ABSTRACT

Title of Dissertation:	THE EFFECT OF SCHOOL CLIMATE (STUDENT AND TEACHER ENGAGEMENT) ON STUDENT PERFORMANCE
	Kenneth L. Marcus, Doctor of Education, 2016
Directed By:	Dr. Thomas Davis, Assistant Professor, Education Policy and Leadership, Department of Teaching and Learning, Policy and Leadership

        This quantitative research study was designed to compute

correlations/relationships of student engagement and student achievement of fifth grade

students. Secondary information was collected on the relationship of FARMS, type of

school, hope, and well-being on student achievement. School leaders are charged with

ensuring that students achieve academically and demonstrate their ability by meeting

identified targets on state and district mandated assessments. Due to increased pressure

to meet targets, principals implement academic interventions to improve student learning

and overlook the benefits of a positive school climate. This study has provided

information on the impact of school climate on student achievement. To conduct this

study, the researcher collected two sets of public fifth grade data (Gallup Survey student

engagement scores and DSA reading, mathematics, and science scores) to determine the

relationship of student performance and school climate. Secondary data were also

collected on teacher engagement and the percentage of students receiving FARMS to

determine the effect on students. The findings from this study reinforced the belief that

school climate can have a positive effect on student achievement. This study contributed

quantitative data about the relationship between school climate and school achievement.

THE EFFECT OF SCHOOL CLIMATE (STUDENT AND TEACHER
ENGAGEMENT) ON STUDENT PERFORMANCE

by

Kenneth Marcus

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INTRODUCTION

School climate is referred to as "the feelings and attitudes that are elicited by a school's environment" (Loukas, 2007, p.1). Most researchers agree that it is a multidimensional construct that includes physical, social, and academic dimensions.

The physical dimension includes:

- Appearance of the school building and its classrooms;

- School size and ratio of students to teachers in the classroom;

- Order and organization of classrooms in the school;

- Availability of resources; and

- Safety and comfort.

The social dimension includes:

- Quality of interpersonal relationships between and among students, teachers, and staff;

- Equitable and fair treatment of students by teachers and staff;

- Degree of competition and social comparison between students; and

- Degree to which students, teachers, and staff contribute to decision-making at the school.

The academic dimension includes:

- Quality of instruction;

- Teacher expectations for student achievement; and

- Monitoring student progress and promptly reporting results to students and parents." (Loukas, 2007, p.1)

Gallup has created a tool to measure the school climate perceptions of teachers and students. To determine teachers' and students' perspective of school climate, a survey was administered and an engagement score was identified for each school. Survey questions used to determine teacher engagement asked teachers questions related to encouragement and feedback from administrators, which address Loukas' definition of school climate. The Gallup student survey also addresses Loukas' definition of school climate by asking questions that provide mean scores in the areas of hope, well-being, and engagement. Hope aligns with the social dimension of the school climate definition in that it shows if students are hopeful, stuck, or discouraged. Engagement aligns with the academic dimension in that it shows how involved and enthusiastic students are about school and with the teaching and learning progress. Well-being aligns with the social and physical dimension in that it measures physical and social well-being components (Gallup, 2012). Results from the teacher and student school climate survey were used to determine the climate of 124 schools in a Middle-Atlantic school system.

The school community is charged with ensuring that students meet academic targets set by the district, state, and federal governments. Many of these government agencies have established targets focused exclusively on students' achievement in academic programs (reading, mathematics, and science). Schools, in turn, focus on the academic targets established by government agencies so that they can meet them and be seen as successful. Administrators within these districts work tenaciously to meet the established requirements. To do so, they follow the lead of academic target-setting agencies and often create improvement plans that focus solely on the academic program, without addressing school climate and the level of student engagement (Gordon, 2006).

Student engagement is an important aspect of school climate because it aligns with the academic dimension and can be a predictor of how students will perform in school (Cohen, McCabe, Michelli, & Pickeral, 2009). While focusing on the "academic" child is important, some researchers and policy makers are of the belief that good instruction by highly qualified teachers is not enough to ensure that all students have an opportunity to succeed if the multidimensional components of school climate are not considered (Adelman & Taylor, 2011).

Educational Psychologist (Sinatra, Heddy & Lombardi, January-March, 2015, *50*:1) devoted an entire issue to the topic of student engagement, a dimension of school climate; they consider it to be one of the "hottest" educational psychology research topics because of the positive benefits that occur when students are engaged (Sinatra et al., 2015). When schools focus exclusively on the academic child, students are not afforded the benefits of student engagement, which Sinatra et al. (2015) described as the "Holy Grail" of learning.

There is a large body of research that acknowledges that there is a relationship between a positive school climate and positive student social behaviors (Horner, Sugai, & Anderson, 2010). Students who attend a school with a positive climate are more likely to enjoy school, which generally leads to more attentive and engaged students (Sinatra, Heddy, & Lombardi, 2015). "A positive climate can have a beneficial impact on students and staff, a negative climate can be another barrier to learning and teaching" (Adelman & Taylor, 2011, p. 13). A positive school climate can have profound outcomes such as: increased academic achievement and student interest and involvement (engagement) in

the classroom, and a reduction in the number of students dropping out of schools in urban areas (Mehta, Cornell, Fan, & Gregory, 2013); as a result, the topic is often researched.

In an effort to meet academic targets, principals such as the researcher have focused extensively on the academic program even though research shows that school and classroom climate should be considered when discussing school improvement because of the profound influence on behavior and learning (Adelman & Taylor, 2011).

Significance of the Study

In the Middle-Atlantic state where this study was done, Safe and Supportive Schools (MDS3), Positive Behaviors and Interventions (PBIS), and the Gallup Cooperation are programs currently in use and supported by the state department of education to positively impact school climate. The programs focus on various dimensions of school climate. The first program, MDS3, has components of all three dimensions and addresses high school safety, student engagement, and school environment. The second program, PBIS, focuses more on the social dimension. It addresses school climate by promoting positive student and adult relationships. The third effort is led by the Gallup Research Corporation, known for administering opinion polls. In cooperation with the state department of education, it has begun administering a student poll to give students a vote and to collect data on school climate and student engagement.

The researcher felt that it would be extremely helpful to pull together two data sources, Gallup data and District School Assessment (DSA) data, in order to demonstrate the impact of engagement on student performance and standardized test scores. Given the pressures of meeting identified benchmarks, it was thought to be helpful for principals

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to see if there is a positive correlation between hope, well-being, school engagement and DSA scores in reading, mathematics, and science. Because leaders may not understand the impact of a positive school climate, it often takes a "back seat" to the academic subjects (Christle & Schuster, 2003). The comparison of Gallup survey results (Gallup Student Poll, 2012-2013) and DSA scores might provide principals with useful information that would lead them to devote time and resources to school climate as well as to the academic program. The school board of the district being used in this study has publicly stated that solely focusing on academics, without considering school climate, would be a detriment to the child (Board of Education Video, 2014). The researcher felt that investigating the relationship between Gallup survey data and DSA data could provide additional information to support the board's statement. The information provided by the study might highlight the benefit that focusing on school climate would have on the academic program. It is important that school decision makers see data demonstrating the relationship of school climate and student performance.

There is a plethora of information on school climate; however, it does not show a strong correlation between students' perception of the climate and their achievement on standardized assessments. This study will provide leaders with data to support the belief that a welcoming school climate positively impacts student achievement (Cohen, McCabe, Michelli, & Pickeral, 2009). This study proposed to fill a gap in the information by studying the relationship between standardized test scores of schools with various engagement ratings.

Purpose of the Study

The purpose of this study was to compute correlations that reflect the relationships of student and teacher engagement and the performance of fifth grade students. In addition the research looked at the influence of poverty, hope, and well-being of 25 Title I, 35 Focus, and 64 non-Title 1 (Regular) elementary schools. Descriptions of these three types of elementary schools are found at the end of this chapter.

Two sets of public fifth grade data (Gallup Survey engagement scores {teacher and student} and DSA reading, mathematics, and science scores) were used to determine the relationship of student performance and school climate. Gallup student survey data were used to determine the school climate at each school. DSA data were used to determine the level of student performance in the areas of math, science, and reading of the schools included in this study. Correlations were computed with each data set to determine if there is a relationship between the level of academic performance and level of engagement. The study also looked for differences between the three types of elementary schools in the areas of reading, mathematics, and science.

While there are many studies on school climate, there is a lack of literature on how students have scored on performance indicators when they perceive the climate in the school to be positive and/or negative at the elementary school level. The results of this study could provide practitioners with information on how school climate impacts the performance of students.

In order to comply with the directives of No Child Left Behind (NCLB), all elementary schools in a Middle-Atlantic state, including the schools used in this research, give state-mandated standardized assessments to students in third through fifth grades.

The state has a new accountability system that takes into account growth and gap reduction, in addition to achievement, to give a more accurate picture of a school's performance and progress. In the new system, these core values provide a School Progress Index, which is used to identify schools that need support and those that deserve recognition. In 2012, the state department of education granted a waiver and the high-stakes Adequate Yearly Progress (AYP) status is no longer used or reported for accountability. Schools continue to have targets, known as Annual Measureable Objectives (AMO), which are specific to each school and are published. This information indicates whether the school has or has not met the target for all students and identified subgroups. When the information is published, principals who have not met the requirements have to explain to parents and supervisors why a group of students are not successful, according to the AMO targets. In an effort to meet the school progress targets, many principals are continuously seeking best practices, strategies, and programs to improve student performance. However, most commonly used interventions focus solely on the academic program without considering the climate. The researcher found that while students may have made progress with these academic interventions and initiatives, student performance often reaches a plateau after a period of time (Adelman & Taylor, 2011).

Researchers are giving student engagement, a dimension of school climate, more emphasis because they feel it is instrumental in addressing problems of low achievement, student boredom and alienation, and high dropout rates (Fredricks, Blumenfeld, & Paris, 2004). Student engagement is not a permanent condition; therefore, an emphasis should

be placed in that area of school climate as a strategy to increase student learning (Keith, 2002).

Statement of the Problem

For years, school systems have spent large sums of money in search of programs to increase student academic performance. Often, they implement programs with strategies that overlook the engagement of students in the learning process, which may impede learning (Gordon, 2006). Fredricks et al. (2011) found that some schools are recognizing the benefits of engagement, and as a result, have included engagement as a school improvement goal. Christle and Schuster (2003) found, "Although research supports the positive correlation between active student engagement and academic success, active learning methods are not widely employed in general education classrooms" (p. 148).

This study examined the impact of school climate on achievement by comparing fifth grade students' level of engagement and their performance on standardized state assessments. It also examined the level of engagement at Title 1 schools (schools that receive federal funds as a result of a large percentage of students receiving free and reduced price meals [FARMS]), Regular schools (schools that do not receive additional funding because of the number of students receiving FARMS), and Focus schools (schools that receive local funds as a result of the number of students receiving FARMS) to determine if students' socio-economic status affects their performance and level of engagement. "The concept of school engagement has attracted growing interest as a way to ameliorate low levels of academic achievement, high levels of student boredom and disaffection, and high dropout rates in urban areas" (Fredricks, Blumenfeld, & Paris,

2004, p. 59). The current state of engagement in the Middle-Atlantic school system being used in this study is: 57% of the students are engaged, 27% disengaged and 16% actively disengaged (Gallup, 2013). When students are engaged, they arrive at school with a contagious eagerness to learn (Gallup, 2013). This study analyzed the two sources of data to determine to what degree engagement impacted student achievement.

