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The Impact Of Academic Optimism On Student Achievement In Five Middle Schools

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**THE IMPACT OF ACADEMIC OPTIMISM ON STUDENT ACHIEVEMENT
IN FIVE MIDDLE SCHOOLS**

by

RITA H. TEAGUE

DISSERTATION

Submitted to the Graduate School

of Wayne State University

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF EDUCATION

2015

**MAJOR: EDUCATIONAL LEADERSHIP AND
POLICY STUDIES**

Approved by:

Advisor

Date

DEDICATION

This is dedicated to my father and mother, Handley and Argua Hickey, who instilled in me the love of learning and the need to keep striving toward my goal. They also taught me that when a goal is reached, to strive toward another. What will be next?

This is also dedicated to my husband, Merv, son, Justin, and daughter, Erin who spoke words of encouragement when I became doubtful, sacrificed their personal time to assist me, and who never doubted that I would succeed.

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I give praise and honor to God who strengthened me and sustained my hope throughout this journey

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Thank you to the staff of Levey Middle School and my dance ministry, the Vessels of Grace, who prayed for me, were patient with me, encouraged me and listened to my tales of happiness and woe.

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CHAPTER ONE

INTRODUCTION

Background

There is a history of focus on student achievement in K-12 public schools and the determination of factors contributing to increased and decreased test scores. To examine factors contributing to the poor academic outcomes in schools, The National Commission on Excellence in Education published *A Nation at Risk* in 1983. The results of this study indicated the United States K-12 educational system was on a downward trajectory and the economic and technology prominence of the country was in danger (Gutherie & Springer, 2004). Based on student test score, it was concluded that curricular reforms were needed to improve student achievement.

Subsequently, the Goals 2000: Educate America Act legislation (P.L. 103-227) that addressed student achievement in the United States was passed by Congress in 1994. This act supported the development and implementation of standards-based curriculum and systemic reform initiatives in the individual states. According to Superfine (2005), the law provided for increased financial flexibility at state and local levels in exchange for adapting to certain accountability measures. Together, standards, assessments, flexibility, and accountability were thought to be key components that could spur systemic reform in the American education system.

The *No Child Left Behind* (NCLB) Act of 2001 (P.L. 107-110) compelled states to design school accountability systems based on annual student assessments. Student scores in mathematics and reading were to be matched to schools, and each school was to be held responsible and accountable for its students' achievement or the lack thereof.

The demonstration of a public school's effectiveness is predicated on its standardized test scores. In Michigan, the Michigan Education Achievement Program (MEAP) scores are used for

this purpose. They are published on the Department of Education web site for public viewing, and are frequently republished in other public outlets (e.g., newspapers, internet blogs). With the passage of NCLB in 2005, the perceived effectiveness of the instruction and curriculum provided by the teachers and administrators is determined by these publicized MEAP scores. When the public reads that a school's MEAP scores are not at or above the state's set standard, the perception of that school's effectiveness may be skewed. With this one factor, student outcomes on one assessment, used by the state's department of education, various media, the general public, and the administration and faculty of the school to assess student growth and school effectiveness, any pertinent variable affecting student achievement must be examined closely.

The study of classroom teaching behaviors and their relationship to student achievement has produced a body of research labeled as process product research. Process-product research literature on teaching is a large set of studies describing the relationship between teacher behaviors and student achievement. Classroom teaching behaviors, such as focusing class time on active academic instruction rather than classroom management and presenting materials in a structured format through the use of advance organizers have been found to positively affect students' achievement gains (Hill, Rowen & Ball, 2005).

The variable of educational resources and the relationship between educational resources and outcomes has been the focus of previous research. Beginning with the Coleman report (Coleman et al., 1966), these studies are referred to as education production function studies. The purpose of this research was to explain student achievement on standardized tests based on the variable of resources possessed by students, teachers, schools and others. The resources considered were student's family background and social economic standing (SES), district financial commitments to teacher salaries, teacher-pupil ratios, other material resources, and teacher and classroom characteristics (Hill, Rowen, & Ball, 2005). The Coleman Report

(Coleman et al., 1966) found that resources had a small impact on student achievement. Greenwald, Hedges and Laine (1996) conducted a more thorough analysis of education production function literature leading to the conclusion that a broad range of school inputs are positively related to student achievement.

Academic emphasis, collective efficacy and faculty trust in parents and students are three factors that have been found to effect student achievement positively. Academic optimism, a construct coined by Hoy, Tarter and Hoy (2006) is a combination of these three variables, academic emphasis, collective efficacy and faculty trust in parents and students. Hoy, Tarter and Hoy studied the effect of the three variables as a single construct, academic optimism. The research on the three variables, academic emphasis, collective efficacy and faculty trust in parents and students was examined before academic optimism.

Academic Emphasis

Hoy, Tarter and Hoy (2006) defined academic emphasis as, “the extent to which a school is driven by the quest for academic excellence-a press for academic achievement” (p.427). This definition implies behavior generates the push or press towards excellence in student achievement. Subsequently, Beard, Hoy, and Hoy (2010) asserted that they enhanced the definition of academic emphasis to reflect a focus on learning and an emphasis on certain behaviors in schools.

For the push for academic excellence to be viewed favorably the individual classroom teacher must realize its importance to his or her classroom. As Beard et al. (2010) noted, “Therefore, teacher’s sense of academic emphasis or academic press, as it is sometimes called, is the degree to which teachers find ways to engage students in appropriate, academic tasks” (p. 1137). The teacher’s commitment to and belief in providing academically rigorous materials and

instruction are essential for academic emphasis at the classroom level and important when collaborating with other teachers at the whole school level.

Hoy et al.'s (2006) definition of academic emphasis was drawn from several earlier studies. The positive relationship between academic emphasis and student achievement was noted in the research of social distribution of academic achievement in Catholic high schools conducted by Lee and Bryk (1989). They delineated specific characteristics appearing to be important in regard to the distribution of academic achievement among all social and ethnic classifications. One of these characteristics is a strong academic emphasis for all students. Hoy, Tarter and Kottkamp (1991) suggested that a strong link existed between academic emphasis and student achievement. In an attempt to create and measure a climate measure for secondary schools, Hoy, et al.(1991) studied Halpin's and Croft's 1963 Organizational Climate Descriptive Questionnaire, OCDQ. Hoy et al. (1991) determined a major shortcoming of the OCDQ was that it was developed for elementary schools. After additional research, revisions and testing, a new questionnaire for determining the organizational health of a secondary school emerged, the Organizational Health Inventory, OHI. A finding from the testing of the OHI was that academic press or emphasis is seen as one of the critical ingredients of good school health and that school health is related to higher student achievement (Hoy, et al., 1991). Academic emphasis was also strongly related to success whether defined by the commitment of teachers to the school, the teachers' judgment of the effectiveness of the school, or student test scores (McGuigan & Hoy, 2006)

Collective Efficacy

Collective efficacy is the second factor in academic optimism and is defined as the shared perception of teachers in a school that the efforts of the faculty as a whole can have a positive effect on students (Hoy & Miskel, 2001). Collective teacher efficacy is a construct measuring

teachers' beliefs about the collective (not the individual) capability of a faculty to influence student achievement. It refers to the perceptions of teachers that the efforts of the faculty of a school will have a positive effect on student achievement (Goddard, Hoy, & Woolfolk-Hoy, 2000). This positive perception motivates individual teachers to work smarter and harder to maintain this positive effect. Bandura (1994) argued that collective efficacy of teachers within a school is the most powerful construct that varies greatly among schools and is systematically associated with student achievement. Collective efficacy fosters student achievement by creating a school culture with a norm of and expectation for sustained effort and resiliency in the pursuit of school goals for student growth and development, particularly academic achievement (Goddard & Skrla, 2006). Goddard, LoGerfo, and Hoy (2004) suggested that perceived collective efficacy facilitates instruction by fostering a culture where teachers (a) collaborate to improve classroom instruction, (b) work together to make school decisions, (c) choose challenging tasks, and (d) remain committed to teaching and persist even when faced with difficulties. Schools characterized by high levels of collective efficacy communicate emphasis for effective teaching and learning that yields positive outcomes (Goddard et al., 2004). Presumably, positive outcomes could translate into high student achievement.

Faculty Trust in Parents and Students

Faculty trust in parents and students is defined by Hoy et al. (2006a) as “a willingness to be vulnerable, reliable, competent, honest, and open” (p. 429). Faculty trust in students and faculty trust in parents may seem like two different constructs as they rely on the same definition and facets. Trust is relational describing a connection of confidence and reliance among people (Bryk & Schneider, 2003). Trust involves taking risks and making oneself vulnerable to another with confidence that the other will not be detrimental to the trusting party (Hoy, Gage, & Tarter, 2006). Trust in organizational settings implies collegiality with reliance on others. Bryk and

Schneider (2002) noted in their longitudinal study of trust's connection to student achievement "Trust fosters a set of organizational conditions, some structural and others social-psychological, that make it more conducive for individuals to initiate and sustain the kinds of activities necessary to affect productivity improvements" (p. 116). Hoy (2006a) theorized that trusting others is a fundamental aspect of human learning because learning is typically a cooperative process, and distrust makes cooperation virtually impossible.

For trust to be most effective, it must be reciprocal. There must be a three way trusting relationship among faculty, parents and students, and there must be mutual trust between teachers and teachers' trust in leaders. The principal needs faculty support to maintain a cohesive professional community that engages parents and students. Teachers work depends on decisions the principal makes regarding allocation of resources to their classrooms. Parents depend on teachers and the principal to create a safe environment where their children are able to learn (Bryk & Schneider, 2003). According to Flutter, when a trusting relationship is created with the teacher, "students show themselves great" (p.1137), finding their voice, and apply themselves to learning (Beard et al., 2010). In cases where teachers and students have established a spirit of trust, a more positive learning culture has been created in the school (Flutter, 2007). According to Beard et al. (2010), teachers who are effective are sure that their students are open to learning and have the ability to succeed. Teachers expect students to perform at their optimal levels. Hoy and Tschannen-Moran's studies also suggested that faculty trust in parents predicts a strong degree of parent-teacher collaboration (cited in Brown et al., 2011). When students, teachers, and parents have common learning goals, trust and cooperation are ingredients that improve teaching and learning (Hoy et al., 2006a). If teachers, parents, and students form a triadic trusting relationship, they could feel supported and presumably would be more willing to do what is necessary to produce desired results.

The results desired by parents and society are increased student learning as demonstrated by student achievement. A number of scholars have argued that trust is an important school characteristic that makes a difference in student learning (McGuigan & Hoy, 2006). Bryk and Schneider (2002) documented the importance of trust to the success of school reform efforts and student achievement in Chicago Public Schools in the 1990s (cited in Goddard, Salloum, & Berebitsky, 2009). Goddard et al. (2001) showed in different urban districts, teachers' trust in students and parents was positively related to differences among schools student achievement even after controlling for student's prior academic achievement and student and school socioeconomic status. Hoy (2002) also noted that after controlling for social economic status, faculty trust in parents and student had a positive effect on student outcomes.

Statement of Problem

State boards of education and the public determine the effectiveness of a school through looking at one major factor, student outcomes on a state standardized assessment. The content assessed on these standardized tests is based on standards written by individual states with each school and its administrators and teachers held accountable for the results. Schools are required to improve the achievement of students each year and to eliminate the achievement gap by race, ethnicity, language, and special education status or face severe sanctions (Byrd-Blake, Afolayan, Hunt, Pryor, & Leander, 2010). Raising the achievement of students is referred to as "Adequate Yearly Progress" or AYP. Under the 2001 law, AYP has to be disaggregated for major subgroups, and there are specific consequences when schools and districts do not meet AYP. The consequences begin with parents being informed that their child's school is failing and the school district being required to provide transportation to a new school of choice. The most extreme consequence is the complete restructuring of the failing school. These consequences make it necessary for schools and school districts to adopt characteristics, other than standards based

curriculum and instruction that positively influence student achievement. The faculty, principal, and other district administrators need to know and understand what variables have positive and negative effects on the standardized assessments. Utilizing this knowledge to mitigate the variables that have negative effects and increase the positive effects can lead to an increase in student achievement and student scores on standardized assessments. These increases can result in a school making AYP and being effective as viewed by the state department of education and the public.

Purpose of the Study

The purpose of the study was to determine if academic emphasis of a school, collective efficacy of a faculty, and faculty trust in parents and students could be used to explain students' aggregated achievement as measured by school-level MEAP scores and Measures of Academic Progress (MAP).

Research Question

To what extent do the measures of academic optimism explain academic achievement?

Significance of the Study

Academic optimism, as measured by academic emphasis, collective efficacy, and faculty trust, have been found to make a difference in achievement levels of students. The academic emphasis of the school, the collective efficacy of the faculty, and the faculty's trust in parents and students are viewed by Hoy as the three factors that together as one single force, determine student performance (Hoy, Gage, & Tarter, 2006). Hoy, Tarter, and Woolfolk-Hoy (2006) called this force, academic optimism, a general latent variable. Latent variables are variables that cannot be measured directly, but are assessed through other related variables. The structural model of academic optimism supports and builds upon Seligman's (1998) theory that optimism influences achievement as much as talent and motivation, and that optimism can be learned and

developed (cited in Brown et al., 2011). If academic optimism indeed does make a difference in student achievement as demonstrated by standardized test scores, then the three factors that Hoy, Tarter, & Woolfolk-Hoy (2006) have identified as its ingredients must be defined based on theory and research.

