. Approval for this project will expire **October 1, 2016**. If the project is completed prior to this date, a final report should be filed to close the protocol. If the project will continue after this date, you will need to reapply for approval if you wish to avoid an interruption of your data collection.

Protocol Number: 12110-EX



APPENDIX B  
ISD RESEARCH CONSENT FORM

INDEPENDENT SCHOOL DISTRICT  
*Connected • Committed • Committed*

*Deputy Superintendent*

September 19, 2011

RE: Permission to Conduct Research Study in [REDACTED] Independent School District

To Whom It May Concern:

Curtis Null, a Doctoral student at the University of Houston, is requesting permission from the [REDACTED] Independent School District to study the effects of student economic status on campus climate.

[REDACTED] ISD grants permission for Curtis Null to conduct this study as outlined in the proposal. The following procedures will be followed in providing Organizational Health Inventory (OHI) results and completing this study in [REDACTED] Independent School District.

- The study will make no identifiable references to the specific school district, school, or employees involved in this research.
- The results of the 2010 OHI survey will be provided to the researcher, no additional surveys will be conducted with [REDACTED] ISD employees.
- The unmasked results of the OHI will be masked by the Deputy Superintendent. Data will be provided to the researcher stratified into 4 groups based on student population to further remove any identifying markers for each individual campus's results.
- The research study will be shared with [REDACTED] ISD when completed.

Should you have any questions or concerns, please feel free to contact me.

Respectfully,

[REDACTED]  
 Deputy Superintendent of Schools  
 [REDACTED]