Site of the Study

Gallup, a research company known for administering opinion polls, has begun administering a student poll to collect students' perception of their school environment. "For more than 40 years, Gallup Education has provided its expertise, products, and services to school districts across the United States" (Gallup Student Poll, 2012-2013, p.1). It is important that students have a vehicle to express their opinions and Gallup has created a survey to capture student voice in grades 5 – 12 (Gallup Student Poll, 2012-2013).

Like researchers, some school districts have begun to recognize the profound impact of school climate. In 2012, the Mumford School District in a Middle-Atlantic state began using Gallup student surveys to learn how students perceive the climate of their school. The school system chose the Gallup survey because administrators believed it would measure student engagement and inform future efforts to improve instruction (School Board, 2012). Since that initial board presentation, this school system now administers the Gallup survey yearly to students in grades 5 – 12 and to staff.

The school district in which the study was conducted is a large suburban district located in a Middle-Atlantic state. During the 2012 – 2013 school year, 35% of the students received FARMS. However, the number of students ever receiving FARMS was

43%. The school district is diverse and serves students from 157 countries speaking 138 languages. There are 124 elementary schools in the district and 25 of them are designated as Title 1 schools. Schools qualify as Title 1 and Focus based upon the percentage of students receiving FARMS, which is an indication of the SES of families at a given school. The school district described Title 1, Focus, and Regular schools as follows:

Title I Schools

Title I is part of the No Child Left Behind Act of 2001. The legislation provides federal funds to help students in schools with high economic needs achieve high standards. The specific objective of the Title I program is to enable all students to meet state and local student performance standards and for schools to achieve the Annual Measurable Objectives targets set by the state department of education. Title I Schools in the district receive the following services when they become eligible for the Title I program:

Technical assistance from an instructional specialist on a consistent basis; additional teaching professionals and/or para-educators; extended learning opportunities, summer adventures in learning; and family involvement funds. Supplemental funds may be used for instructional materials, extended day programs, professional development, or school-wide initiatives (http://XXXschoolsmd.org/departments/title one/includes/titleone_part_a.shtm).

Focus Schools

Focus schools do not meet the requirements necessary to become a Title I school. However, they have been identified as needing support from the local school

system to achieve identified objectives. Assistance is provided to these schools in the form of reduced class sizes in grades K-1 and additional staffing.

Regular Schools

County schools that receive no assistance based on the socioeconomic variables of the students. (Personal communication, Executive Director, Office of Chief Operating Officer, 2015)

During the 2013-2014 school year, 85.6% of non-FARMS fifth grade students in the Middle-Atlantic state being used in this study were advanced or proficient on the mathematics District School Assessment (DSA) and 94.9% of non-FARMS fifth grade students were advanced or proficient on the reading DSA. During this same school year, 57.6% of the FARMS students in the state were advanced or proficient on the mathematics DSA and 81.8% were advanced or proficient on the reading DSA (Mdreportcard.org, 2014). While all schools have a percentage of FARMS, the intent of this study is to determine the impact of a positive school climate on students at three different groups of elementary schools in the Mumford School District.

The Mumford School District has recognized the importance of engagement in improving student achievement. As a result, they are administering a 20-question Gallup survey of students in grades 5 through 12 to measure school climate, which provides data in the areas of hope, well-being, and engagement (Lopez, Agrawal, & Calderon, 2010). The school system launched a partnership with the Gallup Research Corporation in 2012 to measure employee engagement and student perception of school climate, and to use the results to help guide the school system's improvement efforts.

Gallup has defined hope, engagement, well-being and teacher engagement as

follows:

Hope: the ideas and energy we have for the future drive effort, academic

achievement, credits earned, and retention of students of all ages;

Student Engagement: the involvement in and enthusiasm for school reflects how

well students are known and how often they get to do what they do best;

Well-being: how we think about and experience our lives tells us how students are

doing today and predicts their success in the future (Gallup, 2013, p.1).

Teacher Engagement: the involvement in and enthusiasm about their work

(https://q12.gallup.com/Help/en-us/Answers/180023).

To assist principals with their charge of improving the academic program, an emphasis

was placed on the academic dimension, which includes student engagement.

Since the early 1900s, when Dewey shared his belief on the necessity of engaging

students, thoughts on what is considered engagement of students have evolved. In the

1980s engagement was thought to be student participation (Brophy, 1983; Natriello,

1984). In the 1990s, what was considered engagement began to include emotions or

affect (Connell, 1990; Finn, 1989).

Students with positive attitudes are more successful in school. They are more

behaviorally involved and approach school-work with a much more positive attitude

(Connell, 1990). On the other hand, students who are disengaged tended to be passive,

displayed negative emotions, and gave up easily (Skinner & Belmont, 1993).

Engagement is often perceived as involvement or participation; however, it involves

more than simple participation, it also involves feelings and making sense of the activity

(Harper & Quaye, 2009). Bundick, Quaglia, Corso, and Haywood (2014) created the framework that was used in this study because it "considers how the primary elements of the classroom environment- the student, the teacher, and the content-interact to affect engagement" (p.1). It is the researcher's hypothesis that schools with higher climate ratings that address the components of this framework will have higher standardized achievement scores. This study analyzed Gallup Student Survey data and DSA scores to test the prediction that students benefit from a positive school climate, and as a result have higher test scores.

CHAPTER II

LITERATURE REVIEW

As a result of NCLB, there are demands on schools to meet benchmarks established by the district, state, and federal governments. In 2009 the Common Core State Standards were introduced by state leaders as a way to standardize the definition of proficiency for states (www.corestandards.org). While the intent of the Common Core was to create a set of standards to prepare kindergarten through 12th grade students for college, career, and life, it added to the administrators' and staff members' work to meet benchmarks. "Forty-two states, the District of Columbia, four territories, and the Department of Defense Education Activity (DoDEA) have voluntarily adopted and are moving forward with the Common Core" (www.corestandards.org).

As a reaction to these demands, school leaders continued to place an emphasis on academic areas without considering the impact of school climate. When school climate is neglected, it limits the effectiveness of reform efforts, including the current efforts hoped to be gained by the Common Core (Gordon, 2013). Some literature suggests that school reforms to improve student performance will fail without addressing school climate with an emphasis placed on student engagement (Gordon, 2013). Student engagement is a tool to address low achievement, student boredom, alienation, and student dropout (Fredricks, Blumenfeld, & Paris, 2004). Just as schools have recognized a need to address academic areas, they should also focus on school climate because student engagement is a predictor of how students will perform in school at their current level as well as in the future (Cohen, McCabe, Michelli, & Pickeral, 2009). When school climate

is not addressed, the end result can lead to students who are disengaged and more likely to drop out of school than their engaged peers (Bridgeland, DiIulio, & Morison, 2006).

School leaders can no longer afford to focus exclusively on the academic program. If they are to be successful in improving student performance, they must realize that their first charge has to be to create an environment that is conducive to human learning (Barth, 2001). In order to improve academic performance through student engagement, administrators must have an understanding of the impact school climate has on achievement as well as strategies to improve the overall climate of the school. These leaders then have to provide teachers with the tools that support an environment that promotes engagement.

This study used a multidimensional definition of engagement, which states that engagement has to be viewed from a multifaceted approach, including behavioral, emotional, and cognitive engagement (Fredricks et al., 2004). Quaglia, Corso, and Haywood (2014) used Fredricks et al.'s (2004) multidimensional definition to create a Student Engagement Core (SEC) model framework to identify how interactions within a school can enhance student engagement, thereby leading to higher student achievement.

This study used Gordon's (2013) Student Achievement Linkages (SAL) to highlight the important role of the principal in deeming school climate a necessary focus in order to improve student achievement. This review of research used the SAL and the SEC model as a guiding conceptual framework to identify school climate efforts that lead to student achievement.

This chapter reviewed the literature pertaining to school climate with an emphasis on student engagement. It presented an overview of school climate research, focused on

the impact of a school climate that does and does not engage students, and discussed the administrator's role in improving school climate.

Conceptual Framework

The work of Bunduck, Quaglia, Corso, and Haywood (2014) was used along with that of Gordon (2013) as the conceptual framework for this study to identify how a principal's leadership and school interactions promote student engagement, thereby leading to higher academic performance. The two framework models have been combined to create the framework for this study in Figure 1.
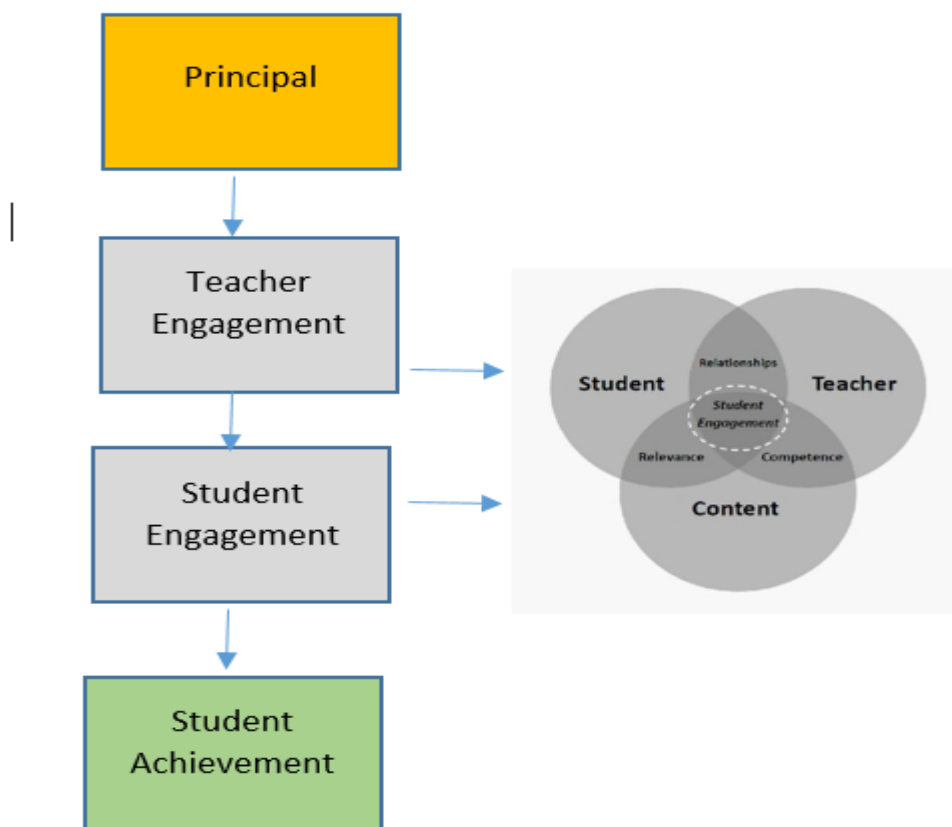

Figure 1. The Student Achievement Linkages describes how the principal influences school climate (Gordon, 2013).

While the principal has to establish an atmosphere that acknowledges the importance of focusing on school climate, which then leads to academic achievement, the SEC model highlights what should occur in the teacher and student areas of the SAL flowchart in order to support student achievement.

Bunduck et al. (2014) provided practitioners with an understanding of how to promote student engagement in the classroom. The research suggested that, "Much progress has been made toward a greater understanding of student engagement and its role in promoting a host of desirable outcomes, including academic outcomes such as higher achievement and reduced dropout, as well as various well-being and life outcomes" (Bunduck, Quaglia, Corso, & Haywood, 2014, p.1). The researcher identified the SEC as the framework because it provides administrators and their teams with four interactions that promote engagement. Standardized assessment data provided by the state will be used to determine a correlation of the impact that student engagement has on the instructional program. Bundick et al. (2014) conducted their research on engagement for the following reason: "A lack of information in the student engagement literature of a broad conceptual framework for understanding how students are engaged at the classroom level, and the ways in which teachers may play an active role in promoting student engagement" (p.1). The SEC framework is a model of how student engagement affects academic success. There is a belief that student engagement is a way to increase student achievement and address student boredom (National Research Council & Institute of Medicine, 2004).