Assumptions

Teachers were aware of the emphasis placed on standardized test scores as a measure of school effectiveness.

Teachers were aware that their students' standardized test scores would be used as a major factor in their evaluations.

Limitations

The generalizability of this study could be affected by the following limitations:

- The study was conducted in two suburban school districts in a Midwest state. The findings might not be generalizable to urban or rural school districts or school districts in other locations.
- This study was limited to middle school teachers. The findings cannot be generalized to teachers at elementary or high school levels.
- The study was limited to student populations that were either majority African American or majority Caucasian. The findings cannot be generalized to students of other ethnicities.

Definition of Terms

The following key terms were used in this study:

Academic Emphasis (academic press): “the extent to which a school is driven by the quest for academic excellence—a press for academic achievement” (Hoy, Gage, & Tarter, 2006, p. 145).

Academic Optimism: Three independent variables, academic emphasis, collective efficacy and faculty trust in students and parents, that when taken as a whole, measure the latent variable, academic optimism.

Adequate Yearly Progress (AYP): A measure of yearly progress by a school or school district to meet annual academic goals. AYP is reported in curriculum areas of math, reading, attendance and graduation rates.

Collective Efficacy: “the judgment of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students” (Goddard, et al, 2000, p. 4).

Faculty Trust in Students and Parents: Trust that is reciprocated among all stakeholders (e.g., administration, faculty, parents and students).

Middle School: Grades 6 through 8.

Perceived Self-Efficacy: People's beliefs about their capabilities to produce effects (Bandura, 1994, p. 3).

Socioeconomic Status (SES): is a characteristic of students that measures poverty, based on the proportion of students in a school who are eligible for free or reduced price school lunch.

Trust: “a willingness to be vulnerable, reliable, competent, honest, and open” (Hoy, Tarter, & Woolfolk-Hoy, 2006, pg. 429)

CHAPTER TWO

REVIEW OF LITERATURE

As a direct result of the National Commission on Excellence in Education 1983 report, *A Nation at Risk*; legislature passed by Congress in 1994, Goals 2000; and the *No Child Left Behind* (NCLB) Act of 2001, the validity and continued existence of a public school in the United States rest on one measure, student achievement. Also as a result of the aforementioned, state's Boards of Education measure student achievement by one instrument, a state designed standardized assessment. Local educators and local school boards disaggregate data from a variety of formative and summative assessments to determine a student's academic achievement, but due to NCLB, national policy makers have determined one assessment gives the information needed. In the state of Michigan, this assessment is the Michigan Education Achievement Program, the MEAP. A public school that continually fails to demonstrate increasing student achievement on this one assessment suffers consequences that lead to its restructuring and eventual demise. There are other factors NCLB and the state into consideration when evaluating a school such as graduation levels, number of students tested, and qualifications of teachers, but student results on the state standardized assessment is the predominate and most heavily weighed factor . With such high stakes, it is a necessity that local school administrators and teachers leaders know and understand research based ways to effect improvement in student academic achievement.

Education emerged as the focus of the nation with the publication of *A Nation at Risk* in 1983 by the National Commission on Excellence in Education. In a January 2001 Roper poll asking for the most important issue facing American society, education was cited as the single most important issue in the United States. Education was rated 92 percentage points greater than the second rated response, the economy (Guthrie & Springer 2004). *A Nation at Risk* initiated

school reform in three major waves. The first wave saw individual states increasing the school day and school year, graduation requirements, and the amount of required math and science. The second wave included standards based reform meaning the alignment of professional development, statewide standardized achievement tests, instructional materials, performance ratings and school report cards. The third wave was noted by the measurement of outcomes and the building of today's accountability (Guthrie & Springer, 2004). The stimulus for this third wave is the No Child Left Behind (NCLB) act of 2001. NCLB mandated public schools in each state conduct yearly assessments aligned with state standards. The results of these assessments are to serve as a major component in identifying schools not making "adequately yearly progress" or AYP. The goal is to insure each student would reach proficiency in reading and math by the 2013-2014 academic year (Dee & Jacob, 2011).

Highlights of the key AYP requirements include the following:

- A 100% proficient deadline was set for all students, and disaggregated data were used to determine AYP toward that deadline.
- Graduation and participation rates were included to ensure high levels of student participation in testing.
- Test requirements were added; more grades were included to ensure high levels of student participation in testing.
- States are required to participate in NAEP.
- Actions are required when Title 1 schools do not meet AYP.
- Strategies used must be grounded in scientifically based results.
- Teachers are required to meet a federal definition of highly qualified. (Shaul & Ganson, 2005, p. 152)

Failure to make AYP, Adequate Yearly Progress results in penalties, but the penalties differ depending on whether a school receives Title One federal funds. For the state of Michigan, the penalties are shown in Table 1.

Table 1

Penalties for Failing to Meet AYP

School Improvement Phase	Title 1 Schools	Non-Title 1 Schools
I	<ul style="list-style-type: none"> Choice and Transportation 2 year plan 	Develop and Implement School Improvement Plan
II	<ul style="list-style-type: none"> Supplemental Services Choice and Transportation 2 year plan 	2 nd Year of School Improvement Plan
III	<ul style="list-style-type: none"> Corrective Action Supplemental Services Choice and Transportation 	Choose from specific Corrective Action options
IV	<ul style="list-style-type: none"> Plan for Restructuring Supplemental Services Choice and Transportation 	Plan for Restructuring using cost neutral options
IV	<ul style="list-style-type: none"> Implement Restructuring Supplemental Services Choice and Transportation 	Implement Restructuring Plan

(*Adequate Yearly Progress, 2012*)

Note: In the chart above, School Improvement Phase Roman Numeral I indicates two consecutive years of a school not making AYP; Roman Numeral II indicates three consecutive years; Roman Numeral III indicates four consecutive years of not making AYP, etc. After a few years of not achieving AYP, a school is restructured and possibly closes to reopen under a new name with a different administration (*Adequate Yearly Progress, 2012*). To maintain the integrity of their local school and to insure its longevity, educators search for that which will improve student achievement as evidenced on the state assessments.

To understand how the nation has reached the point of examining ways to improve student achievement, we must look at the role academic achievement has played in school reform. In 1966, James Coleman surprised school administrators and teachers with his findings that school characteristics had little influence in explaining student achievement. He argued that schools had only a negligible effect on student performance and that most of the variation in student learning was a product of differences in family background (Hoy, Tarter Woolfolk-Hoy, 2006). This finding grew from connecting social capital theory to education. In *Public and Private Schools: the Impact of Communities*, James Coleman and Thomas Hoffer applied the theory of social capital to education in public and private schools. They viewed social capital as existing in the relationships between people. Specifically, in the resources resulting from the

structures of the families whose children attend the same school and the social structures in which family and school are embedded. They saw the lack of connections between generations of the same family and/or the lack of connections among families of children who attend the same school as a lack of social capital. “This lack of intergenerational closure constitutes the missing social capital that we have identified earlier as resulting in tangible losses for younger persons: lower achievement growth, greater likelihood of dropping out of school”(Coleman & Hoffer, 1987, pp. 225-226). This social capital stance viewed as negligible any actions a school might take to insure or even improve students’ academic success. Coleman placing the onus for student achievement on factors outside of the school’s control, but his lack of optimism that a school and its faculty and staff had the ability to plan and enact measures to influence academics was refuted.

One of the most outspoken critics of Coleman’s application of Social Capital Theory to education and schools was Edmonds. Edmonds (1979) posited that children’s learning and achievement was more strongly affected by the characteristics of the school attended than those characteristics in the student’s home and community. In refuting Coleman, Edmonds cites the work of George Weber in *Inner City Children Can Be Taught to Read: Four Successful Schools*. Weber was an early contributor to the literature on the school determinants of achievement. Weber focused on the characteristics of four inner-city schools where reading achievement was successful for poor children based on national norms. All four schools had strong leadership, high expectations for all their students, strongly emphasized pupil acquisition of reading skills and frequently and carefully evaluated student progress (Edmonds, 1979). Edmonds, along with Frederiksen, published, *Search for Effective Schools: The Identification and Analysis of City Schools That Are Instructionally Effective for Poor Children*. Their thesis was that all children are educable and the behavior of the school is critical in determining the quality of that education

(Edmonds, 1979). Through the *Search for Effective Schools* project, Edmonds and Frederiksen (as cited in Edmonds, 1979) developed persuasive evidence leading to six characteristics of effective schools.

- (a) They have strong administrative leadership without which the disparate elements of good schooling can neither be brought together nor kept together.
- (b) Schools that are instructionally effective for poor children have a climate of expectation in which no children are permitted to fall below minimum but efficacious levels of achievement.
- (c) The school's atmosphere is orderly without being rigid, quiet without being oppressive, and generally conducive to the instructional tasks at hand.
- (d) Effective schools get that way partly by making it clear that pupil acquisition of basic school skills takes precedence over all other school activities
- (e) When necessary, school energy and resources can be diverted from other business in furtherance of the fundamental objectives.
- (f) There must be some means by which the pupil can be frequently monitored (p. 22).

The Weber study and the Edmonds and Frederiksen study (as cited in Edmonds, 1979) both list strong administrative leadership; high expectations for student academic outcomes; strongly emphasized basic skills; and continuous monitoring of pupil progress opposes Coleman's position that only outside factors determine student achievement and school characteristics are negligible.

Coleman viewed socioeconomic status as a predominant factor in influencing student achievement. Weber, Edmonds and Frederiksen (as cited in Edmonds, 1979) concentrated their studies on how schools were able to influence student achievement positively regardless of SES. More recent studies, utilizing better data and more sophisticated statistical tools than Coleman and his colleagues had available, show that several school properties are as important as socioeconomic status in accounting for student achievement (McGuigan & Hoy, 2006). These

properties, academic emphasis, collective efficacy and faculty trust in parents and students, were comparable to the properties suggested by Weber, Edmonds and Frederiksen,. These three organizational properties seem to make a difference in student achievement (Hoy, Tarter & Hoy-Woolfolk, 2006). Hoy, Tarter, and Hoy-Woolfolk (2006) linked these three properties, terming them, academic optimism. This study was designed to investigate if variables of academic optimism (i.e., academic emphasis, collective efficacy, or faculty trust in parents and students) could explain students' aggregated achievement using school-level Michigan Education Assessment Program (MEAP) scores, and Measures of Academic Progress (MAP) scores,. Before doing that, however; the term academic optimism must be understood.

Academic Optimism

To grasp the term academic optimism, we must examine optimism. The trait of optimism is one of the two most widely researched concepts within positive psychology. Positive psychology explores and explains optimal environments (Seligman, 2000). Positive psychologists identify situations where humans thrive and flourish through analyzing positive emotions (especially optimism), traits and institutions (Hoy, Hoy, & Kurz, 2008). In the study of positive psychology, optimism is a trait appearing to balance external events with a person's perception. People high in optimism tend to have better moods, to be more persevering and successful, and to experience better physical health (Seligman, 2000). Contending that optimism, as an aspect of success is just as important as talent or motivation, Seligman notes optimism has the added feature; it can be learned and enhanced. Learned optimism is a characteristic of a single individual in an organization; while academic optimism characteristic of entire organization (Dean, 2011). Seligman continues that learned optimism gets people over the wall of learned pessimism and not simply as individuals but also as organizational participants (i.e., teachers; Smith & Hoy, 2007). An optimistic classroom emphasizes the opportunities and

possibilities (Wethington as cited in Hoy et al., 2008), resilience (Ryff & Singer as cited in Hoy et al., 2008), altruism (Piliavin as cited in Hoy et al., 2008), and trust (Hoy, et al., 2008). When looking at the classroom context, optimistic teachers focus on the positive qualities of students, classrooms, schools and communities (Pajares, 2001 as cited in Hoy et al., 2008). Optimistic teachers hone in on the affirmative characteristics of their students, the environment in which the teachers teach, and the homes and surrounding areas where their students live. Their optimism adds emphasis to hope, responsibility and a general positive disposition to life.

Scheier and Carver's (1985) theory of optimism is based on expectancy-value models of motivation. This model begins with the assumption that human behavior is organized around pursuing goals. That is, optimists tend to expect a positive outcome in any given goal pursuit (cited in Rand, 2009). The positive emotions generated by optimistic expectancies enable people to remain actively engaged in pursuing goals, even when the pursuit is difficult and stressful. Optimists expect a positive outcome in any given pursuit, whereas pessimists are more likely to expect a negative outcome. Optimism is the belief that good things will happen but does not focus on one's personal control or agency in realizing those outcomes. Optimism involves a combination of expecting positive outcomes and not expecting negative ones (Rand, 2009). Optimism in education speaks to the expectancy of positive results and the positive frame of mind that controls or puts a positive spin on the outcome. These views of optimism suggest when a teacher is optimistic about her ability to encourage and engage students, student achievement increases. These views also suggest when a teacher has a positive frame of mind and expectations of positive outcomes, student achievement is increased. When faculty shares the same focus on basic skills and student acquisition of these skills, does student achievement increase school wide? If students, faculty and parents cooperate and hold similar optimism is an increase in student achievement noted? The results of the studies by Weber and Edmonds and

Frederiksen (as cited in Edmonds, 1979) noted strong administrative leadership; high expectations for student academic outcomes; strongly emphasized basic skills; and continuous monitoring of pupil progress as positively effecting student achievement. This combination of factors points to optimistic views held by the administration and faculty of a school. They must believe they can positively affect the academic achievement of their students.