Student engagement can be used to improve school climate as well as to increase student motivation, student learning, and students' sense of belonging to their

school/classroom (Fredericks, et al. 2004). To do so, schools have to understand that student engagement is a multidimensional construct that includes behavioral, emotional, and cognitive engagement (Fredricks et al. 2004). Researchers have defined student engagement in many ways; however, engagement initiatives will best support students' growth and development when a multidimensional approach that includes how engagement impacts students behaviorally, emotionally, and cognitively is considered (Fredricks et al. 2004).

According to Fredricks et al. (2004), "Considering engagement as a multidimensional construct argues for examining antecedents and consequences of behavior, emotion, and cognition simultaneously and dynamically, to test for additive or interactive effects" (p.61). They have provided the following definitions for their multidimensional construct, which was adopted by Bunduck, Quaglia, Corso, and Haywood (2014) in their study:

1. Behavioral engagement

    Students who are behaviorally engaged would typically comply with behavioral norms, such as attendance and involvement, and would demonstrate the absence of disruptive or negative behavior.

2. Emotional engagement

    Students who engage emotionally would experience affective reactions such as interest, enjoyment, or a sense of belonging.

3. Cognitive engagement

    Cognitively engaged students would be invested in their learning, would seek to

    go beyond the requirements, and would relish challenge (Fredricks,

    Blumenfeld, & Paris, 2004, p. 60).

Bundick, Quaglia, Corso, and Haywood (2014) incorporated Fredricks et al.'s

components in their Student Engagement Core (SEC) framework that identified how

interactions between the student, teacher, and content enhance or inhibit student

engagement (See Figure 2). According to Bundick et al. (2014), there are four possible

interactions that can occur in schools that staff must use to foster a school climate that

promotes student engagement in the classroom. They are based on how three key

elements interact (student, teacher, and content):
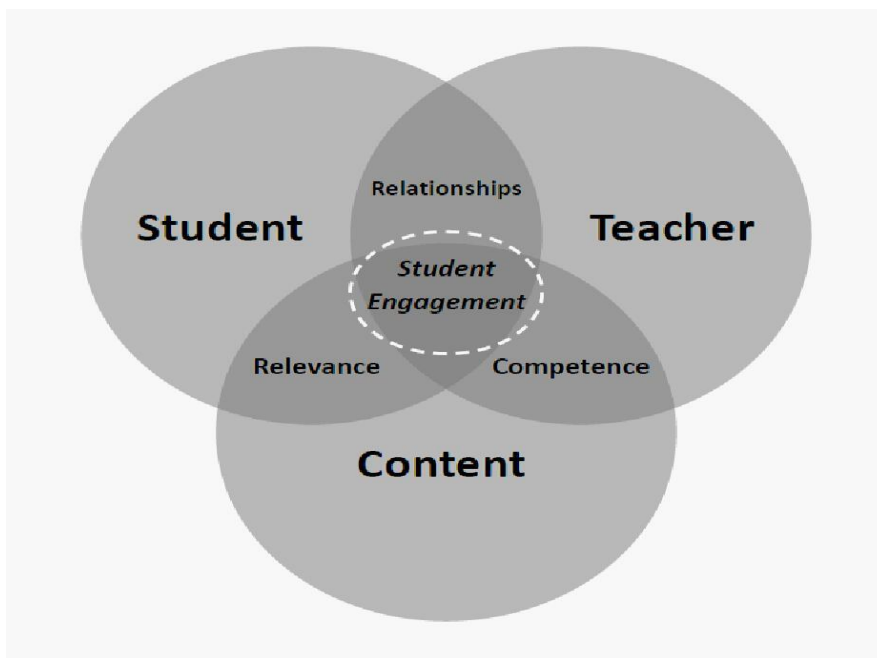
Figure 2. The Student Engagement Core Model, describing the core interactions

between the three classroom elements (student, teacher, and content) that promote

student engagement (Bundick, Quaglia, Corso, & Haywood, 2014)

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1. Student-teacher (Relationships) interactions that enhance student engagement occur when students feel that the teacher is supportive, invested, caring, fair, and respectful. This interaction impacts behavioral, emotional, and cognitive engagement. When Huges, Luo, Kwok, and Loyd (2008) researched student-teacher interactions they found these positive interactions lead to behavioral engagement, which in turn leads to higher achievement. Furrer and Skinner (2003) also found that positive student-teacher relationships lead to students being more behaviorally and emotionally engaged in school.

2. Student-content (Relevance) interaction is based on how relevant the students feel the content relates to their interest or sense of self. When the interaction is positive, students are more behaviorally and cognitively engaged.

3. Teacher-content (Competence) interactions allow students to learn the information being taught. Teachers do so when they are competent with the material and development of students. When the interaction occurs in a positive manner, students are more behaviorally and emotionally engaged in the classroom. Klum and Connell (2004) found that students reported that when their teacher cared and had high expectations, and offered well-structured lessons, they felt a positive teacher-content interaction.

4. Student-teacher-content interactions exist when students have positive relationships with the teacher, feel the content is relevant, and the teacher knows the content (Bundick, Quaglia, Corso, & Haywood, 2014, pp. 15-18)).

The conceptual framework of this study focused on the premise that school climate impacts the engagement of students. When teachers have an understanding of the

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curriculum and engage students, they will achieve at a higher level, be more motivated, and feel a sense of belonging to their school and classroom (Bundick, Quaglia, Corso, & Haywood, 2014). The SEC model asserts that engagement is composed of four interactions and staff has to foster a positive interaction for each relationship in order to improve the climate of the school and ultimately student achievement (Bundick, Quaglia, Corso, & Haywood, 2014). Although teachers are specifically mentioned in the SEC as being responsible for engaging students, it is not solely their responsibility; it has to be a collective school-wide effort (Rose & Meyer, 2001). The principal is included in the collective school-wide effort, but carries an additional burden in that he/she has to identify school climate as a resource to improve student engagement and achievement.

Role of the Principal

Principals are ultimately responsible for the success of the students at their school. In order to establish a productive learning environment, the leader must establish vision(s) and manage staff and supports for a positive change (Donaldson, 2006). If schools are to take advantage of the benefits derived from a positive social climate, the leader has to focus on school climate. Fredricks et al. (2011) found that including student engagement in the school improvement plan is an effective strategy to improve school climate and student performance; this is important for a leader given that his/her success is often determined by student performance on mandatory state and district assessments. Leaders need to understand the impact of a positive school climate because student engagement can predict academic and life outcomes; in addition, students perform better academically, get higher grades, and perform better on standardized achievement tests, which is a desire of leaders at all levels (Fredericks et al. 2004).

Like researchers, school principals are seeking changes to increase academic achievement. If principals are to be successful in improving student performance, they must realize that their first charge has to be to create an environment that is conducive to human learning (Barth, 2001). Sarason (1996) supported the belief that changes made without considering the culture and organizational health will not lead to desired outcomes; in a school the desired outcome would be student achievement. Since the principal directly influences climate and culture (Leithwood et al., 2004), principals need research that demonstrates the benefits of a positive school climate on academic achievement. If principals focused on improving school climate, they would improve short-term and long-term learning and academic outcomes (DeWitt & Slade, 2014). School climate is a resource that has been underutilized to improve student performance and costs little to implement (DeWitt & Slade, 2014).

> The principal and/or classroom teacher have opportunities to develop a safe, secure, and welcoming environment. Schools will be most successful in their educational mission when they integrate efforts to promote children's academic, social, and emotional learning. There is a general agreement that it is important for schools to foster children's social-emotional development, but all too often educators think about this focus in a fragmented manner, either as an important end in itself or as a contributor to enhancing children's health (e.g., drug prevention), safety (e.g., violence prevention, or citizenship (e.g., service learning. Although social and emotional learning (SEL) plays important roles in influencing these nonacademic outcomes, SEL also has a critical role in

improving children's academic performance and lifelong learning. (Dewitt &

Slade, 2014, p.32)

Because the principal directly influences climate and culture (Leithwood et al.,

2004), this study reviewed the role of the administrative team in improving school

climate to enhance student engagement and ultimately student achievement. If school

climate is to be a focus of the school, it is incumbent upon the principal and his/her team

to incorporate school climate into the school improvement plan. Gordon (2013) found

that school climate change begins when principals consider people to effect positive

student achievement change, which is illustrated in Figure 3.

Principal Leadership $\Longrightarrow$ **Teacher Engagement** $\Longrightarrow$ **Student Engagement** $\Longrightarrow$ **Student Achievement**

Figure 3. Gordon's (2013) Student Achievement Linkages (An example of how the

principal influences the school climate)

It is important for principals to create a positive school climate for teachers.

Teachers are very important to the overall well-being of students; when students strongly

agreed that a teacher(s) cared about them, they felt excited about the future and noted that

their school was committed to building their strengths (Blad, 2014). Students who felt

that their school had a positive school climate were more engaged in the class, which is a

predictor of student success in the classroom (Blad, 2014**).**

School Climate

Regardless of how school climate is defined, it is important to use an instrument

that gives students an opportunity to voice their perceptions for insights that can be used

to enhance their learning and development (Rowe, Kim, Baker, Kamphaus, & Horne,

2014). There have been many tools to collect data on school climate; however, Fraser

(2001) has argued that giving students a voice to share their own perceptions of their school climate provides valuable information about how they perceive the environment that impacts learning, especially since they experience the environment first-hand. Waxman (1991) found that giving students an opportunity to share their perceptions of their learning environment can influence student achievement and social-emotional development.

School climate has been deemed important since the 1900s, when Perry (1908) wrote about how school climate affects student performance. The notion that school climate affects students' performance in school was supported by Dewey; in 1927, he stated that it was unnatural for students to learn passively (Dewey, 1927). Hapin and Croft (1963) not only noted the importance of school climate, but also created a systematic method to study the effect of school climate on student performance. In the 1980s school climate studies tended to focus on topics such as the facility (Anderson, 1982).

While researchers have defined school climate in different ways, they all seem to address the overall feeling one has when entering a school. Various definitions included phrases such as:

- A school's character (Cohen et al., 2009);
- The overall health of the school (Cohen, McCabe, Michelli, & Pickeral, 2009; Hoy, Smith, & Sweetland, 2002);
- The quality of life at a school (Cohen, McCabe, Michelli, & Pickeral, 2009).

- The atmosphere and culture within a school (Loukas & Murphy, 2007); and

- The heart and soul of a school (Freiberg & Stein, 1999).

Four Essential Dimensions of School Climate (and some of the elements included within each dimension)

I. Safety

1. *Physical* (e.g., crisis plan; clearly communicated rules; clear and consistent violation response; people in the school feel physically safe; attitudes about violence)

2. *Social-emotional* (e.g., attitudes about individual differences; students' and adults' attitudes about and responses to bullying; conflict resolution taught in school; belief in school rules)

II. Teaching and Learning

1. *Quality of instruction* (e.g., high expectations for student achievement; all learning styles honored; help provided when needed; learning linked to "real life"; engaging materials; use of praise/reward; opportunities for participation; varied teaching methods; instructional leadership; creativity valued).

2. *Social, emotional and ethical learning* (e.g., social-emotional and academic learning valued/taught; varied "intelligences" appreciated; connections across disciplines).

3. *Professional development* (e.g., standards and measures used to support learning and continual improvement; professional development is

systematic and ongoing; data-driven decision making linked to learning; school systems evaluated; teachers feel that this is relevant and helpful).

4. *Leadership* (compelling and clearly communicated vision; administrative accessibility and support; school leaders honor people at school).

III. Relationships

1. *Respect for diversity* (positive adult-adult relationships between/among teachers, administrators, and staff; positive adult-student relationships; positive student-student relationships; shared decision-making; common academic planning opportunities; diversity valued; student participation in learning and discipline; peer norms linked to learning, cooperative learning, conflict-violence prevention; being able to say "no").

2. *School community & collaboration* (mutual support and ongoing communication; school-community involvement; parent participation in school decision-making; shared parent-teacher norms vis-à-vis learning and behavior; student family assistance programs).

3. *Morale and "connectedness"* (students are engaged learners; staff are enthusiastic about their work; students connected to one or more adults; students/staff feel good about school and school community).

IV. Environmental-Structural (cleanliness; adequate space and materials; inviting aesthetic quality and size of school; curricular and extracurricular offerings) (Cohen, McCabe, Michelli, &Pickeral, 2009, p.184).

Fredericks, Blumenfeld, and Paris (2004) stated that engagement is a multidimensional consisting of the following:

1. Behavioral engagement

    Students who are behaviorally engaged would typically comply with behavioral norms, such as attendance and involvement, and would demonstrate the absence of disruptive or negative behavior.

2. Emotional engagement

    Students who engage emotionally would experience affective reactions such as interest, enjoyment, or a sense of belonging.

3. Cognitive engagement

    Cognitively engaged students would be invested in their learning, would seek to go beyond the requirements, and would relish challenge. (Fredricks, Blumenfeld, & Paris, 2004, p. 60)

Federal Impact on School Climate

The high-stakes testing era of NCLB caused many districts to devote an inordinate amount of time on math and reading programs to ensure students pass standardized assessments; many researchers are encouraging a change of direction to focus on the total child because schools are about more than academic achievement and cognitive development:

Schools are about preparing the whole child for a future society and each student's ability to thrive and prosper in that society. This concept of the whole child is a natural byproduct of a positive and inclusive school climate, which focuses on more than just achievement and promotes the elements of a positive

school climate by viewing each child as an individual and as a part of the larger

school community. (DeWitt & Slade, 2014, p.10)

The researcher is also of the belief that the whole child should be considered and is using

Fredericks, Blumenfeld, and Paris' (2004) multidimensional engagement definition and

Bundick, Quaglia, Corso, and Haywood's (2014) SEC model because they consider

several aspects of the child and can be used as a resource to enhance the school

environment.

Reform efforts such as NCLB and Common Core have been criticized because

they only focus on the cognitive aspects of students, even though how students feel about

a topic determines how cognitively engaged they will be in their studies (Blad, 2012).

The Common Core is a set of high-quality academic standards in mathematics and

English language arts/literacy (ELA). These learning goals outline what a student

should know and be able to do at the end of each grade. The standards were

created to ensure that all students graduate from high school with the skills and

knowledge necessary to succeed in college, career, and life, regardless of where

they live. (http://www.corestandards.org/about-the-standards/).

NCLB holds schools accountable for the annual progress of all students. They

worked under the premise that states would develop challenging academic standards that

are measured (Frontline-PBS, 2014). In the past, NCLB was much more demanding. If a

school did not meet the annual target, there was a possibility that the school would be

taken over by the state. As a result of the high-stakes accountability, schools focused

primarily on the academic program and did not consider how school climate would

impact the academic program (Gordon, 2006). Schools have been forced to focus on the

academic areas given the emphasis placed upon these areas by NCLB and Common Core, regardless of the positive social, behavioral, and academic effects that could be gained from focusing on school climate (Flay, 2000; Moon et al., 1999; Patton et al., 2006). Many educators and scholars are protesting against NCLB because it focuses solely on academic areas and does not provide time for schools to address problems that could be effectively addressed by focusing on the school climate and student engagement (Gordon, 2006). Gordon (2006) stated that until student engagement is incorporated into school improvement plans, schools will not meet the identified math and reading targets and that,

> "Over the long run, just raising standards and administering more tests won't do enough to combat the lack of engagement that is all too common in America's classrooms. In fact, trying to squeeze more output from a process that is itself increasingly outdated may do more harm than good." (Gordon, 2006, p. 31)

The accountability that comes along with state and federal mandates forces administrators to focus on the academic program at the risk of the school climate.

Instrument to Measure School Climate

Students have first-hand experience with the school environment and should be given an opportunity to share their perceptions (Fraser, 2001). With more attention being given to the impact of school climate on students' achievement, Gallup has embarked on a 10-year survey period to collect information on how students feel about school climate. Gallup has created a survey that allows students to share their feelings about school climate by "adding the voice of America's youth to the dialogue around how to ensure a positive future for America's students" (http://www.gallupstudentpoll.com/17179/gallup-

student-poll.aspx). Students' dialogue has been added in the form of a survey administered to students in grades five through twelve in this district being studied.

Through a review of social science and educational research, Gallup researchers chose three variables (hope, engagement, and well-being) as the target of the Gallup Student Poll because they met the following four criteria: (1) they can be reliably measured, (2) they have a meaningful relationship with or impact on educational outcomes, (3) they are malleable and can be enhanced through deliberate action, and (4) they are not measured directly by another large-scale survey or testing program. (Gallup Student Poll Manual, 2012, p. 4)

The Gallup Student Poll measures student hope for the future, engagement with school, and well-being: factors that have been shown to drive students' grades, achievement scores, retention, and future employment.

Engagement - the involvement in and enthusiasm for school

Engagement distinguishes between high-performing and low-performing schools. (http://www.gallupstudentpoll.com/home.aspx).

The researcher of this study used student engagement survey data to determine the relationship between student perceptions of school climate engagement and their academic performance in the areas of math, reading, and science. When students are given an opportunity to voice their perceptions, it provides valuable information for schools to develop plans to address student achievement and social-emotional development (Rowe, Kim, Baker, Kamphaus, & Horne, 2014). During a Gallup survey of students in 2013 to determine how they felt emotionally about the climate, it was

found nationally that 54% of students are hopeful, 52 % are engaged, and 66% are thriving (Gallup, 2013).

Engagement

"In order for students from any school setting (urban, suburban, rural) to be successful in school, they must be actively engaged" (National Academy of Science's Research Council, 2004, p. 1). Engagement can be a predictor of how well students will do as early as kindergarten, and the benefits of engagement can be observed at their current level and in the future (Connell et al., 1994; Finn, 1989). Engaging students in elementary school is important because as students get older, their motivation decreases and possibly the desire to succeed in school (National Academy of Science's Research Council, 2004). They National Academy of Science's Research Council (2004) stated that:

> Learning and succeeding in school requires active engagement, whether students are rich or poor. When students from disadvantaged backgrounds in high-poverty urban schools become disengaged, they are less likely to graduate and consequently face severely limited opportunities. The core principles that underlie engagement are applicable to all schools—whether they are in urban, suburban, or rural communities (p. 1).

Disengagement

"Disengagement refers to alienated, apathetic, or rebellious behavior that turns students away from learning" (Furrer & Skinner, 2003, p. 149). Due to the devastating nature of disengagement, it has been identified as a fundamental barrier to well-being (Adelman & Taylor, 2011). "When students are disengaged at school, it manifests in

deviant behavior, truanting, and low academic achievement" (Lamb, Walstab, Tesse, Vickers, & Rumberger, 2004, as cited in Harris, 2008, p. 57). Being disengaged can have much more of a negative impact on a student's learning than being disruptive because they disengage quietly, and as a result their needs may go unnoticed (Finn, 1995). With every passing year in school, the number of disengaged students increases and peaks at the high school level (Marks, 2000, National Research Council and Institute of Medicine, 2004). It is estimated that 40% to 60% of high school students are disengaged (Marks, 2000).

It is important to determine how students of various economic backgrounds perform in schools with high and low school climates because disengagement seems to more negatively affect students living in poverty (Dunleavy & Milton, 2009).

Learning and succeeding in school requires active engagement, whether students are rich or poor. When students from disadvantaged backgrounds in high-poverty urban schools become disengaged, they are less likely to graduate and consequently face severely limited opportunities. The core principles that underlie engagement are applicable to all schools—whether they are in urban, suburban, or rural communities (National Academy of Science's Research Council, 2004, p. 1).

Disengagement peaks at the high school level; however, the number of disengaged students increases even more drastically in low-performing, high-poverty feeder patterns (Yazzie-Mintz, 2007). It is important to identify the impact of students' economic level and engagement because students from disadvantaged backgrounds are less likely to get another opportunity to rebound from poor academic performance in school than those from advantaged homes (National Research Council, 2004).

Performance of Students and Socioeconomic Status

The Mumford School District has many schools that receive federal funds due to a large percentage of students receiving FARMS, which is an indication of the socioeconomic status (SES) of a child's family. It is important to investigate the performance of SES and achievement in this research because research states that a child's family SES can be a significant predictor of achievement (Anderson & Keith, 2001) and engagement in school, across all grade levels (Marks, 2000). As early as 1967, researchers acknowledged the difference between student motivation of lower and middle class students (Goldberg, 1967). Students who were from higher income families, as a rule, were more engaged than students from lower income families (Morris & Gennetian, 2003). Longitudinal data have demonstrated that schools with a high percentage of FARMS consistently perform poorer academically than their peers from schools with a low percentage of FARMS (Coleman et al., 1966; Entwisle & Alexander, 1990; Patterson et al., 1990; White, 1982). Schools with high FARMS would greatly improve students' learning if they focused on engaging students; studies have connected SES and low student engagement (Carbonaro, 2005; Cook & Ludwig, 1998).

"The engagement level of students, the interaction between students and teachers, and the importance of teachers and principals to student performance have been largely ignored" (Gordon, 2006, p.6). Principals have ignored engagement, in part, due to the pressures put upon them to meet math and reading targets. If principals are to consider using time and resources to include school climate in school improvement plans, they have to see that the focus will impact student achievement. Administrators and their teams will be able to use this research as a resource to determine the impact of school

climate on student performance. The framework used in this study will serve as a guide to the interactions that lead to an environment that is conducive to engaging students.

The focus on student engagement as an outcome of schooling and as an antidote to the ultimate act of disengagement, dropping out, has stimulated an interest in engagement theory. Because engagement with academic work is fundamental to students' social development and intellectual achievement, understanding the structures and processes that influence student engagement is a basis for subsequent research and the formation of policy. (Marks, 2000, p. 174)

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Administrators and their leadership teams are charged with identifying practices that will increase student performance; many researchers are of the belief that principals should focus on school climate as a practice to increase student achievement (Gordon, 2006). Unfortunately, the pressure on principals to ensure that the students meet mandated targets has caused some administrators to focus on the academic program without considering how school climate impacts achievement (Fredericks, McColskey, Meli, Mordica, Montrose, & Mooney, 2011). This research topic was selected for the following reasons. First, this study identified the relationship between school climate and student achievement. Second, this study provided administrators with valuable information on how school climate impacts student performance. This information helped administrators determine if school climate is an initiative that should be a priority and included in the school improvement plan. This chapter describes the procedures employed in the collection and analysis of data for this dissertation. It addressed the methodology to answer the questions posed in the study. It includes the research questions, the method of sample selection, the survey and test instrument to be used, and the proposed statistical analysis. The unit of analysis for this study was fifth grade climate survey data and students' academic test scores, averaged by school.

Overview of Research Methods

This quantitative study collected data from two sources, a state standardized assessment and a school climate survey. All data were collected from fifth grade students and staff members of the Mumford School District.