Hoy, Tarter & Woolfolk-Hoy (2006) indicated that academic optimism is reflective of beliefs about assurances that students can be successful in schools. They explained:

Efficacy is the belief that the faculty can make a positive difference in student learning; teachers believe in themselves. Faculty trust in students and parents is the belief that teachers, parents, and students can cooperate to improve learning, that is, the faculty believes in its students. Academic emphasis is the enacted behavior prompted by these beliefs, that is, the focus is student success. Thus, a school with high academic optimism is a collectivity in which the faculty believes that it can make a difference, that students can learn, and academic performance can be achieved. (Hoy, Tarter & Hoy-Woolfolk, 2006. p. 445)

Albert Bandura's research posited that Social Cognitive Theory "distinguishes among three modes of agency: direct personal agency; proxy agency that relies on others to act on one's behalf to secure desired outcomes; and collective agency exercised through group action" (Bandura, 2002, p. 270). The variables of collective efficacy, faculty trust in parents and students and academic emphasis each appear to match all three modes of agency, but Bandura (as cited in Hoy, Tarter, Woolfolk-Hoy, 2006) assessed all three as "emergent organizational attributes in aggregated individual perceptions of the *group*, as opposed to the *individual*; that is these variables are emergent group-level attributes, rather than simply the sum of teachers' perceived personal attributes" (Hoy, Tarter & Woolfolk-Hoy 2006, p. 430). The view of faculty trust in students and parents, collective efficacy and academic emphasis being dynamics of the group as opposed to the sum of individual characteristics is upheld through studies by several researchers.

Faculty trust in students and parents by its label implies organizational trust on the part of the combined teachers in a building. Hoy and Tarter's analysis of trust in organizations led to a

multifaceted definition of trust. Mishara defined trust as, “Trust is one party’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open” (cited in Tschannen-Moran & Hoy 1998, p. 337). The individual teacher having trust in students and parents or the individual teacher creating a trusting atmosphere in the classroom is not sufficient to affect the school as a whole. It must be the whole group of teachers, the faculty.

Self-efficacy on the part of a teacher and its impact on student achievement has been the focus of many studies. Bandura’s work with social cognitive theory extends beyond the efficacy of the individual teacher to the efficacy of the collective. The perception of self-efficacy was noted by Bandura as, “beliefs in one’s capabilities to organize and execute a course of action required to produce a given attainment” (p. 3). When applying Social Cognitive Theory to this definition it is noted that personal agency works in a broad network of social-structural influences (p. 6) hence “extending the analysis of mechanisms of human agency to the exercise of collective agency” (p. 7) people’s shared beliefs that they can work together to produce effects (cited in Goddard, 2000). What one teacher may strive for and believe able to achieve is made much more certain when the effort and belief is shared by the entire faculty, the collective. Goal achievement, being more attainable with collective effort, is supported by Bandura’s social cognitive theory.

Studies of the possible effects of academic emphasis on academic achievement were conducted almost simultaneously by Hoy, Tarter and Bliss (1990) and Lee and Bryk (1989). Lee and Bryk (1989) were attempting to identify some of the characteristics of secondary schools that encourage a high level of achievement and promote equal distribution of achievement across a wide variety of social classes, races and ethnicities and academic backgrounds of students, as

Hoy et al. (1990) were in the process of formulating an analysis to compare school health and organizational climate.

Lee and Bryk (1985), in attempting to identify those characteristics mentioned above, began with questioning why some schools were better able to elicit high academic outcomes across a broad spectrum of social and racial distribution of students than others. Several researchers had shown that the relationship between social background and academic achievement is weaker in Catholic than in public schools (Coleman, Hoffer, & Kilgore 1982; Hoffer 1986; Hoffer, Greeley, & Coleman 1985; Lee 1985). Researchers (Keith & Page and Lee as cited in Lee & Bryk, 1989) reported a weaker relationship between minority-group status and academic achievement in the Catholic sector. Comparing public and Catholic high schools on the characteristics mentioned seemed a useful and natural experiment (Lee & Bryk, 1989). The results of the Lee and Bryk (1989) research identified the following specific characteristics of the schools were particularly important in achieving academic achievement regardless of the social backgrounds and racial identities of the students: a safe and orderly environment, as strong press toward academic work for all students, generally high levels of commitment by and involvement of teachers with their students, and a tightly structured academic organization with a constrained choice of curriculum by students. Two of these characteristics are also characteristics in the academic emphasis definition developed by Hoy and Miskel 2005, and Hoy, Tarter, and Kothkamp 1991.

Hoy et al. (1990) drew their description of organizational climate from Miles' literature on organizational health and Parsons' literature on schools as social systems. Parsons' revised theory of action has a theoretical basis for school health. It is important to be aware of his emphasis on the integration of members into an organization. Researchers DeCotiis and Summers (1987) determined effective organizations contain members who agree with and

internalize the values of the organization, are willing to devote extra effort for the benefit of the organization, and have a desire to retain their membership in the organization. Academic emphasis being one factor that influences student achievement, it being stressed by an individual or a few members of an organization would not have a measurable effect on the organization or school. Academic emphasis is an organization factor, therefore for it to influence student academic achievement; it must be stressed by each member or a majority of the members of a social system.

Collective Efficacy

The construct of collective efficacy grew out of two different theories, Rotter's locus of control theory (1966), and Bandura's (1977, 1986, 1997) social cognitive theory (Goddard et al., 2000). Rotter and colleagues studied the role of reinforcement, reward or gratification in the acquisition and performance of knowledge and skills. They noted that if a person views the reinforcement as a result of his or her own behavior or characteristics, internal locus of control exists. However, if the reinforcement is viewed as somewhat or altogether reliant on others actions or factors outside of his or her control, then external locus of control exists (Rotter, 1966). The extent to which a teacher feels effective in increasing student achievement is then based on external or internal locus of control. Bandura's social cognitive theory looks at the use of personal agency affecting a person's life functioning and circumstances. Bandura (2002) classifies three different types of agency in his social cognitive theory: direct personal agency, proxy agency, and collective agency. The individual teacher's sense of effectiveness is tied to direct personal agency, but the faculty's view of their effectiveness rests on collective agency. Rotter's and Bandura's similar but different theoretical strands can be confusing but Bandura clarified the two. A sense of self-efficacy, one's view of his or her ability to cause particular behaviors are quite different from views of whether certain behaviors affect results (locus of

control) (Tschannen-Moran, et. al., 1998). Therefore a teacher's belief in personal effectiveness is not the same as that teacher's sense of what is or is not in their control.

Tschannen-Moran et al. (1998) posited a model of teacher efficacy combining the teaching task and its content. In analyzing (the teaching task and its context), the relative importance of factors that make teaching difficult or act as obstacles is weighed against an assessment of the resources available that facilitate learning. In addition, the teacher judges personal capabilities such as skills, knowledge, strategies, or personality traits against personal weaknesses or liabilities in a particular context. The individual teacher's effectiveness is based on the perception of the task and personal abilities. This forms a combination building the foundation for the collective efficacy of a school.

Collective efficacy is linked with a group's tasks, diligence, common thinking, levels of stress, level of effort, and achievement, thereby being akin to self-efficacy (Goddard et al., 2000). According to Bandura (as cited in Goddard et al. 2000), collective efficacy is an important school property. One reason for this conclusion is the link between teacher efficacy and student achievement. The four sources of self-efficacy posited by Bandura (1994), mastery experience, vicarious experience, social persuasion, and affective states, are pivotal in the creation of collective teacher efficacy, but the cognitive processing and interpretation are critical.

The most successful way of developing a strong sense of efficacy is through a combination of:

1. *Mastery Experiences* - People persist through adversity and rapidly return to action after overcoming obstacles, but only after being convinced they have the capability to produce expected outcomes.
2. *Vicarious Experiences* - Seeing similar people succeed by sustained methods raises observer's beliefs that they too possess the capability to master comparable activities to succeed.

3. *Social persuasion* – People who are persuaded verbally that they possess the capabilities to master given activities are likely to mobilize greater effort than if they harbor self-doubt and dwell on personal deficiencies when problems arise.
4. *Affective states* – The fourth way of modifying self-beliefs of efficacy is to reduce people's stress reactions and alter their negative emotional proclivities and misinterpretations of their physical states (Bandura, 1994, p. 72).

Individual teachers effectively utilizing these sources to increase student achievement is important to those students these individual teachers reach, but for an entire school to be effective in increasing student achievement, the collective faculty must tap these four sources. A breaking down of the various tasks of teaching and the evaluation of teaching capability are two of the key factors in the growth of collective teaching efficacy proposed by Goddard et al. (2000). They further propose that perceptions of group capability to successfully educate students result when teachers consider the level of difficulty of the teaching task (in relation) to their perception of group competence (Goddard et al., 2000). As teachers break down the tasks of teaching, they determine what instructional strategies and resources are necessary to successfully engage the students in learning. At the school level, teachers analyze what constitutes successful teaching in their school, what barriers or limitations must be overcome, and what resources are available to achieve success (Goddard et al., 2000). The question is, Can I (the teacher) or we (the faculty) orchestrate the thoughts and actions necessary to perform the task (Goddard, Hoy, & Hoy, 2004)? This analysis is the first part of the integrated model of teacher efficacy developed by Tschannen-Moran. The second part that must occur at the school level, the analysis of teacher competence, produces inferences about the faculty's teaching skills, methods, training, and expertise. The faculty beliefs in the capability of all their students to be successful might be a part of this analysis. Accepting challenging goals, exerting positive effort as an organization, and a tenacity that moves toward improved performance are positive outcomes of high level of collective teacher efficacy. Collective teacher efficacy is a construct measuring teachers' beliefs

about the collective (not the individual) capability of a faculty to influence student achievement; it refers to the perceptions of teachers that the efforts of the faculty of a school will have a positive effect on student achievement (Goddard et al., 2000). The connections between collective efficacy beliefs and student outcomes depend in part on the reciprocal relationships among these collective efficacy beliefs, teacher's personal sense of efficacy, teacher's professional practice, and teacher's influence over instructionally relevant school decisions (Goddard et al., 2004). The results of another study by Goddard and Goddard (2001) are consistent with social cognitive theory, which suggests that the expectations for attainment set by perceived collective efficacy influence the diligence and tenacity with which teachers approach their work. Schools characterized by high levels of collective efficacy communicate a press for effective teaching and learning that yields increased student achievement.

Recent research has examined teacher's collective efficacy as a plausible mechanism that explains the suggested relationship between teacher collaboration networks and student achievement. A positive relationship between school's social networks and teachers' perceptions of their collective capability to educate their students is further supported by the idea that teacher interaction offers opportunities to experience the team's ability to promote student learning and to build consensus around shared goals and expectations for students (Moolenaar, Slegers, & Daly, 2012). As a result of separate research done by Daly et al. (2010) and Moolenaar et al. (2010), common characteristics by which to describe social network structure at the organizational level are density and the centralization of the network (cited in Moolenaar et al., 2012). The density of a network refers to the number of existing ties in a network in relation to the maximum number of possible ties. Another informative network characteristic is network centralization. A network is highly centralized when a few actors in the network send and receive many relationships, whereas other actors in the network only have a few relationships.

(Moolenaar et al., 2012). The type of information shared and the goals of social networks also are distinguishing features. Instrumental networks contain social relationships that are aimed at achieving organizational goals, and may transfer resources such as work related information and knowledge, instructional materials, and task related advice. Granovetter (1973), Ibarra (1993), Moolenaar et al. (2012), and Uzzi, (1997) noted, in contrast, expressive networks encompass social relationships that transfer resources with an affective component, such as social support, friendship, and advice about personal matters that are not directly aimed at achieving organizational goals. Dense networks appear to support and nurture teacher's confidence in the capacity of their team to influence students' learning and achieve school goals. The potential to build collective efficacy beliefs is offered by both personal and work related advice relationships. Findings indicate that teacher's collective beliefs support student achievement (Moolenaar et al., 2012).

Faculty Trust in Parents and Students

Faculty trust in students and parents must be reciprocal to have positive effects on student achievement. Before examining faculty trust in students and parents and its effect on student achievement, take a close look at definitions of trust.

Baier (1986) posited, "...the custody of those things that matter to me most must often be transferred to others, presumably to those I trust. Without trust what matters to me would be unsafe..." (p. 231). Trust is fundamental to functioning in a complex and interdependent society. The public depends on people who provide transportation, such as airplane pilots and taxi cab drivers. The people who prepare food in restaurants and those who plant, nurture, and select it for sale in grocery stores or to those restaurants are considered trustworthy. Banks, credit unions, and financial planners are important for handling money with care and making wise decisions. People must have confidence that their expectations in others will be met. Other researchers have

noted the importance of trust as an integral element in successful and well-functioning organizations “Trust reduces the complexities of transactions and exchanges far more quickly and economically than other means of managing organizational life (Powell, 1990)” (as cited in Tschannen-Moran & Hoy, 2000, p. 549-550). More than two decades ago, Likert (cited in Tarter et al. 1989) identified trust as a key element in the interaction-influence processes of organizational life. Ouchi (cited in Tarter et al., 1989) argued that organizational productivity may depend on trust; in fact, he maintained that trust is a fundamental feature of the superior-subordinate relationships that pervade more successful organizational culture. “Trust is necessary for effective cooperation and communication, the foundations for cohesive and productive relationships in organizations” (Baier; Parsons as cited in Tschannen-Moran & Hoy, 2000, p. 549). The researcher, Arrow, stated, “Trust functions as a ‘lubricant’ greasing the way for efficient operations when people have confidence in other people’s words and deeds” (Tschannen-Moran & Hoy, 2000, p. 549). Schools are important organizations in society that encompass superior-subordinate relationships. Trust must be present and reciprocal for schools to function successfully and make positive impacts on student achievement.

Following a review of the literature on trust, and in an effort to determine the effect of trust on student achievement, Hoy and Tschannen-Moran (1999) proposed the following working definition. “Trust is individuals’ or group’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest and open” (p. 189). Benevolence is being assured one’s welfare or one’s personal possessions will be safeguarded by the person or group trusted (Hoy & Tschannen-Moran, 1999). Reliability was defined by the same researchers as, “the extent to which one can count on another to come through with what is needed. Reliability combines a sense of predictability with benevolence” (p. 187). Competence is the ability to perform according to appropriate standards (Hoy, Gage, &

Tarter, 2006). Being good enough to complete a task and do it well is to demonstrate competence. Honesty is the characteristic of fairness, truthfulness and integrity (Hoy & Tschannen-Moran, 1999). In addition to these five facets is a commonality found in most definitions of trust, the willingness to risk or vulnerability. Being vulnerable through the sharing of information with others, believing the information will not be exploited and that the hearers of the information will feel the same defines openness (Hoy & Tschannen-Moran, 1999). Bryk and Schneider (2003) add an additional element to the definition of trust, relational trust. Each party in a relationship maintains an understanding of his or her role's obligations and holds some expectations of the obligations of the other parties. All parties remain dependent on others to achieve desired outcomes and expectations regardless of the formal power given to any of the roles. Relational trust depends on respect between parties, personal regard between the parties, competence of each participant in his or her role, and participant's perceptions about each other's personal integrity.

Cosner (2009) wrote of collegial trust and its importance in organizational settings that are ripe with critical task interdependence. "Trust supports myriad forms of interactions within an organization, whether interactions are between individuals, within teams or subgroups, or among an entire staff by reducing uncertainty and predisposing people to cooperate" (Cosner, 2009 p. 252). A school is an example of an organizational setting where positive task orientated interdependent interactions between colleagues is required for the organization to be effective. Positive task orientated interdependent interaction focused on a task leads to collegial problem solving. Positive interdependent interaction, collegial trust, promotes the exchange of essential information within an organization (Cosner, 2009). "In particular, individuals who feel trust in those with whom they interact are more likely to disclose more accurate, relevant, and complete data about problems" Cosner, 2009 p. 252). Trust is associated with a general confidence and

overall optimism in occurring events. In more specific terms, trust is the work of group's generalized expectancy that the words, actions, and/or written statements of another individual, group, or organization can be relied upon (Tarter, et. al., 1989).

The connection between schools and trust was implied by Rotter. "Much of the formal and informal learning that human beings acquire is based on the verbal and written statements of others, and what they learn must be significantly affected by the degree to which they believe their informants without independent evidence" (Rotter, 1967, p. 651). Schools play a special role in our society, and, as such, understanding trust relationships in schools, is vital: Trust of teachers by students is vital for learning to occur. School personnel must trust one another in order to cooperate toward accomplishing a common goal. Schools must be trusted by the communities that sponsor and fund them (Tschannen-Moran & Hoy, 2000). Parents rely on schools to protect and educate their children, thereby the issue of trust is vital in the study of schools (Tschannen-Moran & Hoy, 2000). For the purposes of this study, the trust the faculty has in the students of the school and their parents and how this trust affects student achievement will be examined.

Trust has been shown to play a significant role in school effectiveness and have a direct influence on student achievement. Bryk and Schneider (2003) cited two on-going examples of the effectiveness of faculty trust in parents and students and the positive effects on student achievement. "Comer's School Development Project demonstrates that strengthening connections between urban school professionals and parents of low socioeconomic status can improve their children's academic achievement" (Bryk & Schneider, 2003, p. 41). Deborah Meier, Board Member of the Coalition of Essential Schools, contended that building trust among teachers, school leaders, students, and parents, was a key component of the success of the middle school that she created in Harlem (Bryk & Schneider, 2003). In their longitudinal study of

Chicago Public Schools in the 1990s, Bryk and Schneider “document a strong statistical link between improvements in relational trust and gains in academic productivity” (p. 116). Bryk and Schneider also suggested that trust fosters a set of organizational conditions that directly promote student achievement:

- A positive orientation to innovation-a teacher “can do” attitude and internalized responsibility;
- Outreach to parents and cooperation with parents;
- Professional community-collaborative work practices and high academic expectations and standards; and
- Commitment to school community. (Hoy, 2012, p. 87)

Goddard, Tschannen-Moran and Hoy (2001), in their researching of urban elementary schools, reinforced the connection between academic achievement of students and faculty trust of students and parents. Their research found that trusting relationships make an important contribution to student’s academic achievement. Their findings also suggested that trust makes school a better place for students to learn. This finding could be due to enabling and empowering connections that result between families and schools when trust is present. Referring to Rotter’s finding that trust is an important component of human learning, the researchers go on to state, “When teachers believe their students are competent and reliable, they create learning environments that facilitate student academic success. When students trust their teachers, they are more likely to take the risks that new learning entails” (Goddard et al., 2001, p. 14). To take that risk is to be open and vulnerable. Hoy and Tarter (2004) specified that:

The comfort a person or group feels in the midst of vulnerability speaks to the degree of trust; in fact, there is little need for trust without a sense of vulnerability. For example, when it comes to schooling parents often feel vulnerable to teachers because teachers have the power to make life difficult for their children. Conversely, teachers feel vulnerable to parents because they have the power to make life difficult for teachers. (p. 253)

The absence of faculty trust in parents and students can be detrimental to student achievement as an oppositional and dominating culture will exist in classroom and in the school. “Teachers who have lower levels of trust may lack meaningful relationships with students because of the belief that the students cannot be trusted with a more personal trusting relationship with the teacher” (Karakus & Savas, 2012, p. 2978). The lack of this meaningful relationship and lower level of trust between teacher and student may bleed over into a lack of meaningful relationship and trust with parents. These lower levels may inhibit communication and cooperation between home and school. Karakus & Savas (2012) determined that having psychologically sound social exchanges and common experiences that satisfy the expectations of all the participants are two necessities for trust between two individuals or groups to grow and produce. The development of a teacher’s positive attitude toward their student’s parents may also lead to the development of a teacher having a positive attitude toward their students. The same can be said for the growth of positive attitudes parents and students have toward teachers. Reciprocal trust built during interactions and communication among parents, teachers and students leads to positive learning experiences. However, it was noted in a study of teacher-student relationships and teacher expectations, “...perceptions of increased involvement, structure, and autonomy support from teachers were associated with lower GPA. The academic skill deficits and other issues that encourage proximity to teachers also make these students less able to perform academically” (Temple, 2012). In this case, interactions and communication among parents and students may build reciprocal trust, but the learning experiences do not yield positive outcomes. This was found only when student achievement was determined by a student’s GPA. When student achievement was determined by student scores on standardized assessments, student trust in teachers positively influenced academic achievement (Tschannen-Moran, 2014, p.73).

Parents trusting their child will be supported and encouraged by a competent and caring teacher will actively support and encourage a learning environment in the home. Positive learning environments in the home and in the school promote academic success.

...it is imperative for teachers to build trust in their classrooms and extend trust building into students' homes. Teachers need to demonstrate their care and respect for students, as well as work to bring parents into the educational environment so that parents feel comfortable and can enable their children in the education process. (Kirby & DiPaola, 2011, p. 556)

Research supported the positive effect that faculty trust in parents and students has on student achievement at every level of public education. Trust is a crucial characteristic that was found by Goddard et al., (2007), to enhance learning. Further, they were able to correlate trust to student achievement and as a strong predictor of student achievement, even when controlling for SES. Goddard and his fellow researchers (as cited in Kirby & DiPaola, 2011) further found a relationship exists between academic achievement and teacher's trust in parents and students. In researching pupil voice, Flutter (cited in Beard, 2010) found that when a trusting relationship is created with the teacher, students become more confident, find their voice, and apply themselves to learning.

Parents trust in teachers also has a positive effect on student achievement. Hoy (2002) noted in his study of the effects of faculty trust on student achievement in secondary schools that trusting others is a necessary part of human learning because learning is usually a process requiring cooperation. "The results of this study support the conclusion that cooperation between teachers and students and between teachers and parents set the stage for effective student learning in schools" (Hoy, 2002). Cooperation between teachers and parents may be fostered through involvement of parents in program planning, focused school subject activities, and in school improvement discussions etc. Sheldon's 2003 study found an important link between school's efforts to meet challenges of increasing parent and community involvement and

improved student achievement on standardized testing. Sheldon's & Epstein's (2005) research of the National Network of School Partnerships practices found that parent-school involvement that was specific in activity and content did improve student achievement. "After accounting for prior levels of mathematics proficiency in the schools, we found that mathematics-focused, learning-at-home activities consistently and positively related to improvements in the percentages of students who were proficient on mathematics achievement tests" (Sheldon & Epstein, 2005).

Academic Emphasis

Academic emphasis was found to have a significant impact on student achievement by Hoy et al. (1990) and Lee and Bryk (1985). Lee and Bryk (1985) were searching for characteristics of schools successful with students across a myriad of social, economic, racial and ethnic backgrounds experiencing academic success (Lee & Bryk, 1989).

Comparing Catholic and public high schools, Lee and Bryk determined that a distribution of high academic achievement is more likely to occur when the average level of academic course work is high, and the differences among students' program of study are small (Lee & Bryk, 1989). When the average level of academic course work is high, high academic goals have been set for the students, and the emphasis on academics is present.

Hoy's et al. (1990) analysis of organizational climate and school health found, "that academic emphasis of the school makes a significant contribution to the explanation of student academic achievement that goes beyond the influence of SES."(p. 273). Their descriptions of organizational climate and school health are based on Miles' research of organizational health and Parson's revised theory of action (cited in Hoy et al., 1990). Miles (as cited in Hoy et al., 1990) viewed organizational health as the notion that organizations not only survive in their environment but continue to cope adequately over the long haul and continuously develop and extend their surviving and coping capabilities. Hoy et al. (1990) made a connection between

organizational health and the successful functioning of a school. “Such surviving and coping are the working out of Parson’s imperative functions” (p. 263). Talcott Parson’s imperative functions are his revised theory of action for social systems. “The social system or organization must solve four basic problems in order to evolve and prosper: “adaptation, goal attainment, integration, and latency” (Hoy et al., 1990, p. 263). Hoy et al. paraphrased these problems or needs stating:

...organizations must solve the following: a) the problem of acquiring sufficient resources and accommodating to their environment, b) the problem of setting and implementing goals, c) the problem of maintaining solidarity within the system d) the problem of creating and preserving a distinctive value system. (Hoy et al., 1990, p. 263)

Parson (as cited in Hoy et al., 1990) adapted his theory of action for social systems to schools by recognizing schools have levels of executing these functions: technical level – interacting with the processes of teaching and learning; managerial level – controlling the internal administration function of the organization; and institutional level - connecting the school with its surrounding community.

Hoy, et al., (2006) defined “academic emphasis as the extent to which a school focuses on intellectual activity and student achievement. The faculty stresses high achievement, and students work hard, are cooperative, and respect others who achieve high grades” (p. 434).

Academic emphasis is often used synonymously with academic press as, “academic press typically refers to the extent to which school organizations are driven by achievement oriented values, goals, and norms” (Shouse, 1996) What is missing from this definition of academic press is an orderly and serious learning environment and the respect students should have for academic achievement and them being motivated to achieve. Murphy et al. (as cited in Shouse, 1996), however, cited “academic press” as an essential characteristic of “effective schools” by linking its development to teachers holding high expectations and taking responsibility for student learning. Shouse’s (1996) study of academic press lead to the development of a general

framework with three components: academic climate, disciplinary climate and teacher's instructional practices and emphasis.

- *Academic climate* – schools with high academic press channel their students into higher status courses such as geometry or physics, as opposed to consumer math or general science. They not only encourage students to work for high grades, but also strive to protect the integrity of the grades they reward; they emphasize the value of homework and recognize and honor outstanding performance.
- *Disciplinary climate* – such schools work to establish appropriate and effective attendance and disciplinary policies, producing results that are clearly perceived by adult and student school members.
- *Teacher's instructional practices and emphasis* – teachers express a sensed of academic press to the extent that they establish objective and challenging standards for student performance, cover content in ways that promote student understanding and desire to learn more, regularly assign meaningful homework, and provide useful feedback to students and parents (Shouse, 1996, p. 50).