The first data source was a standardized assessment from a Middle-Atlantic state. The Middle-Atlantic state's purpose for administering the assessment was as follows:

The District School Assessment (DSA) was developed to comply with the requirements of NCLB. DSA results include the performance of students on the DSA test. DSA assesses the state content standards in reading, mathematics and science (http://mdk12.msde.XXX.gov/data/index.aspx?Nav=1.2).

The state said that the assessment is helpful because of the information provided by the assessment:

DSA will help you identify which state content standards your school or district has met and on which standards you need to improve. In addition to accessing graphs of each school and district's performance on DSA, you will find some tips in how to lead the data analysis discussion, some suggestions for next steps, and links to additional information about DSA (http://mdk12.msde.XXX.gov/data/index.aspx?Nav=1.2).

The second source of data was a climate survey created by the Gallup Corporation. The Mumford School District chose to administer the survey to teachers and a select group of students, including the fifth graders used in this study. The district gave the following reason for choosing to administer the Gallup climate survey: The data "will measure student engagement and inform future efforts to improve instruction" (School Board, 2012). Gallup's student survey consisted of 20 items to determine students' level of hope, engagement, and well-being (Lopez, Agrawal, & Calderon, 2010). Students were asked questions regarding their thoughts about completing school, how they feel about their school and teachers, and if they feel they are treated with respect. "The

primary application of the Gallup Student Poll, as an online measure of non-cognitive

metrics that predict student success in academic and general youth development settings,

is discussed" (Lopez, Agrawal, & Calderon, 2010, p 1)." For teachers and

administrators, Gallup reports data as:

> "Engaged," "not engaged" or "actively disengaged" based on their responses to
>
> questions about workplace elements with proven links to performance outcomes.
>
> Gallup defines *engaged* teachers as involved with, enthusiastic about and
>
> committed to their work. They know the scope of their jobs and constantly look
>
> for new and better ways to achieve outcomes. *Not engaged* teachers may be
>
> satisfied with their jobs, but they are not emotionally connected to their
>
> workplaces and are unlikely to devote much discretionary effort to their work.
>
> *Actively disengaged* teachers are not only unhappy, but also act out their
>
> unhappiness in ways that undermine what their coworkers accomplish. Overall,
>
> 30% of U.S. teachers are engaged in their work, matching the national average for
>
> all workers" (http://www.gallup.com/poll/180455/lack-teacher-engagement-
>
> linked-million-missed-workdays.aspx).

The Gallup teacher survey consisted of 12 questions and asked teachers about their

feelings regarding feedback and praise about their work, their supervisor, and about

growth opportunities (Lopez, Agrawal, & Calderon, 2010).

Research Questions

Research Question 1

What is the relationship between student engagement and student achievement?

Research Question 2

What is the relationship between teacher engagement and student achievement?

Research Question 3

What is the correlation between staff engagement and student engagement?

Research Question 4

What is the relationship between student engagement, FARMS, hope, well-being, school type and student achievement?

Methodology

To answer the research questions, data were obtained from the Middle-Atlantic state department of education and the Mumford School District for school year 2012-2013, the most recent year for which information was available before a new assessment was piloted. The following data were used in this study: The average score of students in the areas of reading, math, and science for 124 elementary schools in the Mumford School District and mean scores on the Gallup Student Poll for hope, engagement, well-being, and teacher engagement on the Gallup Teacher Poll. The 25 Title I, 35 Focus, and 64 non-Title 1 (regular) schools' data were compiled as a group to determine the relationship of school climate and performance of schools based on the socioeconomic status.

This was a quantitative study using correlational/regression analysis to examine the relationships between the ratings of fifth grade student perceptions' of hope,

engagement, and well-being and their reading, mathematics, and science scores from a standardized statewide assessment program in a large Middle-Atlantic school district. Two data sets were collected to run regressions and correlations. By showing the relationship between engagement and student achievement on standardized assessments, this study showed practitioners the connection between a positive school climate, engagement, and student achievement.

Research Design

The design in this study used statistical procedures in which two sets of quantitative data were collected: the Gallup data on hope, engagement, and well-being and the state DSA scores on reading, mathematics, and science.

This study used both correlations and regressions to identify the relationship between school climate and student performance. Using correlational research allows the researcher to "Explore the correlation between two or more variables" (Mertler & Charles, 2008, p. 361). The goal is to determine the relationship between students' judgment of school climate survey scores and student school-standardized assessment scores of 25 Title 1 schools, 35 Focus schools, and 64 Regular schools. The Mumford School District collects and publishes student school climate data by administering a 20-question survey to fifth grade students. The data are then analyzed and scores are provided on engagement, hope, and well-being. The creator of the survey reported that hope and well-being are used to measure future performance (Gallup, 2014); therefore, this study focused on engagement to determine the impact that school climate has on present achievement. In addition to taking the school climate survey, students at this grade level take the District School Assessment (DSA), a standardized assessment that

provides data in the areas of reading, math, and science and is published on the state's website. The data from the schools being used in this study were compiled to determine the relationship and differences in two sources of data.

Instrument Design

The instruments to be used were the Gallup Student Poll and the DSA reading, mathematics, and science tests. The Gallup Cooperation is highly regarded for their surveys and the researcher relied upon this renowned organization to test the surveys for validity and reliability. The reading, mathematics, and science tests mandated by the state department of education are judged to be valid and reliable and have face and content validity.

Rationale for the Study

A quantitative study using correlations and regressions was used to achieve a better understanding of the association between student engagement and academic achievement in reading, mathematics, and science (Mertler & Charles, 2008). This approach provided the researcher with information about the predictability of academic performance of students who are engaged versus those who are not. Correlational study methodology enabled the researcher to explore associations of student survey results on engagement and standardized assessment scores of the Mumford School District.

"The focus on student engagement as an outcome of schooling and as an antidote to the ultimate act of disengagement, dropping out, has stimulated" an interest in ways to help students in schools with high economic needs achieve high standards (Marks, 2000, p. 174). The specific objective of the Title I program is to enable all students to meet state and local student performance standards and for schools to achieve the Annual

Measurable Objectives targets set by the state department of education (www.XXXschoolsmd.org/departments/dtecps/title1/parta.aspx). Title I schools in the district receive the following services when they become eligible for the Title I program:

Technical assistance from an instructional specialist on a consistent basis; additional teaching professionals and/or para-educators; extended learning opportunities, summer adventures in learning; and family involvement funds. Supplemental funds may be used for instructional materials, extended day programs, professional development, or school-wide initiatives. (http://XXXschoolsmd.org/departments/title one/includes/titleone_part_a.shtm).

In addition to surveying students' perceptions of engagement, hope and well-being, which also impact the overall climate of a school, the school system launched a partnership with Gallup in 2012 to measure employee and student engagement. The district stated that the Gallup results can be used to help guide the school system's improvement efforts.

Statistical Analysis

The researcher performed the following statistical analyses of the data, which were available on the Mumford School District database and the state department of education database. First, frequency distributions of Title I, Regular, and Focus schools were created from the data-bases. This was done because the researcher used parametric statistics to answer the research questions. The researcher used ordinary least squares (OLS) regression analysis.

CHAPTER IV

FINDINGS

Chapter 3 identified the methodology of the research. This chapter reveals the results of the study. Using quantitative research, the data were collected through published data from students' standardized assessments and school climate results of student and teacher surveys. The quantitative research design was appropriate for the research because it allowed the researcher to use regressions/correlations to examine school climate data with standardized statewide assessment scores of the schools in the Mumford School District. A desired outcome of the study was to provide leaders with research that demonstrated the impact of school climate on student achievement. School principals have a significant responsibility for establishing visions and managing staff and supports to create a positive change (Donaldson, 2006). According to research, principals have to consider teacher and student engagement in order to effect positive student achievement (Gordon, 2006). Having this information will enable practitioners to make informed decisions about incorporating school climate goals into the school improvement plan.

This quantitative study reviewed teacher and student school climate perception data to determine the correlation/relationship on student achievement. The schools are grouped into three different categories: Title 1 schools, Focus schools, and "Regular" schools, and are defined in Chapter 1, pages 10-11. The two sets of data used were from the state and the Gallup Corporation. The Middle-Atlantic state used in this study published standardized assessment results for each school within the state, including the district being used in this research. Math, reading, and science data for the Mumford

School District were retrieved from the district's public state website, which provided an average math, reading, and science score for each school used in this study. The average scores of students' and teachers' Gallup survey results were published on the Mumford School District website that is available to the public. The data used in this research were collected from these websites. Standardized assessment scores and Gallup data were compiled and categorized by the three types of schools within the district (Title 1, Focus, and Regular). The schools were then listed alphabetically within each group. Data of fifth grade students were used to determine if there was a statistically significant relationship between school climate and student achievement.

Data Collection

Fifth grade students were used in this study because they are the only elementary grade students who took both the state standardized assessment and the school climate survey. Two data sets were used in this study: the Mumford School District average 2012-2013 reading, math, and science state assessment data, and the Mumford School District average 2012-2013 student and staff employee climate data.

Validity and Reliability

The researcher used data sets that were tested for validity and reliability by the Gallup Cooperation and the State Department of Education.

Research Questions and Statistical Hypotheses

Research Question 1

What is the relationship between student achievement and student engagement?

Findings

Table 1

Regression of Average Student Mathematics Achievement and Climate Scale Student

Engagement

Variables	Coef.	Std. Error	t	P>ltl
Student Engagement	4.51	5.86	0.77	0.443
Constant	67.29	25.69	2.62	0.010

There is no statistically significant relationship between average student

mathematics achievement and climate scale student engagement.

Table 2

Regression of Average Student Reading Achievement and Climate Scale Student

Engagement

Variables	Coef.	Std. Error	t	P>ltl
Student Engagement	2.70	2.98	0.91	0.367
Constant	80.29	13.04	6.16	0.000

There is no statistically significant relationship between average student reading

achievement and climate scale student engagement.

Table 3

Regression of Average Student Science Achievement and Climate Scale Student

Engagement

Variables	Coef.	Std. Error	t	P>ltl
Student Engagement	1.61	11.35	0.14	0.89
Constant	79.87	49.70	1.61	0.11

There is no statistically significant relationship between average student science achievement and climate scale student engagement.

Table 4

Correlation of Average Student Subject Achievement and Climate Scale Student Engagement

Variable	Correlation	P Value
Mathematics Achievement and Student Engagement	0.07	0.443
Reading Achievement and Student Engagement	0.08	0.367
Science Achievement and Climate Scale Student Engagement	-0.01	0.89

There is a week correlation between average student subject achievement and climate scale student engagement.

Research Question 2

What is the relationship between student achievement and teacher engagement?

Findings

Table 5

Regression of Average Student Mathematics Achievement and Climate Scale Teacher Engagement

Variables	Coef.	Std. Error	t	P>ltl
Teacher Engagement	7.92	3.18	2.49	0.014
Constant	56.35	12.34	4.57	0.000

There is a statistically significant relationship between average student mathematics achievement and teacher engagement.

Table 6

Regression of Average Student Reading Achievement and Climate Scale Teacher Engagement

Variables	Coef.	Std. Error	t	P>ltl
Teacher Engagement	4.89	1.60	3.06	0.003
Constant	73.16	6.19	11.81	0.000

There is a statistically significant relationship between average student reading achievement and teacher engagement.

Table 7

Regression of Average Student Science Achievement and Climate Scale Teacher Engagement

Variables	Coef.	Std. Error	t	P>ltl
Teacher Engagement	16.25	6.12	2.66	0.009
Constant	9.90	23.73	0.42	0.677

There is a statistically significant relationship between average student science achievement and teacher engagement.