For this study, these components comprise academic press that was used interchangeably with the aforementioned definition of academic emphasis.

Academic optimism, as coined by Hoy et al., comprised of three properties, collective efficacy, faculty trust in parents and students, and academic emphasis, has been determined to have a positive effect on student achievement (Dean, 2011). The No Child Left Behind Act of 2001 states that the academic achievement of all students in a school must show improvement in order for that school to be deemed effective. Even though there are several factors that are included in this determination, student achievement is weighed the heaviest. NCLB measures student achievement by one yearly state standardized assessment (Dee & Jacob, 2011). In the state of Michigan, it is the Michigan Education Assessment Program, MEAP.

Middle School

The most dominant factor in the development of middle level education was the attempt to meet the unique developmental needs of early adolescents who are undergoing tremendous

intellectual, physical, emotional, and social changes (Bough, 1969). The young early adolescent learners – neither children nor adults – require school programs and practices that meet their unique developmental and educational needs (Manning, 2000). At the end of the 19th century and the beginning of the 20th, concerns arose about the perceived failures of the organization of the elementary schools into eight grades and secondary schools into four. Of particular concern was the belief that elementary schools were not effectively dealing with the unique developmental needs of early adolescents. The Report of the Committee on Economy of Time in Education (Baker, 1913) was the first report calling for the organization of junior high schools and lending more support to the early middle level education reformers (Clark & Clark, 1993). In the mid-20th century, efforts were made to further define and specify what these new schools should be. The most descriptive, specific, and influential statement was written by Gruhn and Douglass (1947, as cited in Lounsbury, 1996). “They proposed and described six major functions: integration, exploration, guidance, differentiation, socialization, and articulation. These functions remain today as a foundational framework for defining an effective middle school” (p. 2).

Around the same time, educators were joining efforts to better understand what was needed for middle level education and researchers were working to understand early adolescent development. Contributions to this field were concerned about a conceptual framework to guide the research, the understanding, and the interpretation of this stage of human development. John Hill, University of Virginia; Joan Lipsitz, Center for Early Adolescent, University of North Carolina; and Hershel Thornburg, University of Arizona added to the knowledge base (Clark & Clark, 1993). In Hill’s (as cited in Clark & Clark, 1993) framework, three sets of interacting factors that had great bearing on early adolescent development were identified.

These factors included (1) the primary changes of early adolescence-biological, psychological, and social-definition changes; (2) the secondary changes and/or psychosocial issues of early adolescence-attachment, autonomy, sexuality,

intimacy, achievement, identity; and (3) the contexts or settings of early adolescent-family, peer, school. (p. 452)

Understanding the interaction of the psychosocial issues with the biological, cognitive and social changes is imperative in the restructuring of middle level education. To meet the complex needs of the early adolescent and tailor the teaching and learning needed to produce achievement, an administration and faculty that knows, understands and acts on the above understandings is integral in the early adolescent school and classroom.

William C. Alexander, considered the father of middle school, fully conceptualized, envisioned and proposed the middle school in 1963. This proposal was made for several reasons. One was the recognition that the traditional grade organizations, for example the 8-4 and 6-3-3 plans, had neglected the needs of young adolescents in the middle grades. Another reason was the potential of this new school to serve as an ideal setting for implementation of needed innovations. A third reason was the opportunity this school would provide to promote continuity in the total educational program from school entry to school exit. (McEwin, 1992).

Several documents have been created to guide the development of middle schools and define middle level education. In 1982, the young National Middle School Association (NMSA) published a position paper, "This We Believe." This paper contained a list of key characteristics that became the standard for defining a middle school:

1. Educators knowledgeable about and committed to young adolescents,
2. A balanced curriculum based on student needs,
3. A range of organizational arrangements,
4. Varied instructional strategies,
5. A full exploratory program,
6. Comprehensive advising and counseling,

7. Continuous progress for students,
8. Evaluation procedures compatible with the nature of young adolescents,
9. Cooperative planning,
10. Positive school climate (Lounsbury, 1996, p. 2).

In 1989 the Council on Adolescent Development of the Carnegie Corporation of New York released “Turning Points: Preparing American Youth for the 21st Century”. This document included hard data supporting vivid descriptions of the plight of the adolescents of that day and eight major recommendations needed to improve the education of young adolescents (Lounsbury, 1996).

(1) Create small communities for learning, (2) teach a core academic program, (3) ensure success for all students, (4) empower teachers and administrators to make decisions about the experiences of middle grade students, (5) staff middle grade schools with teachers who are expert at teaching young adolescents, (6) improve academic performance through fostering the health and fitness of young adolescents, (7) re-engage families in the education of young adolescents, and (8) connect schools with communities. (Lounsbury, 1996, p. 2-3)

In the years following the initial position paper issued by NMSA, the experiences of many middle school educators led leaders in the middle school movement to reconsider and reshape the original document of key characteristics of a good middle school.

A statement of rationale introduces the paper: ‘Young people undergo more rapid and profound changes during the years between 10 and 15 than at any other period of their lives’. But it is not the extent of change so much as the variability of change that creates problems for students and teachers alike. (Lounsbury, 1996, p. 3)

In order for a middle school to be effective, it must be developmentally responsive. A central theme of “developmentally responsive” became the linking concept with those scholars and educators concerned with the developmental issues and the education of early adolescents (Clark & Clark, 1993). The 1995 revision of “This We Believe” maintains that developmentally

responsive middle schools must take into account all that is known about young adolescents and the cultural context in which they live (Lounsbury, 1996).

The revised conditions and characteristics that developmentally responsive middle level school should exhibit are as follows: (1) Educators committed to young adolescents, (2) A shared vision, (3) High expectations for all, (4) An adult advocate for every student, (5) Family and community partnerships (6) A positive school climate. (Lounsbury, 1996, p. 3)

The document also identifies six programmatic areas and states that specific decisions in these components should reflect the six prior principles. “(1) A curriculum that is challenging, integrative, and exploratory, (2) Varied teaching and learning approaches, (3) Assessment and evaluation that promote learning, (4) Flexible organizational structures, (5) Programs and policies that foster health, wellness, and safety, and (6) Comprehensive guidance and support services” (Lounsbury, 1996, p. 4).

Race and Academic Achievement

The definition of race has changed with time, but it seems the term has always been used to note differences in people and to indicate one group of people is better or more capable than another. In the United States, the first legal document defining race was a statute written in 1662 in the state of Virginia. It is reported that the only reason this statute was written was to define the legal status of a child born to Negro women by Englishmen rather than to statutorily define race. The rule declared the status of a child’s mother determined the status of the child. It is only due to the presence of children of black females and white males that race had to be defined (Wright, 1995). The need for that definition indicated that in the United States the differences among people were deemed important. “...the term has social meaning in that what people believe about race determines how they relate to other groups of people” (deMarrais and LeCompte, 1999). The belief that Negroes, African Americans, were not equal to Caucasians was just one of the pervasive convictions that developed during slavery and continues.

Also during slavery, any type of schooling for Negroes was forbidden in many areas of the country. “Law and custom made it a crime for enslaved men and women to learn or teach others to read or write” (Perry, Steele, and Hillard, 2003, p. 13). Later, when formal education was allowed, the majority of school settings were segregated and equipped with whatever the parents and the Negro community could afford. In 1895, the Supreme Court heard the case, *Plessy v. Ferguson*, and decided that “separate but equal facilities” were allowed under the law. This “separate but equal doctrine” was used until 1954 to justify the segregation of facilities including schools (deMarrais and LeCompte, 1999). But with inferior text books and other supplies, and with well-meaning teachers who were also not as well trained, the education the Negro students were receiving and their resulting achievement was not equal. During this time, Black Americans were the recipients of inferior education by formal statutes in the South and by informal practices in the North. This inferior education included inadequately trained and overworked teachers, different and inferior curriculum, inadequate funding, facilities and services, and in the case of the Southern Blacks, a shorter school year (Ogbu, 1987). In May of 1954, the Supreme Court ruled that “separate but equal” public schools were unconstitutional for Blacks as well as Whites. The unanimous court wrote that segregation had a detrimental effect on children of color (The Leadership Conference, 2015).

But even a decade after segregation was ruled unconstitutional; an achievement gap still existed between African Americans and Caucasians. In “Equality for Educational Opportunities” (1966), a report based on the outcomes of an extensive survey requested by the Civil Rights Act of 1964, Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld and York (1966) documented the availability of equal educational opportunities in public schools for minority groups, as compared with opportunities for the majority group, Caucasians. Student achievement was one of the outcomes of educational opportunities researched. In (1966) Coleman et al. noted

that if the Supreme Court definition of unequal education was applied to the survey results, and as separate schools still existed, “separate schools for Negroes and Whites are inherently unequal”, then being Negro had a negative effect on academic achievement that served to widen the achievement gap over time.

With some exceptions notably Oriental Americans the average minority pupil scores distinctly lower on these tests at every level than the average white pupil. The minority pupils' scores are as much as one standard deviation below the majority pupils' scores in the 1st grade. At the 12th grade results or tests in the same verbal and non-verbal skills show that, in every case, the minority scores are farther below the majority than are the 1st-graders (Coleman et al. 1966, p. 21).

In this study, the largest minority group studied was Negro or African American. In (1995), Ladson-Billings & Tate proposed that race continued to be a significant factor in determining social inequity in general and school inequity in particular in the United States.

The noted anthropologist, Ogbu studied the education of minorities in the United States for decades. First focusing on the differences in school performances between minority and non-minority groups, he then began researching and explaining the differences in school performance among the different minority groups. Society's negative treatment of minority groups as a whole was felt and seen in the schools. This treatment in addition to minorities' perceptions and responses to this negative treatment are the causes of academic achievement differences (Ogbu and Simons, 1998). Connected to this idea that negative treatment of minorities is a cause of poor academic achievement is Ogbu's job market theory. Ogbu argues that the school performance of minority students is rooted in the connection they see between schooling and how successful they will be in the job market. If minorities view school as a means to becoming economically mobile they are more likely to participate in the educational process. If they don't consider school a likely avenue to employment, they are likely to resist. (deMarrais and LeCompte, 1999).

W. T. Trent (1997), in his study of the effects of race on student achievement in the St. Louis public schools, found a persistent “race effect”, meaning Black students perform less well on the Stanford Achievement tests in both reading and mathematics than do their White peers. He also noted that Black students are more likely to experience a lower quality of educational treatment that reduces their Stanford Achievement Test scores, even after factoring out the effects of student background, socioeconomic status, prior test scores, and school characteristics. Trent’s (1997) findings showed that 7% of the difference in test scores could be explained by race alone.

In Jencks, C. & Phillips, M. (1998) introduction to the book, *The Black-White Test Score Gap*, it was noted that African Americans were still scoring lower than European Americans on vocabulary, reading and mathematics tests. The gap closes a little when blacks and white children attend the same school and it closes only a little when black and white families have the same amount of schooling, same income, and the same wealth. For these students, arguments about inequities in funding and educational opportunities are not pertinent, yet they still lag behind in their academic achievement.

Trent’s (1997) finding that Black students were more likely to receive a lower quality of educational achievement than white students and that this lower quality lowers achievement scores coincides with the main point in P. Noguera’s (2001) article that discusses the results of a four year study at Berkeley High School in Berkeley, California. In discussing the outcome of his study, Noguera determined that the academic disparities between white and minority students at Berkeley High School were influenced by the structure of opportunity within the schools. Noguera (2008), in a later study of two suburban districts, posited that in order for schools to produce academic outcomes demonstrating that race is irrelevant to academic achievement, they must address the many ways in which racial identity and racial stereotypes are

reinforced and reproduced within academic settings. This includes the discouraging of students of color from enrolling in gifted and talented and advanced placement and honors courses leading to an over-representation of White students in rigorous and accelerated courses.

Administrators and teachers must take on the responsibility of addressing their own obstacles to minority students' increased student achievement. The first step in such a process would be the willingness to do things differently with regards to the way students are sorted and labeled, the way the students are being taught, and the way the schools are organized (Noguera, 2008).

When addressing the achievement gap between African American students and Caucasian students, it is often thought that socioeconomic status is a major factor affecting the gap, but research has proven otherwise. The tendency is to discuss the academic problems of Black children as if they are the product of black underclass, or inner-city environment, or both (Ogbu, 1994). Ladson-Billings and Tate (1995) asserted that although both class and gender can and do intersect race, as stand-alone variables they do not explain all of the educational achievement differences apparent between whites and students of color. They also noted that when class is held constant, middle-class African-American students do not achieve at the same level as their white counterparts.

Socioeconomic Status and Academic Achievement

Researchers have defined socioeconomic status in a variety of ways. In 1928, Chapin defined socioeconomic status as, "the position that an individual or family occupies with reference to the prevailing average of standards of cultural possessions, effective income, material possessions, and participation in group activity in the community" (cited in White, 1982). In (1966), Coleman et al. defined socioeconomic status as home, neighborhood, peer environment, and family background, and asserted these are the inequalities that have a

detrimental effect on academic achievement. In 1971, The Michigan Department of Education defined socioeconomic status as it relates to students, “Student socioeconomic status is often thought to be a function of three major factors: 1) family income; 2) parents' educational level; and 3) parents' occupation” (cited in White, 1982).