Table 8

Correlation of Average Student Subject Achievement and Climate Scale Teacher

Engagement

Variable	Correlation	P Value
Mathematics Achievement and Teacher Engagement	0.22	0.014
Reading Achievement and Teacher Engagement	0.27	0.003
Science Achievement and Teacher Engagement	0.23	0.009

There is a week correlation between average student subject achievement and

climate scale teacher engagement.

Research Question 3

What is the correlation between staff engagement and student engagement?

Findings

Table 9

Regression of Teacher Engagement and Student Engagement

Teacher Engagement	Coef.	Std. Error	t	P>ltl
Student Engagement	.43	.16	2.70	0.01
Constant	2.00	.69	2.88	0.01

There is a statistically significant correlation between teacher engagement and

student engagement of school climate

Research Question 4

What is the relationship between student engagement, FARMS, hope, well-being, school type and student achievement?

Findings

Table 10

Regression of Student Engagement and School Type

Variables	Coef.	Std. Error	t	P>ltl
School Type	.01	.01	0.90	0.37
Constant	4.35	.03	125.86	0.00

There is no statistically significant relationship between student engagement and school type.

Table 11

Regression of Student Engagement on FARMS within School Type

Focus Schools				
Student Engagement	Coef.	Std. Error	t	P>ltl
Farms	.00	.00	0.51	0.61
Constant	4.27	.12	36.20	0.00
Regular Schools				
Farms	.00	.00	1.02	0.31
Constant	4.37	.03	172.40	0.00
Title 1 Schools				
Farms	.00	.00	1.02	0.31
Constant	4.37	.03	172.40	0.00

There is no statistically significant relationship between engagement in Farms and school type – Focus, Regular, or Title 1.

Table 12

Regression of Average Student Mathematics Achievement and Climate Scale Hope

Variables	Coef.	Std. Error	t	P>ltl
Hope	7.61	7.16	1.06	0.290
Constant	53.36	31.70	1.68	0.895

There is no statistically significant relationship between average student mathematics achievement and climate scale hope.

Table 13

Regression of Average Student Reading Achievement and Climate Scale Hope

Variables	Coef.	Std. Error	t	P>ltl
Student Hope	1.48	3.65	0.40	0.69
Constant	85.56	16.17	5.29	0.000

There is no statistically significant relationship between average student reading achievement and climate scale hope.

Table 14

Regression of Average Student Science Achievement and Climate Scale Hope

Variables	Coef.	Std. Error	t	P>ltl
Hope	15.26	13.81	1.11	0.271
Constant	5.27	61.16	0.09	0.931

There is no statistically significant relationship between average student science achievement and climate scale hope.

Table 15

Regression of Average Student Mathematics Achievement and Climate Scale Wellbeing

Variables	Coef.	Std. Error	t	P>ltl
Student Wellbeing	1.53	1.67	0.69	0.492
Constant	78.19	12.90	6.06	0.000

There is no statistically significant relationship between average student mathematics achievement and climate scale wellbeing.

Table 16

Regression of Average Student Reading Achievement and Climate Scale Wellbeing

Variables	Coef.	Std. Error	t	P>ltl
Wellbeing	.65	.85	0.76	0.448
Constant	97.08	6.55	14.81	0.000

There is no statistically significant relationship between average student reading achievement and climate scale wellbeing.

Table 17

Regression of Average Student Science Achievement and Climate Scale Wellbeing

Variables	Coef.	Std. Error	t	P>ltl
Wellbeing	.26	3.24	0.08	0.93
Constant	70.87	24.95	2.84	0.01

There is no statistically significant relationship between average student science achievement and climate scale wellbeing.

Summary

This chapter presented the data associated with the study to identify the relationships/correlations between school climate and student achievement. Data were obtained from information published on a state and school district website for public viewing. When analyzing the impact of school climate on achievement, it was found that there is a statistically significant relationship between teacher engagement mean scores and achievement scores (math, reading, and science). There was also a correlation between teacher and student engagement. There was not a statistically significant relationship between school type and climate scales, or between student achievement and student climate scales. As a result of the findings associated with this study to address the four research questions, recommendations for practice and further research are presented in Chapter V.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Schools are considered successful when students achieve academically and meet targets established by the district and state. Administrators are charged with the task of creating and implementing a vision that fosters student success. Thus, we need to understand practices, procedures, and interactions that occur within a school to promote a school climate that leads to student achievement. The researcher chose to study the impact of school climate by analyzing student and teacher perception data with student achievement data. By studying the impact of school climate on achievement, this study provided quantifiable evidence that supports creating and implementing school climate goals and initiatives. In addition, this research provided administrators with a framework that outlined staff-student interactions that promote a positive school climate, which ultimately leads to student achievement.

The purpose of this chapter is to summarize and discuss the findings of the study, which includes the following sections: research summary, discussion of the findings, recommendations for practice, recommendations for future research, and conclusion.

Discussion

This study began with an analysis of staff and student perception data and state assessment data in the areas of math, reading, and science of fifth grade students. The school climate data collected were required of fifth grade students and teachers were strongly encouraged to complete the school climate survey. The analysis examined the impact of hope, engagement, well-being, and the type of school on student achievement. The researcher used ordinary least squares regressions to determine if there were

statistically significant relationships between: the relationship between student

perception of school climate and student achievement, the relationship between teacher

engagement and student achievement, the correlation between staff perception of school

climate and student perception of school climate, and the relationship between student

engagement and Title I, Focus, and "Regular" schools.

The results show that there was a statistically significant relationship between

teacher engagement and student achievement in all subject areas. Student engagement

did not have a statistically significant impact on achievement, nor did the type of school

students attended (Title 1, Focus, and Regular).

The conceptual framework of this study was focused upon the perspective that

leadership is responsible for identifying school needs that promote student learning. It

combined the frameworks of Gordon (2013) and Bundick et al. (2014) to create a

framework that defines how the principal's vision leads to student achievement. The

framework identified a link for principals that leads to student achievement and also

identified core interactions between the three classroom elements (student, teacher, and

content) that promote student engagement. The framework asserts that a positive school

climate change begins when leaders recognize the important role of staff members to

effect positive student achievement (Gordon, 2013) and identifies interactions that occur

between student and staff members that promote student engagement (Bundick et. al,

2014). The researcher felt that it was important to provide practitioners with the pathway

and a framework that provides a model of engaging interactions that can be replicated.

The researcher chose this topic because of the immense pressures that school

leaders face to meet mandated targets. Leaders' effectiveness seem to be based upon

students' performance on identified benchmarks. As a result, leaders purchase "quick fix" programs that will "cure" poorly performing students without considering the impact of school climate on student achievement. School climate is an intervention/strategy that is free and has proven to be effective. The research should be a resource to leaders in that it provides the following information: The benefits of including school climate in the school improvement plan, data that highlights the impact of school climate on student achievement, and interactions that promote an engaging environment.

Research Question 1

What is the relationship between student engagement and student achievement?

The research found that there is not a statistically significant relationship between student perception of school climate and student achievement. This finding is inconsistent with the research of Sinatra et al. (2015) who described the benefits of student engagement as the "Holy Grail" of learning. Based on research that identifies a relationship between school climate and student achievement, the researcher was surprised by the results. A possible explanation for the results could be that the relationship of student engagement and student achievement in this study was determined by average building level scores versus individual scores.

Research Question 2

What is the relationship between teacher engagement of school climate and student achievement?

The research found that there is a statistically significant relationship between achievement (math, reading, and science) and teacher engagement. The findings speak to the need of creating teacher engagement in order to improve student achievement. In

addition, the findings agree with the premise of the conceptual framework, engaged teachers will create engaging environments for students (Bundick et. al, 2014).

Research Question 3

What is the correlation between staff engagement and student engagement?

The research found that there is positive correlation between staff and student perception of school climate. This supports Gordon's (2006) link to student achievement, which begins with the principal establishing school climate as goal.

Research Question 4

What is the relationship between student engagement, FARMS, hope, well-being, school type and student achievement? The research found that there is no statistically significant relationship between engagement in Farms and school type – Focus, Regular, or Title 1. This does not support the research of Marks (2000), who found that SES is a predictor of engagement. The research also found that there is not a statistically significant relationship between student perception of school climate and student achievement.

Recommendations for Practice

Recommendation 1.

School districts should collect and publish staff and student climate data.

Rationale.

Data should be collected as a tool to determine the overall feeling of the climate from staff and students. The data should be published so that it can be used to stimulate conversations and plans to address the findings. This research found that there is a statistically significant relationship between achievement and teacher engagement.

Information gathered from school climate data can assist with improving teacher engagement and ultimately student achievement.

Recommendation 2.

School districts should highlight the impact that school climate has on mandated achievement scores/student achievement.

Rationale.

Principals have to understand the impact that school climate has on student achievement, especially since the research found that there is a statistically significant relationship between achievement and teacher engagement. School districts could help principals appreciate the value and impact of school climate by providing them with examples of data sets that demonstrates the relationship of a positive school climate and student achievement data.

Recommendation 3.

School leaders should receive training on how staff members interact with the curriculum, students, and the content (SEC model from the conceptual framework of the study) to improve student engagement.

Rationale.

Principals are responsible for creating a vision and managing staff for a positive change (Donaldson, 2006). In order to execute the vision of creating a positive environment, principals should receive training on the SEC model so that he/she can promote interactions that lead to student and teacher engagement. Based on the findings of this research, teacher engagement is a necessity in that it leads to student achievement.

Recommendation 4.

Staff members should receive training on how to effectively interact with the curriculum, students, and the content (SEC model from the conceptual framework of the study) to improve student engagement.

Rationale.

Once the leader has established a training plan to positively affect school climate, teachers should then be trained on the SEC model to execute interactions that promote student engagement.

Recommendation 5.

Staff members should review collected climate survey data and create a plan to address the results.

Rationale.

In the spirit of engaging teachers, they should be given an opportunity to discuss the data and create a plan of action to address the areas of need.

Recommendation 6.

Students should be given an opportunity to provide suggestions to address areas of concern on climate surveys

Rationale.

In the spirit of engaging students, they should be given an opportunity to discuss the data and an opportunity to make suggestions to improve the areas of concern.

Suggestions for Further Research

Recommendation 1.

Conduct research that analyzes the impact of individual teacher engagement data versus the average data of a school.

Rationale.

This research reported on the average score of all teachers in a school. This would provide specific teacher information about teacher engagement and allow a more robust statistical analysis.

Recommendation 2.

After collecting individual teacher data, use qualitative data to gather more information on how individual teachers promote a positive classroom climate.

Rationale.

By reviewing the data of individual teachers, leaders will be able to identify particular actions and beliefs of teachers who have a positive classroom climate and engage students.

Recommendation 3.

Identify schools that have high and low school climate scores and design a qualitative survey to gather information on leadership styles and how they impact school climate and ultimately student achievement.

Rationale.

The purpose of the qualitative surveys would be to identify characteristics of leaders who promote a positive learning environment. Qualitative data would be most helpful because the narrative data would provide insights that quantitative (numbers) cannot.

Recommendation 4.

Identify the impact of the home-school relationship on student achievement.

Rationale.

While this study focused on the impact of teacher and student engagement, it would be helpful to determine how the relationship between school and home impacts student achievement as well as teacher engagement.

Conclusion

Research states that school climate is important to the success of a school. However, it has not been widely used to improve the overall environment of a school or student achievement (Gordon, 2006). Christle & Schuster (2003) found that school climate often takes a "back seat" to the academic program.

Leaders need solid school climate research combined with practical suggestions if they are to address student academic needs through climate versus a content area intervention program.