In (1982), White conducted a meta-analysis of 200 studies in which researchers sought to determine the connections between socioeconomic status and academic achievement. He found that when the student is used as the unit of analysis and when socioeconomic status is defined as parent’s income, educational attainment, or occupational level, socioeconomic status is positively correlated with measures of academic achievement (White, 1982).

In 2005, Sirin conducted a meta-analysis of 74 studies conducted from 1990 to 2000 to determine if the correlation between socioeconomic status and academic achievement had changed since White’s 1984 study. He noted several economic and social changes affecting research since the White study such as including family income, mother’s and father’s education, and family structure. According to Sirin (2005), researchers since 1982 also focused on moderating factors that could influence the relationship between socioeconomic status and academic achievement which is a methodological change. This meta-analysis found that the parent’s location in the socioeconomic structure has a strong impact on student’s academic achievement. It was also determined that the relationship between socioeconomic status and minority student’s academic achievement is weaker than the relationship between socioeconomic status and white student’s academic achievement (Sirin, 2005).

Making Connections

In this comprehensive review of literature the basic focal point that was the foundation of my study is: Middle schools were created to be developmentally responsive to the educational and developmental needs of adolescents. In being developmentally responsive, middle schools

must educate adolescents with the goal of positive student achievement. In education, student achievement is measured by assessment outcomes, and in the State of Michigan, the assessment that all public schools are measured by is the Michigan Education Assessment Program (MEAP). To remain viable educational institutions, public schools must meet and exceed state determined scores each academic year. Each student, in grades 3 through 9 and grade 11, is assessed and the outcomes analyzed and decisions made regarding schools being restructured or even closed are based on these outcomes.

Northwest Evaluation Association is the developer of the Measures of Academic Progress, MAP. MAP assessments are adaptive achievement tests in Mathematics, Reading, Language Usage and Science that are completed on a computer. NWEA is a non-profit organization founded in 1974 for the purpose of improving the education system and encouraging learning for each student. School districts are utilizing data from the MAP to gauge student progress at any given point in the school year, and then using the data to customize curriculum and instruction with the goal of improving student achievement.

Principals, as instructional leaders, are faced with the task of ensuring their school demonstrates positive student achievement. As instructional leaders, the principals need to know what factors impact student achievement.

Research has shown academic optimism to be a decisive factor affecting student achievement (Hoy et al., 2006). Collective efficacy, faculty trust in parents and students, and academic press are the three constructs of academic optimism. This study sought to determine which of these three was most effective in a middle school setting.

Middle school is pivotal in education and in assessment. Early adolescence provides a window of opportunity to impact the lives of students in enduring ways, one that opens but once and is mostly closed by the tenth grade. Middle school is a golden opportunity for middle level

educators to both influence the behavior of individuals and to take learning to a higher level, challenging students intellectually and engaging them actively in the teaching-learning enterprise. Sometime during the middle level years, students reach a level of mental maturity that permits them to be analytical, to question, to hypothesize. They are ripe for being immersed in their education in new and more meaningful ways, as they are capable of learning and achieving at levels seldom realized (Lounsbury, 2009).

Middle school is often the last opportunity to mold attitudes toward education, and create a desire to be thoughtful and critical in thinking and application of learning. The American College Testing (2008) stated that "...students' academic readiness for college and career can be improved when students develop behaviors in the upper elementary grades and in middle school that are known to contribute to successful academic performance" (p. 8). In Michigan, middle school is the last time MEAP reading and math assessments are administered until the eleventh grade. With scholarship opportunities and sometime college entrance hinging on the eleventh grade results, middle school outcomes are even more important. Beginning in 2013, student assessment constitutes 25% of teacher and administrator evaluations, so it becomes even more important to teachers and principals that their students demonstrate positive achievement on the state assessment, the MEAP. With the developmental and educational importance of middle school and the importance of public school educators to demonstrate positive school achievement, this study provides middle school principals with an awareness that academic optimism (i.e., academic emphasis, collective efficacy, and faculty trust), can have a positive effect on student achievement.

CHAPTER THREE

METHODOLOGY

The purpose of the study was to determine if academic emphasis of a school, collective efficacy of a faculty, and faculty trust in parents and students could be used to explain students' aggregated achievement as measured by school-level MEAP scores and Measures of Academic Progress (MAP).

Research Design

A non-experimental, multiple regression research design was used, because no treatment or intervention was provided. Instead, the examination of naturally occurring factors, mentioned above, was studied. The data collection tools were a revision of three surveys that purport to measure the three components of academic optimism (i.e., academic emphasis, collective efficacy, and faculty trust), and school-level Michigan Education Assessment Program test results and school-level results from the Measures of Academic Progress.

Setting for the Study

The study was conducted in the five middle schools located in adjacent suburbs, three in District 1 and two in District 2, in a Midwestern state. The majority of the student population in District 1 is African American whereas the majority of the student population in District 2 is Caucasian, as indicated in Table 2.

Table 2

Racial/Ethnic Distribution of Students among the Five Middle Schools

Race/Ethnicity	School A			School B			School C			School D			School E		
	6	7	8	6	7	8	6	7	8	6	7	8	6	7	8
African American	162	167	176	80	124	134	56	80	50	70	58	65	6	6	10
Caucasian	4	4	5	3	1	1	1	0	3	199	180	186	93	88	87
Hispanic	2	1	0	0	1	1	0	2	0	6	7	5	2	4	2
Native American	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Asian	0	1	3	0	0	0	1	0	0	11	14	2	5	4	7
Multi-ethnic	0	0	0	2	0	1	0	0	0	7	8	7	2	8	2
Pacific Islander	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total	168	173	185	85	126	138	58	82	53	293	267	265	108	110	108

Note: Number of students as provided by the targeted school district.

The schools are located in neighboring suburbs immediately adjacent to a large financially strapped industrial city. Two of the three middle schools in District 1 were K-8 configurations, and one was configured grades 6-8. The three schools that participated in the study had a total of 1,052 students enrolled in grades 6 through 8 with 233 (18.3%) of the population receiving Special Education services. In this district, 13 (1%) of the total sixth through eighth grade students enrolled were in a foster care living situation; 64 (3%) students were living with guardians; 284 (15%) lived with one or two parents; and 863 (46.6%) lived in apartments (Colvard, 2012). With this large number of apartment dwellers, the student population was somewhat transient and education could be interrupted due to relocation. Even though the curricula of Michigan's districts are supposed to be aligned to the same standards, the pacing often is different. Therefore, an entering student might be behind the receiving school by weeks or even months, creating obstacles to learning and achievement. The income level of a

student's family also has an impact on learning and achievement. In District 1, 948 (51%) of the district's middle school population qualified for the free lunch program, while 175 (9%) qualified for the reduced price lunch (Ritchie, 2012). The percentage of students qualifying for free or reduced lunch at the middle school level was indicative of the low socioeconomic status of more than half of the students. These families might struggle to supply the basic needs for their children, therefore the frequent lack of school supplies and appropriate clothing could create another obstacle to learning and achievement.

In District 2, one of the middle schools that participated in the study was configured k-8 and the other was configured 6-8. These two schools in District 2 had a total of 1,127 students

Participants

The participants for this study included 102 faculty members from the five middle schools in two suburban school districts. All teachers, including core academic (language arts, mathematics, science, and social studies) teachers, special education teachers, and teachers of elective courses (art, foreign language, music, physical education, and technology) were asked to participate in the study. All teachers are certified by the state of Michigan to teach their assigned classes and are considered permanent employees of the district. The responders were anonymous with only the school where they teach and the grade level they teach indicated.

The response rate for the teachers was estimated at 80%, which indicated that 96 teachers would complete and return their surveys. The 95% confidence interval for a population of 120 teachers is $91 \pm 3\%$ or 87 to 95 responses. This confidence interval provided support that the estimated response rate was adequate for the study.

Instruments

Three surveys, Collective Efficacy Scale (Goddard, 2002), Omnibus-Trust Scale (Hoy & Tschannen-Moran, 2003), and the Organizational Health Inventory (Hoy, Tarter, & Kottkamp,

1991) were revised to determine the presence and level of the three factors of academic optimism: collective efficacy, faculty trust in parents and students, and academic press. Data from the Michigan Education Assessment Program and the Measures of Academic Progress were used to determine student achievement in reading and math at each grade level.

Collective Efficacy Scale – Revised.

The survey that was used to establish the level of collective efficacy was the Collective Efficacy Scale-Revised. This survey was developed originally by a group of researchers from the University of Michigan and The Ohio State University in 2000 and revised in 2002. The original survey was analyzed to test its psychometric properties (Goddard, 2002). In 2002, the revised Collective Efficacy Scale was developed. Collective efficacy was based on Bandura's (1986, 1997) Social Cognitive Theory that asserted that efficacy beliefs were formed based on the cognitive processing of individuals.

When measuring student self-efficacy and teacher efficacy, the individual is the unit of analysis. When researchers are interested in the differential performances of groups, the unit of analysis is the group. As Bryk and Raudenbush (1992) explained, group-level aggregates should be interpreted differently than the individual-level measures from which they are constructed. If a group attribute is what a researcher seeks to measure, then such a measure should be analyzed at the group level (Goddard, 2002). Tschannen-Moran's, Woolfolk Hoy's, and Hoy's (1998) model of teacher efficacy is the foundation for the model of collective efficacy utilized in the present study. Their model posited that individual teachers base their personal efficacy on their perceived ability to perform the task at hand and the context of the task. Collective efficacy depends on the interaction of these two factors (Goddard, 2002).

Sample items for this measure include "Teachers in this school are able to get through to the most difficult students," "Teachers in this school believe every child can learn," This item

was revised to read: “I am able to get through to the most difficult students.” “Learning is more difficult at this school because students are worried about their safety (score reversed).”

Scoring. The 7 items on the revised shorter scale were rated by teachers using a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6). After reverse scoring the negatively worded items on the scale, the numeric values for each item are summed. The total score is then divided by 7 to obtain a mean score that reflected the original unit of measurement.

Reliability and validity. The Collective Efficacy Scale was tested for internal consistency as a measure of reliability using Cronbach alpha (Goddard, 2002). The alpha coefficient of .94 on the 12 item survey was evidence of excellent internal consistency. The Cronbach alpha coefficient for the present study based on the 7-item scale was .54.

The Collective Efficacy Scale was tested for construct validity using a principal axis factor analysis (Goddard, 2002). A single factor emerged from the analysis, accounting for 64% of the variance. The eigenvalue of 7.69 provided additional support that the factor was accounting for a statistically significant amount of variance in collective efficacy. The loadings for each of the scale items were greater than .67. Criterion-related validity tested the relationship between the original Collective Efficacy Scale (21 items) and the revised form (12 items). The correlation of .98 provided support that reducing the number of items on the scale did not materially affect the construct being measured. To test the predictive validity, the scores from the Collective Efficacy Scale were included in a multilevel model to predict between school differences in math achievement. The results of this analysis indicated that the short form of the Collective Efficacy Scale was explaining a statistically significant amount of variance in between-school differences in mathematics achievement.

Omnibus Trust Scale.

The Omnibus Trust Scale developed by Hoy and Tschannen-Moran (2003) was used to determine the presence of faculty trust in parents and students. In 2003, Hoy and Tschannen-Moran conducted a study to examine the meaning and measure of faculty trust in schools. Trust was conceptualized as a concept with multiple facets; benevolence, competence, honesty, openness, and reliability. Thus, the constitutive definition of trust used by Hoy and Tschannen-Moran was “an individual’s or group’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest and open” (Hoy & Tschannen-Moran, 2003, p. 203). Their investigation had three desired outcomes: (a) to conceptualize the many facets of faculty trust in schools and to provide a working definition of faculty trust; (b) to explore four referents of faculty trust-in students, teachers, the principal, and parents empirically; and (c) to develop reliable and valid measures of faculty trust for use in both elementary and secondary schools. A pool of items was developed considering the conceptual framework, with the four referents of faculty trust guiding the creation of the four separate sets of trust items (Hoy & Tschannen-Moran, 2003).

Scoring. The 26 items on the omnibus trust scale (secondary) measure three facets of faculty trust: faculty trust in colleagues, in the principal, and in clients. The 26 items are scored using a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6). For the purpose of this study, only the 10 items that measure faculty trust in clients were used because the study focuses on faculty trust in clients (parents and students). The other two subscales were not measured in this study. The numerical values for each of these 10 items were summed. The total score was divided by 10 to obtain a mean score reflecting the original unit of measurement.

Reliability and validity. The omnibus scale of 26 items measured three aspects of faculty trust: faculty trust in colleagues, in the principal, and in clients (Hoy & Tschannen-

Moran, 2003). The Cronbach alphas were high in both the elementary and secondary samples: trust in principal's Cronbach alpha (.98), trust in colleagues' Cronbach alpha (.93), and trust in clients' Cronbach alpha (.94), reflecting that the instrument has excellent reliability. The Cronbach alpha coefficient for the revised 10-item scale was .82.