This study examined the impact of school climate on student achievement and concluded that there is a statistically significant relationship between teacher engagement and student achievement. School districts and leaders should regularly collect information on school climate and develop strategies based on those findings to better serve students currently and in their futures.

Appendix

Gallup Survey Data and Standardized Assessment Scores for 124 School in the Mumford School District

School	Math	Reading	Science	Teacher Engagement	Hope	Engagement	Well-being	School Type	FARMS Percentage
A	83.3	88.9	43.2	3.77	4.27	4.35	7.7	T	75.6
B	95	95	83.3	4.32	4.4	4.2	7.1		13.2
C	95	95	94.4	3.78	4.59	4.56	7.9		5
D	95	95	76.7	3.79	4.34	4.34	7.4		25.4
E	95	95	94.4	4.09	4.34	4.3	8		11.6
F	94.9	95	94.9	3.77	4.56	4.51	8		8.8
G	94.4	95	84.2	4.01	4.57	4.4	7.8		5.7
H	95	95	82.1	3.98	4.46	4.41	7.9		5
I	95	95	95	3.83	4.42	4.4	7.7		5
J	95	91.7	40.6	3.97	4.4	4.46	7.4	T	94.8
K	83.8	94.1	75	3.98	4.42	4.41	7.4		24.9
L	86.1	90.3	49.3	3.98	4.55	4.64	8.1	T	64.6
M	78.4	81.1	46.7	3.64	4.5	4.36	8.1	T	62.6
N	92	93.3	84.2	3.97	4.53	4.38	8		5
O	72.6	83.6	50.7	3.34	4.42	4.36	7.9	T	65.1
P	91.2	95	70.2	3.5	4.47	4.28	7.9	F	47.9
Q	95	95	95	3.81	4.28	4.15	7		17.5
R	81.7	90	62.9	3.7	4.58	4.42	8.6	F	58.6
S	71.6	81.5	55.4	3.62	4.34	4.05	7.6	T	67.2
T	95	95	94.4	4.37	4.51	4.46	7.8		5
U	95	92.7	87.8	4.11	4.46	4.48	7.8		21.2
V	95	95	69.8	3.84	4.55	4.52	8		12.7
W	94.3	95	90.5	3.85	4.51	4.2	7.6		12.2
X	82.2	95	74.5	4.11	4.44	4.46	7.8		22
Y	91.6	95	88.1	3.8	4.47	4.34	7.7		20
Z	77.8	84.8	48.9	3.41	4.36	4.43	7.4	T	71.6
AA	88.3	93.3	83.3	4.21	4.38	4.4	7.8		16.8
BB	94.1	95	93	4.21	4.56	4.55	7.8		5
CC	87	95	77.2	4.05	4.47	4.39	7.7		16.7
DD	74.6	86.1	46.8	3.89	4.3	4.39	7.8	T	70.3
EE	93.2	95	81.8	3.77	4.37	4.46	7.7		26.1
FF	93.2	95	91.7	3.89	4.38	4.16	7.6		5
GG	95	95	85	4.1	4.52	4.45	7.8		12
HH	91.9	95	81.4	3.6	4.31	3.98	7.3	F	49.9
II	76.8	81.7	58.8	4.02	4.54	4.26	8.2	F	42.5
JJ	90.8	89.2	84.8	3.74	4.43	4.4	7.6		10.1

KK	79.6	89.1	54.9	3.81	4.44	4.27	7.7	F	56.8
LL	78.8	88.9	67	3.93	4.46	4.37	7.6	F	54.2
MM	95	95	83.9	3.94	4.37	4.28	7.7		8.3
NN	93.5	94.4	84	3.76	4.47	4.48	8.1		7.2
OO	79.7	89.1	66.7	3.84	4.38	4.35	8.1		38.6
PP	77.9	86.8	62	3.83	4.3	4.24	7.3	F	65.2
QQ	90.3	88.9	67.1	3.83	4.42	4.45	7.9		17.4
RR	87.8	91.9	82.4	3.66	4.32	4.32	7.6	F	40
SS	88.1	95	80.5	3.84	4.51	4.44	7.9	F	51.6
TT	62.2	83.8	48.1	3.67	4.5	4.64	7.3	T	77.4
UU	71.3	80.9	60	3.69	4.38	4.21	7.6	F	56.1
VV	85.9	95	74.7	4.27	4.46	4.47	8.2		13.8
WW	76.4	88.9	53.4	4.06	4.53	4.34	7.6	T	76.2
XX	86.4	88.6	62.2	3.77	4.3	4.35	7.1		30.2
YY	88.7	95	55.7	3.66	4.51	4.36	8	T	67.7
ZZ	81.3	85.4	58.7	4.2	4.57	4.55	8.1	F	67.9
AAA	84.5	95	66.3	4.15	4.36	4.37	7.8	F	39.1
BBB	89.8	95	72.1	4.14	4.38	4.54	7.8		33.2
CCC	78.8	89.4	50.5	3.91	4.49	4.47	8.1	F	63.9
DDD	95	95	84	3.67	4.35	4.33	7.8		7.8
EEE	76.7	89	44.3	3.47	4.27	4.19	7.4	T	88.4
FFF	85.9	88.9	45.1	4.23	4.58	4.59	7.9	T	82.2
GGG	85.7	95	68.3	4.16	4.48	4.29	7.3	F	42.2
HHH	83.6	93.2	58.9	4.17	4.47	4.38	8.2	T	70.8
III	95	94.2	80	3.48	4.47	4.39	8.1		27
JJJ	84.8	87.9	69.1	3.76	4.45	4.45	8.1	F	54.4
KKK	76.1	87.3	54.9	3.7	4.41	4.38	7.9	T	75.7
LLL	95	95	83.2	4.33	4.42	4.28	7.6		6.1
MMM	89.8	93.9	72.3	3.44	4.23	4.11	7.7	F	44.9
NNN	95	95	91.8	3.67	4.5	4.44	7.9		5
OOO	81.3	95	73.4	3.74	4.39	4.37	7.9		14
PPP	95	95	79.8	4.14	4.48	4.44	8		12.5
QQQ	94.7	95	94.4	4.14	4.37	4.38	7.8		23.6
RRR	92.2	95	84.5	3.43	4.36	4.24	7.5	F	30.5
SSS	95	95	85.5	3.69	4.3	4.32	6.9		15.3
TTT	80.6	88.1	69.7	4.1	4.32	4.28	7.5	F	43.2
UUU	73.8	86.2	61.7	3.96	4.43	4.6	8	F	53.6
VVV	90	92.9	62.9	3.61	4.33	4.4	8.1	F	42.2
WWW	94.3	95	91.4	4.11	4.48	4.6	8.2		13.1
XXX	86.4	95	82.2	3.87	4.44	4.4	7.8		7.1
YYY	85.3	93.1	59	4.14	4.42	4.51	7.9	T	69.9
ZZZ	89.2	94.1	66.3	4.01	4.34	4.41	7.5	F	32
AAAA	95	95	78	4.03	4.45	4.4	7.2		18.1

BBBB	85.8	91.2	66.4	4	4.43	4.49	7.6	F	47.7
CCCC	87.5	95	63.7	3.5	4.49	4.41	7.6	F	33.9
DDDD	88.7	95	78.7	4.02	4.51	4.47	7.4		14.4
EEEE	95	95	88.8	3.73	4.53	4.43	7.8		5
FFFF	95	95	95	3.72	4.41	4.29	7.3		16.7
GGGG	86.7	95	75.3	3.84	4.58	4.48	7.1		16.5
HHHH	87	93.5	75.6	3.94	4.41	4.25	7.8	F	22.9
IIII	93.9	95	85.1	3.85	4.29	4.28	7.6	F	35.3
JJJJ	85.1	95	70.7	3.67	4.5	4.65	8.1	F	48.7
KKKK	81.9	87.2	56.8	3.45	4.29	4.35	7.8	T	66.8
LLLL	95	95	90.1	3.72	4.4	4.32	7.7		25.2
MMMM	76.6	93.8	69.2	3.82	4.39	4.47	7.6	F	59
NNNN	82.4	87.8	58.7	3.74	4.44	4.22	8	F	48.7
OOOO	77.2	84	44.8	3.57	4.45	4.42	7.4	T	82.1
PPPP	95	95	95	3.81	4.51	4.34	7.9		6.1
QQQQ	83.6	95	76.9	4.05	4.55	4.54	8		13.5
RRRR	94.4	95	88.7	3.51	4.33	4.17	7.6		14.4
SSSS	93.4	95	79.1	3.92	4.52	4.38	7.4		5
TTTT	83.3	83.5	41.9	3.8	4.44	4.39	7.7	T	76.2
UUUU	93.8	95	89	4.22	4.42	4.31	7.8		15.7
VVVV	69.9	88	52.5	3.96	4.47	4.06	7.3	F	57.4
WWWW	95	95	90.1	4.28	4.52	4.53	7.6		13.5
XXXX	70.7	95	72.4	4.11	4.41	4.4	7.7		22.9
YYYY	77.1	87.8	58.1	4.02	4.4	4.33	7.9	F	61.7
ZZZZ	86.7	94	79	4.08	4.33	4.16	7.5	F	52.3
AAAAA	95	95	68.3	3.83	4.44	4.39	8.1	T	77.6
BBBBB	93.6	95	86.1	3.79	4.39	4.49	7.4		27.1
CCCCC	95	95	90.4	4.07	4.43	4.32	7.5		5.1
DDDDD	59.6	89.8	39.8	3.51	4.48	4.3	8	T	65.2
EEEEE	95	94.4	73.6	4.15	4.21	4.37	7.4	T	71.1
FFFFF	78	94.1	66	3.79	3.79	4.21	4.2	T	73.4
GGGGG	71.9	85.4	57.8	3.6	4.45	4.4	7.6	F	44.7
HHHHH	77.6	80.9	53.6	3.72	4.47	4.29	7.8	F	66.2
IIIII	95	95	89.5	3.83	4.51	4.37	8.1		5
JJJJJ	87.8	87.7	68.7	3.79	4.43	4.46	8.3	T	79.8
KKKKK	93.2	95	87.9	3.99	4.42	4.27	8.1		5
LLLLL	92.3	95	84.2	3.75	4.59	4.55	7.8		24
MMMM	85	94.9	63.8	3.85	4.4	4.37	7.1	T	81.1
NNNNN	79.5	86.7	56.1	3.91	4.39	4.18	7.2	F	62.6
OOOOO	89.3	95	85.4	3.91	4.5	4.43	7.7		25.8
PPPPP	82.5	85.7	52.4	4.01	4.41	4.49	7.8	F	50.1
QQQQQ	95	95	93.5	3.71	4.49	4.35	7.8		5
RRRRR	95	95	95	3.9	4.49	4.51	7.8		18.8

SSSSS	82.7	92	75.7	3.94	4.52	4.48	7.9		22.6
TTTTT	95	95	95	4.14	4.44	4.31	7.7		5

REFERENCES

Adelman, H., & Taylor, L. (2011). School engagement, disengagement, learning supports, & school climate. *Center for Mental Health in Schools at UCLA.*

Anderson, A., Hamilton, R. J., & Hattie, J. (2004). Classroom climate and motivated behaviour in secondary schools. *Learning environmental research*, *7*, 211-225.

Anderson, C. (1982). The search for school climate: A review of the research. *Review of Educational Research, 52*, 368–420.

Anderson, E. S., & Keith, T. Z. (2001). A longitudinal test of a model of academic success for at-risk high school students. *Journal of Educational Research, 90*, 259-268.

Barth, R. S. (2001). *Learning by heart. San* Francisco, CA: Jossey Bass).

Blad, E. (2014). More than half of students "engaged" in school, says poll. *Education Week,* April 9, 2014.