Professors from the College of Education and the Fisher Business School at the Ohio State University reached consensus on the content validity of the items (Hoy & Tschannen-Moran, 2003). A field test was conducted to test the clarity of instructions, appropriateness of the response set, and the face validity of the items. Three strong factors emerged with trust in parents and trust in students items loading on a single factor, trust in clients. The clients in this case were parents and students; both recipients of the services offered by the schools. As parents are trusted by the faculty, the students are trusted by the faculty. Trust in colleagues and trust in the principal are the other two aspects. According to Hoy and Tschannen-Moran (2003), any item loading at .40 or above on more than one factor was removed unless the conceptual fit was strong, or the item could be revised to enhance the conceptual fit. The pilot study produced a 35-item survey that reliably measured three kinds of trust: Trust in the Principal (Cronbach alpha=.95), Trust in Colleagues (Cronbach alpha=.94), and Trust in Clients (Cronbach alpha=.92). A content analysis was performed to examine each level of trust making sure all the facets of trust were represented in the scale. The factor structure also supported the construct validity of the trust scales (Hoy & Tschannen-Moran, 2003).

A factor analysis and validity check was conducted on the revised Trust scale that assessed for three factors of trust. The factor structure for the Trust scale was very similar to that found in pilot study with the correlations between “faculty trust in the principal and faculty trust in colleagues ($r = .37, p < .01$) and in clients ($r = .42, p < .01$), and faculty trust in colleagues was correlated with faculty trust in clients ($r = .35, p < .01$ ” (Hoy & Tschannen-Moran, 2003, p. 196).

Another validity check was conducted to support the hypothesis that parental collaboration would be more likely in schools in which the faculty was trusting. “The correlations for all three dimensions of trust were statically significant with parental collaboration for faculty trust in the principal ($r = .45, p < .01$), for faculty trust in colleagues ($r = .37, p < .01$), and for faculty trust in clients ($r=.79, p < .01$,” (Hoy & Tschannen-Moran, 2003, p. 196).

The multiple relationships between the dimensions of faculty trust and parental collaboration also were examined. Parental collaboration was regressed on the three dimensions of faculty trust. This multiple regression analysis demonstrated that trust in clients overwhelmingly explained the degree of parental collaboration in school decision making, with faculty trust in clients having a significant independent relationship with parental collaboration in decision making ($\beta = .72, p < .01$). When the faculty trusts parents and students, parental collaboration is greatest. The multiple R^2 of .64 ($p < .01$) indicated that almost two thirds of the variance in parental collaboration in decision making is explained by faculty trust providing support for the predictive validity of the scale.

Organizational Health Inventory.

Academic Emphasis was measured with the Organizational Health Inventory (OHI). Hoy, Tarter, and Kottkamp created the OHI instrument in 1991. The idea of using a metaphor of health and well-being to examine the climate of schools came from Miles (1969) analysis of the organizational health of school systems (Hoy, 1991). Miles postulated 10 properties of healthy organizations that were concerned with the task, maintenance, and growth needs of the system. These system properties are categorized as task needs: (a) goal focus, (b) communication adequacy, (c) optimal power equalization; maintenance needs (a) resource utilization, (b) cohesiveness, (c) morale and growth; and development needs (a) innovativeness, (b) autonomy,

(c) adaptation, and (d) problem-solving adequacy (Hoy, 1991). After a pilot study of a survey based on Miles health metaphor was completed, Hoy et al. (1991) concluded his framework was not useful for measuring the health of a school.

Still interested in the health metaphor as a way of viewing school climate, Hoy et al. (1991) turned to the work done by Parsons and his colleagues. From Parsons' perspective, all social organizations must solve four basic problems (i.e., adaptation, goal attainment, integration, and latency) if they are to survive, grow, and develop (Hoy, 1991). Hoy et al. connected this perspective to schools stating:

In brief, healthy schools effectively meet the instrumental needs of adaptation and goal achievement as well as the expressive needs of social and normative integration; that is, they must mobilize their resources to achieve their goals as well as infuse common values into the work group. (p. 56)

Parson (as cited in Hoy et al., 1991) also noted that schools had three distinct levels of control over these needs – technical, managerial, and institutional. The technical level is concerned with the teaching-learning process, with the managerial level controlling the internal administrative function of the organization. The institutional level connects the school with its environment (Hoy, 1991).

Scoring. The items on the academic emphasis scale of the Organizational Health Inventory used for this study was rated using a 4-point Likert scale ranging from rarely occurs (1) to very frequently occurs (4; W. K. Hoy, Tarter, John C., Kottkamp, Robert B., 1991). For the purpose of this study, the 17 items on the Academic Emphasis scale were used. In order to acquire the total score for this subscale, the responses' number values are added. To acquire the mean score, the scale was divided by 17.

Reliability and Validity. The reliability was tested using Cronbach alpha coefficients. "The alpha coefficients; institutional integrity (.91), principal influence (.87), consideration (.90),

initiating structure (.89), resource support (.95), morale (.92), and academic emphasis (.93) provided support that the OHI had good to excellent internal consistency as a measure of reliability” (Hoy, 1991, p. 64). The Cronbach alpha for the Academic Emphasis survey was .82 for the present study.

The seven subtests developed to measure the critical dimensions of school life are highly reliable scales that have reasonable construct validity. Hoy, et al. (1991) created the Organizational Health Inventory (OHI) was developed with Parson’s perspective as a foundational theory (Hoy et al., 1991). (1) institutional integrity, (2) principal influence, (3) consideration, (4) initiating structure, (5) resource support, (6) morale, and (7) academic emphasis were the seven elements of organizational health whose specifics and measures were determined by the pilot study (Hoy, 1991). The 44 item instrument was tested to demonstrate the stability of the factor structure, confirm the validity and reliability of the subtests, and explore the second-order factor structure (Hoy, 1991).

The results of the factor analysis of the pilot study data found seven factors with eigenvalues ranging from 14.28 to 1.35 explaining 74% of the variance in the latent variable, organizational health (Hoy, 1991). A second-order factor analysis examined the subtest scores for each of the schools participating in the pilot study, and a correlation matrix was derived. Each of the elements of organizational health demonstrated robust factor loadings on one strong element: institutional integrity (.56), principal influence (.75), consideration (.63), initiating structure (.72), resource support (.61), morale (.71), and academic emphasis (.70). The factor identified schools that were strong on all seven dimensions. This factor was named school health (Hoy, 1991).

Two of the scales, Omnibus Trust Scale and OHI (Organizational Health Inventory) have been administered to faculty in a majority African American and economically disadvantaged

populated school district. In this study, the Omnibus Trust scale demonstrated a Cronbach's alpha reliability of .98 and the OHI (Organizational Health Inventory) demonstrated a reliability of .94 (Kirby, M. 2009). The Collective Efficacy Scale has been administered to faculty of two schools in a large urban district in a Midwestern state. In this study the Collective Efficacy Scale demonstrated a Cronbach's alpha reliability of .765 (Duffy-Freeman, 2007).

The three scales were revised and combined per the direction of my committee. The resulting scale was tested for its reliability for my populations using Cronbach alpha.

Michigan Education Assessment Program (MEAP).

Students in Michigan began taking the MEAP tests in 1969. From 1969 to 1973, the tests were norm-referenced. Beginning in 1973, teachers in Michigan worked with the MDE to develop criterion-referenced tests that were based on Michigan specifications. The MEAP tests used currently reflect the Content Standards established by Michigan educators and accepted by the MDE. A criterion-reference test assesses student test outcomes with a pre-established performance standard. Students who meet or exceed the standard meet the performance standard for the state curriculum.

All students in 3rd through 8th grade complete the reading and math assessments. Social studies is tested in the 6th and 9th grades, with science tested in 5th and 8th grade. Writing is assessed in the 4th and 7th grade. Student achievement is categorized into four groups:

- 1 Advanced
- 2 Proficient
- 3 Partially Proficient
- 4 Not Proficient.

The schools receive individual results, and composite results by teacher and for the school. The results are released by the MDE in February of the year following administration of the test. The

results are disseminated to the media, and school and district results are available on the Internet. For the purpose of the present study, composite scores for all subject areas tested were used for each teacher as the measure of student achievement.

Measures of Academic Progress

Northwest Evaluation Association is the developer of the Measures of Academic Progress (MAP). MAP assessments are adaptive achievement tests in Mathematics, Reading, Language Usage and Science that are completed on a computer. NWEA is a non-profit organization founded in 1974 for the purpose of improving the education system and encouraging learning for each student. NWEA (2013) created one of the first computerized adaptive assessments. Established in the No Child Left Behind Act (NCLB), Adequate Yearly Progress (AYP) requires districts and schools show a minimum preset growth in student achievement, until the school year 2013-2014, when all eligible students must pass state assessments in reading and math (Gamble-Risely, 2006). Schools struggling with AYP are using MAP data to gauge student progress at any given point in the school year, and then using the data to customize curriculum and instruction to increase student achievement.

Reliability and Validity The MAP Reading test consists of 40 multiple-choice question items with four options and the MAP Mathematics test includes 50 multiple-choice items with four or five options (Wang, McCall, Hong, & Harris, 2013).

To determine the reliability of the MAP, NWEA studied test results from 1999 to 2002 in grades 2 through 10. For the purpose of this study, only the results for grades six through eight will be reported. The method utilized by NWEA is Cronbach's Alpha, and to determine internal consistency, the marginal reliability coefficient was calculated. This method uses two characteristics that are available for tests, such as the MAP, that have been developed using Item Response Theory (IRT) and an underlying scale. The correlation coefficients (r) ranged from .89

to .96 indicating good to excellent reliability (NWEA, 2004). Wang et al, (2013) noted in their research that for each state where the MAP is administered, the tests are aligned to specific state content standards by assembling pools of items that address state content standards. Test algorithms survey the pools within goal or strand areas to assure domain coverage. The marginal reliabilities of tests across 50 states and grades were consistently in the low to mid 0.90s.

Because content validity is one of the most important sources of evidence of test validity in achievement tests, all items in NWEA test development match the assessable sections of a set of academic content standards both in breadth of content and depth of knowledge. Even though items selected during the computer adaptive tests for each student, all items administered have to satisfy the content requirements of the test to insure content validity and domain coverage (Wang et al., 2013). Most of the documented validity evidence for MAP tests comes in the form of concurrent validity (NWEA, 2004). All data used in the Wang et al. (2013) study were collected from MAP Reading and Mathematics tests administered twice during the academic year from Spring 2009 to Spring 2011.

Both confirmatory factor analysis (CFA) and multi-group confirmatory factor analysis (MGCFA) were conducted to determine the adequacy of fit of the factor structures of MAP tests and invariance of factor models across grades and academic terms. All estimation in this study uses the maximum likelihood method (Wang et al., 2013).

The one factor model with goal scores as observed variables and CFA were used to evaluate the adequacy of model to account for the relationships among subtests. Once adequacy of model fit was determined, MGCFA was used to test whether the same model holds across different groups. Results of CFA indicated all factor loadings of models across content, grades and states are statistically significant. Results of MGCFA provide support for the metric invariance for all tests except for Michigan Mathematics Tests, and configure invariances for all tests (Wang et al., 2013).

Data Collection Procedures

After obtaining approval from the Institutional Review Board (IRB) at Wayne State University, the researcher began the data collection process. The researcher obtained permission from the superintendents of schools in both districts to collect data from the middle school teachers in districts. She communicated with the principals in each of the five middle schools and requested permission to collect data from teachers during regularly scheduled faculty meetings.

The data were collected electronically using Google Forms. The submission of the completed survey was evidence of the willingness of the teacher to participate in the study.

The surveys were not coded in any way and no identifiable information was obtained from the teachers. The teachers were able to skip any questions they chose not to answer. Once submitted, the teachers were not able to change any answers or withdraw from the study.

The percentage of students scoring at the four levels on the MEAP were obtained from www.mischooldata.org for each school district. The obtained scores were the percentages of students at each of the four levels for each grade level. The teachers were given these data prior to beginning the survey on Google Forms.

The school composite scores for the five levels on the MAP were provided by the principal of that school and distributed to the teachers prior to them beginning the survey by grade level. The teacher meetings generally are held in the school media center that has a sufficient number of computers with Internet connections to allow all of the teachers to complete the survey at the same time. An adult volunteer not connected with the surveying school read a prepared script at the teachers' meeting, answered any questions regarding their participation, and directed the teachers to an email from the researcher. The email contained the information sheet as well as the link to Google Forms and the survey. To assure that all teachers were

provided with the same information regarding the study, the researcher developed the introductory script for the volunteers to read to the teachers. The volunteers had no connection to that specific school to minimize any concerns about coercion in having the teachers complete the survey.

Participation in the survey was voluntary. If a teacher chose not to complete the survey, she/he could work on other school-related tasks. The total time to complete the survey was 15 to 20 minutes. All data were collected at the meetings and any teacher absent at the time of the meeting did not participate in the study.

Data Analysis Procedures

The data from Google Forms were downloaded into an SPSS file for analysis. The analysis was divided into two sections. Prior to beginning the statistical analysis, the data were reviewed to determine the extent of missing values. The missing value procedure in SPSS ver. 21 was used to replace the missing values with the mean score for each variable. The responses for each of the three measures of academic optimism were tested for internal consistency using Cronbach alpha coefficients as a measure of reliability. These results were presented in Chapter 3 for comparison with the reported Cronbach alpha coefficients. The first section of the data analysis used descriptive statistics to summarize the scores for the scaled variables, Collective Efficacy, Faculty Trust, and Academic Emphasis. This analysis provides baseline information on these scales. Inferential statistical analyses, including multiple linear regression analysis, were used in the second section to address the research question developed for the study. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05. Table 3 presents the statistical analyses that were used to test the research question.