Bradshaw, C., Waasdorp, T., & Leaf, P. (2012). Effects of school-wide positive behavioral interventions and supports on child behavior problems. *Official Journal of the Academy of Pediatrics, 130*(5), 1136-1145.

Bridgeland, J.M., DiIulio, J. J., Jr., & Morison, K. B. (2006). *The silent epidemic: Perspectives of high school dropouts.* Washington, DC: Civic Enterprises.

Bundick, M. J., Quaglia, R. J., Corso, M. J., & Haywood, D. E., (2014). Promoting student engagement in the classroom. *Teachers College, 116*, 1-34.

Campbell, D. T., & Stanley, J. C. (1966). *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally College Publishing Company.

Carbonaro, W. (2005). Tracking, students' effort, and academic achievement. *Sociology of Education, 78*, 27-49.

Christle, C.A., & Schuster, J.W. (2003). The effects of using response cards on student participation, academic achievement, and on-task behavior during whole-class, math instruction. *Journal of Behavioral Education, 12*, 147-165.

Cohen, J., McCabe, L., Michellli, N. M., &Pickeral, T. (2009). School climate: Research, policy, practice and teacher education. *Teachers College Record, 111*.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A., et. al. (1966). *Equality of educational opportunity.* Office of Education, US Department of Health, Education, and Welfare. Washington, DC: US Government Printing Office.

Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life-span. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: From infancy to childhood* (pp. 61-97). Chicago: University of Chicago Press.

Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African-American youth: Context, self, action, and outcomes in school. *Child Development, 65*, 493-506.

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: a motivational analysis of self-system processes. In M. Gunnar & L.A. Sroufe (Eds.), *Minnesota Syposium on Child Psychology: Self Processes and Development*, *23*, 43-77). Chicago: University of Chicago Press.

Cook, T. D., Murphy. R. F., & Hunt, H. D. (2000). Comer's school development program in Chicago: A theory-based evaluation. *American Educational Research Journal, 37*, 535-597.

Cook, P. J., & Ludwig, J. (1998). The burden of "acting white": do black adolescents disparage academic achievement? In C. Jencks & M. Phillips (Eds.), *The Black-White Test Score Gap,* pp. 375-400. Washington, DC: Brookings Institution.

Creswell, J. W. (2003). Research design: qualitative, quantitative, and mixed methods approached. Thousand Oaks, CA: Sage Publications, Inc.

Dewey, J. (1927). *The public and its problems.* New York: Henry Holt and Company.

DeWitt, P., & Slade, S. (2014). *School climate change: How do I build a positive environment for learning?*. Alexandria, VA: ASCD.

Donaldson, G. A. (2006). *Cultivating leadership in schools: Connecting people, purpose, and practice*. New York: Teachers College Press.

DuFour, R., & Eaker, R. (1998).*Professional learning communities at work.* San Francisco, CA: Jossey Bass.

Dunleavy, J. & Milton, P. (2009). *What did you do in school today? Exploring the concept of student engagement and its implications for teaching and learning in Canada.* Toronto: Canadian Education Association (CEA), 1-22.

Dunleavy, J., Milton, P. ,& Crawford, C. (2010). The search for competence in the 21st

century. *Quest Journal 2010.* Leading Edge Learning.ca (Abstract) p. 2 Retrieved October 2010 from http://www.leadingedgelearning.ca/q2010/Docs/QuestJournal2010/Article12.pdf

Entwisle, D. R., & Alexander, K. L. (1990). Beginning school math competencies: Minority and majority comparisons. *Child Development,* 61, 454-471.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117-142.

Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to school engagement. *Journal of Negro Education, 62*, 249-268.

Flay, B. R. (2000). Approaches to substance use prevention utilizing school curriculum plus environmental social change. *Addictive Behaviors*, *25*, 861-885.

Fraser, B. J. (1987). Use of classroom environment assessments in school psychology. *School Psychology International, 8*, 205-219.

Fraser, B. J. (1998). Classroom environment instruments: Development, validity, and applications. *Learning Environments Research, 1*, 7-33.

Fraser, B. J. (2001). Twenty thousand hours: Editor's introduction. *Learning Environments Research, 4*, 1-5.

Fredricks, J. A., Blumenfeld, P.C., & Paris, A. (2004). School engagement: Potential of the concept: state of the evidence. *Review of Educational Research, 74*, 59-119.

Freiberg, H. J.,& Stein, T. A. (1999). Measuring, improving and sustaining healthy learning environments, in: H. J. Freiberg (ed.) *School climate: Measuring, improving and sustaining healthy learning environments, 11*. (Philadelphia, PA: Falmer Press.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology, 95*, 148-162.

Goldberg, M. L. (1967). Factors affecting educational attainment in depressed urban areas. Education of the disadvantaged (pp. 31-61). New York, Holt.

Gordon, G. (2006). *Building engaged schools: Getting the most out of America's classrooms*. New York: Gallup Press.

Gordon, G. (2013). *School leadership linked to engagement and student achievement.* Washington, D.C.: Gallup.

Gottfredson, G. D., &Gottfredson, D. C. (1989). *School climate, academic performance, attendance, and dropout*. College Park: University of Maryland, Institute of Criminal Justice and Criminology. (ERIC Document Reproduction Service No. ED308225)

Halpin, A. W., & Croft, D. B. (1963). *Organizational climate of schools*. Chicago: Midwest Administration Center, University of Chicago.

Harper, S., & Quaye, S. J., (2009) Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations. Washington, D.C.:*Routledge.*

Harris, L. R., (2008). A phenomenographic investigation of teacher conceptions of student engagement in learning. *The Australian Educational Researcher,* 5(1), 57-59.

Hayes, N. M., Emmons, C., Ben-Avie. (1997). School climate as a factor in student adjustment and achievement. *Journal of Educational & Psychological Consultation,* 8(3): 321.

Hoge, D. R., Smit, E. K., & Hanson, S. L. (1990). School experiences predicting changes in self-esteem of sixth- and seventh-grade students. *Journal of Educational Psychology, 82*, 117–127.

Horner, R., Sugai, G., & Anderson, C. (2010). Examining the evidence base for school-wide positive behavior support. *Love Publishing Company, 42*, 1-16.

Hoy, W. K., Hannum, J., & Tschannen-Moran, M. (1998). Organizational climate and student achievement: A parsimonious and longitudinal view. *Journal of School Leadership, 8,* 336-359.

Hoy, W. K., Smith, P. A., & Sweetland, S. R. (2002). The development of the organizational climate index for high schools. *The High School Journal,* Vol. 86, No 2, December 2002-January 2003, 38-49.

Huges, J. N., Luo, W., Kwok, O., & Loyd, L. K. (2008). Teacher-student support, effortful engagement, and achievement: A 3-year longitudinal study. *Journal of Educational Psychology, 100*, 1-14.

Institute of Medicine, (U.S.). (2004). *Engaging schools: fostering high school students' motivation to learn.* Washington, D.C.: National Academies Press.

Jackson, R., & Zmuda, A. (2014). 4 (secret) keys to student engagement. *Educational Leadership*, *72*(1), 19-24.

Johnson, B, & McClure R. (2004). Validity and reliability of a shortened, revised version of the constructivist learning environment survey (CLES). *Learning Environments Research,* Spring 2004.

Keith, T. Z., (2002). Commentary: Academic enablers and school learning. *School Psychology Review, 31*, 394-402.

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement of low-achieving students. *Teachers College Record, 111*, 1665-1692.

Lamb, S., Walstab, A., Tesse, R., Vickers, M., & Rumberger, R. (2004). *Staying on at school: Improving Student Retention in Australia* (Report for the Queensland Department of Education and the Arts). Melbourne: Center for Post-compulsory Education and Lifelong learning.

Leithwood, K., Louis, K., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. New York: The Wallace Foundation.

Lopez, S., Agrawal, S., & Calderon, V. (2010). The Gallup Student Poll Technical Report.

Loukas, A., (2007). What is school climate? *Leadership Compass,* 5, 1-3.

Loukas, A., & Murphy J. L., (2007). Middle school student perceptions of school climate: Examining protective functions on subsequent adjustment problems. *Journal of School Psychology, 45*, 293–309.

MacNiel, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, *12*, 73-84.

Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal, 37*, 153-184.

Maslowski, R. (2001). *School culture and school performance: An explorative study into the organizational culture of secondary schools and their effects.* Endschede, The Netherlands: Twente University Press).

McMillan, J. H. (2004). *Educational research: fundamentals for the consumer.* Boston, MA: Pearson.

Mehta, S. B., Cornell, D., Fan, X., & Gregory, A. (2013). Bullying climate and school engagement in ninth-grade students. *Journal of School Health*, *83*(1), 45–52.

Metler, C. C., & Charles, C. M., (2008). *Introduction to educational research.* Boston, MA: Pearson.

Millman, H. L., Schaefer, C. E., & Cohen, J. J. (1980). *Therapies for school behavior problems.* San Francisco: Jossey-Bass.

Moon, A. M., Mullee, M. A., Rogers, L., Thompson, R. L., Speller, V., & Roderick, P. (1999). Helping schools become health promoting environments: An evaluation of the Wessex Health Schools Award. Health Promoting International, *14*, 111-122.

National Research Council – Institute of Medicine (2003). *Engaging schools: Fostering high school students' motivation to learn.* Washington DC: The National Academies Press. Retrieved January 2011 from http://www.nap.edu/catalog.php?record_id=10421 http://www.nap.edu/catalog.php?record_id=10421

Patton, G. C., Bond, L., Carlin J. B., Thomas, L., Butler, H., Glover, S., et al. (2006). Promoting the social inclusion in schools: A group-randomized trial of effects on student health risk behavior and well-being. *American Journal of Public Health, 96*, 1582-1587.

Perry, A. (1908). *The management of a city school*. New York: Macmillan.

Rose, D. H., & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning.* Alexandria, VA: ASCD.

Rowe, E. W., Sangwon, K., Baker, J. A., Kamphaus, R. W., & Horne, A. M. (2010). Student personal perception of classroom climate: Exploratory and confirmatory factor analyses. *Educational and Psychological Measurement, 70.*

Sarason, S. (1996) *Re-visiting the culture of the school and the problem of change.* New York: Teachers College Press.

Sinatra, G., Heddy, B., & Lombardi, D. (2015). The challenges of defining and measuring student engagement in science. *Educational Psychologist, 50:1*, 1-13.

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571-581.

U.S. Department of Education (2014). *Guiding principles: A resource guide for improving school climate and discipline*. Washington, DC.

Waxman, H. C. (1991). Investigating classroom and school learning environments: A review of recent research and developments in the field. *Journal of Classroom Interaction, 26*, 1-4.

Yazzie-Mintz, E. (2007). *Voices of students on engagement: A report on the 2006 high school survey of student engagement.* Bloomington, IN: Indiana University, Center for Evaluation and Education Policy.

Zins, J. E., Weissberg, R. P., Wang, M. C., & Walberg, H. J. (Eds). (2004). *Building academic success on social and emotional learning: What does the research say?* New York: Teachers College Press.

Websites:
www.corestandards.org

http://www.corestandards.org/about-the-standards/

http://www.gallupstudentpoll.com/17179/gallup-student-poll.aspx
Mdreportcard.org, 2014

http://XXXschoolsmd.org/departments/title one/includes/titleone_part_a.shtm

http://www.siatech.org/schools/pdf/2012-2013_All_Sites_gallupreportsummary.pdf
(Gallup student poll p. 3)

http://www.pbs.org/wgbh/pages/frontline/shows/schools/nochild/nclb.html

https://q12.gallup.com/Help/en-us/Answers/180023

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