Table 3

Statistical Analysis

Research Question	Variables	Statistical Analysis
To what extent do the measures of academic optimism explain academic achievement?	<p><u>Dependent Variables</u> Academic Achievement</p> <ul style="list-style-type: none"> • MEAP scores • MAP scores <p><u>Independent Variables</u> Academic Optimism</p> <ul style="list-style-type: none"> • Collective efficacy • Academic emphasis • Faculty trust in students and parents 	Separate multiple linear regression analyses were used to determine if the three measures of academic optimism could be used to explain academic achievement.

CHAPTER 4

FINDINGS

The results of the data analysis used to address the research question posed for this study is presented in this chapter. The purpose of the study was to determine if academic emphasis of a school, collective efficacy of a faculty, and faculty trust in parents and students could be used either to explain students' aggregated achievement as measured by school-level Michigan Education Assessment Program (MEAP) and Measures of Academic Progress (MAP) outcomes.

Two districts were included in the study. While these districts were adjacent to each other, their demographics were different. Table 4 presents a comparison of the two school districts in terms of demographics.

Table 4

Comparison of School District Demographics

Demographic Characteristics of the School District	<u>District 1</u>		<u>District 2</u>	
	N	%	N	%
Total number of students	7,284		8,304	
Students Race/Ethnicity				
African American	1,029	96.3	215	18.7
Caucasian	22	2.1	833	72.2
Hispanic	7	0.7	25	2.2
Other	10	0.9	79	6.9
Total	1,068	100.0	1,152	100.0
Students Receiving Free/Reduced Lunch	4,647	63.8	4,426	53.3
Economically Disadvantaged	4356	59.8	598	7.2
Students with Disabilities	844	11.6	865	10.3
Teachers	53		49	
Expenditures per pupil	\$10,800		\$11,804	
Graduation rates	88.0%		96.2%	
Drop-out rates	6.5%		0.6%	

Data were collected from the 102 teachers in the five middle schools that were located in the two school districts. These two districts are adjacent to each other, and located close to a large financially strapped Midwestern city. School District 1's population is 96.3% African American and 2.1% Caucasian. In contrast, School District 2's population is 18.7% African American and 72.2% Caucasian. It is interesting to note that while School District 1 has 63.8% of their population qualifying for free and reduced lunches and School District 2 has 53.3 % of their population qualifying for free and reduced lunches, School District 1 population is 59.8% economically disadvantaged while School District 2's population is 7.2% economically disadvantaged. This disparity between the percentages of students qualifying for free and reduced lunches and the percentage listed as economically disadvantaged could be due to the percentage of students in each district whose families complete applications for the free and reduced lunch program. The expenditures per pupil indicate School District 2 spends \$1,004 more per pupil than School District 1. The graduation rate differs by 8% with School District 2 having the higher percentage at 96.2. School District 1 has a 5.9% higher drop-out rate than School District 2. School District 1 has a higher percentage of African American students, a higher percentage of students who are economically disadvantaged and qualify for the free and reduced lunch program. School District 2's expenditures per pupil are higher than School District 1, and the percentage of students who graduate is higher with a lower drop-out rate.

The grade level MEAP outcomes were obtained from the Michigan Department of Education data base and the MAP results were provided by the school principals. The largest group of teachers (n = 31, 30.4%) were from School D, with 14 (13.7%) teachers participating from School C. The number of teachers at each of the five schools is presented in Table 5.

Table 5

Number of Teachers at Each School

School	Number	Percent
A	20	19.6
B	19	18.6
C	14	13.7
D	31	30.4
E	18	17.6
Total	102	100.0

It is interesting to note that School C in District 1 has the lowest number of teachers, 14. This is indicative of this school also having the smallest enrollment of middle school students, 186. School C is an application school, which might be a contributing factor for teachers at this school having the highest percentages of students scoring at the advanced/proficient levels on both the MEAP and the MAP in District 1. The number of teachers at School A and the number of teachers at School B in District 1 were very close at 20 and 19, respectively. There are 524 students enrolled in School A, and 342 students enrolled in School B.

School D in District 2 has the largest number of teachers, 31, and the largest number of students, 825. Eighteen teachers at School E in District 2 provide instruction to 302 students. A lottery is held for incoming students each year at School E, which may contribute to having a higher percent of students scoring at the advanced/proficient level.

The teachers completed three surveys (Collective Efficacy, Omnibus Trust Scale, and Organizational Health Inventory) to measure Academic Optimism. Mean scores were obtained for each of the scales. Descriptive statistics were used to summarize the mean scores for each of the teachers. Table 6 presents results of this analysis.

Table 6

Descriptive Statistics: Academic Optimism

Academic Optimism	N	Mean	SD	Median	Range	
					Minimum	Maximum
Collective Efficacy						
District 1	53	4.40	.46	4.43	3.14	5.29
School A	20	4.14	.48	4.21	3.14	5.17
School B	19	4.55	.35	4.43	4.00	5.29
School C	14	4.55	.44	4.54	3.86	5.14
District 2	49	4.46	.53	4.57	3.00	5.29
School D	31	4.41	.55	4.57	3.00	5.14
School E	18	4.55	.49	4.71	3.71	5.29
Total	102	4.43	.49	4.43	3.00	5.29
Faculty Trust						
District 1	53	4.18	.52	4.30	2.90	5.30
School A	20	3.91	.44	4.00	3.10	4.60
School B	19	4.14	.57	4.20	2.90	5.30
School C	14	4.61	.22	4.70	4.20	4.90
District 2	49	4.52	.60	4.60	2.40	5.44
School D	31	4.36	.66	4.50	2.40	5.44
School E	18	4.80	.37	4.70	4.30	5.40
Total	102	4.34	.59	4.40	2.40	5.44
Academic Emphasis						
District 1	53	2.63	.40	2.59	1.65	3.29
School A	20	2.50	.43	2.47	1.65	3.29
School B	19	2.71	.37	2.82	2.06	3.29
School C	14	2.70	.35	2.68	2.29	3.29
District 2	49	2.80	.35	2.82	1.82	3.47
School D	31	2.69	.34	2.77	1.82	3.24
School E	18	3.00	.29	3.03	2.35	3.47
Total	102	2.71	.38	2.77	1.65	3.47

Collective efficacy measures the “the judgment of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students” (Goddard, Hoy, & Hoy-Woolfolk, 2000, p. 4). When a school has a high level of collective efficacy, the teachers believe they have the ability as a whole, not just as individuals, to effectively plan and execute the instructional strategies and other effective measures necessary for the students to increase their academic achievement and/or improve their behavior. The mean

score for this scale was 4.43 (SD = .49), with a median of 4.43. Actual scores ranged from 3.00 to 5.29, with possible scores ranging from 1.00 to 6.00. Higher scores indicate higher levels of collective efficacy. A mean score of 4.43 provides evidence that teachers perceived a fairly high level of collective efficacy. The standard deviation indicated that the majority of teachers ($\approx 66\%$) perceived between a moderate (3.94 [4.43 - .49]) and high (4.92 [4.43 + .49]) level of collective efficacy among the teachers. The teachers in the five participating schools judged their faculties as moderately to highly able to improve academic achievement in their respective schools.

School District 1 had a mean score of 4.40 (SD=.46), with a median of 4.43 Actual scores ranged from 3.14 to 5.29. Possible scores were from 1 to 6. A mean score of 4.40 indicated that the teachers in District 1 that participated in this study perceived a fairly high level of collective efficacy. The standard deviation indicated that the majority of teachers ($\approx 66\%$) perceived a moderate (3.94 [4.40 - .46]) and high (4.86 [4.40 + .46]) level of collective efficacy among the teachers. School District 1 teachers who participated in this study judged their faculties as moderately to highly able to improve academic achievement in their respective middle schools.

School District 2 had a mean score of 4.46 (SD=.53), with a median of 4.57. Actual scores ranged from 3.00 to 5.29 with possible scores from 1 to 6. A mean score of 4.46 indicating the teachers that participated in this study perceive a fairly high level of collective efficacy The standard deviation indicated that the majority of teacher ($\approx 66\%$) perceived a moderate (3.93 [4.46 - .53]) and high (4.99 [4.46 + .53]) level of collective efficacy among the teachers. School District 2 teachers who participated in this study judge their faculties as moderately to highly able to improve academic achievement in their respective middle schools.

In examining the descriptive statistics of academic optimism and comparing the levels of collective efficacy by school district, School District 2's mean score was higher than School

District 1's indicating the teachers in School District 2 who participated in this study judge their faculties to more ability to improve academic achievement than School District 1.

The scale, faculty trust, measures the confidence that teachers have in parents and students to be supportive of the school and students. Hoy , Gage, and Tarter (2006) defined faculty trust as “a willingness to be vulnerable, reliable, competent, honest, and open” (p. 429). Trust is relational, describing a connection of confidence and reliance among teachers, parents, and students (Bryk & Schneider, 2003). Trust involves taking risks and making oneself vulnerable to another with confidence that the other will not be detrimental to the trusting party (Hoy et al., 2006). The mean score for this scale was 4.34 (SD = .59), with a median of 4.40. The range of actual scores was from 2.40 to 5.44, with possible scores ranging from 1.00 to 6.00. Higher scores on this scale indicated greater trust by the teachers. The standard deviation indicated that the majority of the teachers ($\approx 66\%$) felt between a moderate (3.75 [4.34-.59]) and high (4.93 [4.34+.59]) level of faculty trust in parents and students. Most of the teachers who participated in this study are confident that parents and students are supportive of teachers and students.

School District 1 had a mean score of 4.18 (SD=.52) with a median of 4.30. The range of actual scores was from 2.90 to 5.30, with possible scores were from 1 to 6. Higher scores of this scale indicated greater trust by the teachers. The standard deviation indicated that the majority of the teachers ($\approx 66\%$) felt a moderate (3.66 [4.18 - .52]) and moderately high (4.70 [4.18 + .52]) level of trust in parents and students. The majority of teachers who participated in this study are moderately confident that parents and student are supportive of teachers, students and their schools.

The mean score of School District 2 was 4.52 (SD=.60) with a median of 4.60. The range of scores was from 2.40 to 5.44. Higher scores of this scale indicated greater trust by the teachers.

The standard deviation indicated that the majority of the teachers ($\approx 66\%$) felt a moderate (3.95 [4.52 - .60]) to high (5.12 [4.52 + .60]) level of trust in parents and students. The majority of middle school teachers who participated in this study are confident that parents and students are supportive of teachers, students and their schools.

In examining the descriptive statistics of academic optimism and the levels of faculty trust in parents and students, the scores indicate the teachers in School District 2 perceive a slightly higher level of faculty trust in parents and teachers than the teachers in School District 1.

Academic emphasis is defined as “the extent to which a school is driven by the quest for academic excellence—a press for academic achievement” (Hoy, Gage, & Tarter, 2006, p. 145). Academic emphasis suggests that behavior generates the push or press towards excellence in student achievement. Beard, Hoy, and Hoy-Woolfolk (2010) argued, “teacher’s sense of academic emphasis, is the degree to which teachers find ways to engage students in appropriate, academic tasks”. The mean score for academic emphasis was 2.71 (SD = .38), with a median of 2.77. The actual scores on academic emphasis ranged from 1.65 to 3.47, with possible scores ranging from 1.00 to 4.00. Higher scores on this scale indicated higher endorsement of academic emphasis by teachers. Academic emphasis meaning the faculty as a whole maintains high academic standards and pushes for all students to achieve them. The standard deviation designates that a majority of the teachers ($\approx 66\%$) felt between a moderate (2.33 [2.71-.38]) and high (3.09 [2.71+.39]) level. A majority of the teachers who took part in this study go to great lengths to move students to obtain academic excellence.

The mean score for academic emphasis for School District 1 was 2.63 (SD=.40) with a median of 2.59. The actual scores ranged from 1.65 to 3.29 with the possible range being from 1.00 to 4.00. The standard deviation indicated that a majority of teachers ($\approx 66\%$) felt between a moderate (2.23 [2.63 - .40]) and a highly moderate (3.03 [2.63 - .40]) level of academic

emphasis. A majority of teachers in School District 1 who took part in this survey put forth a great deal of effort to move students to improvement in their academic achievement.

School District 2 had a mean score of 2.80 (SD=.35) with a median of 2.82. The actual scores ranged from 1.82 to 3.47. The standard deviation indicated that a majority of teachers ($\approx 66\%$) realized a moderate (2.45 [2.80 - .35]) to a high (3.15 [2.80 + .35]) level of academic emphasis. The majority of teachers in School District 2 who participated in this study go to great lengths to improve their student academic achievement.

Upon examining the descriptive statistics for academic optimism and the levels of academic emphasis by school district, the mean scores of School District 2 indicate the teachers who participated in this study perceive a slightly higher level of academic emphasis in their respective middle schools than teachers who participated in this study from Schools District 1.

The MEAP scores for reading, math, social studies, and science were obtained. The scores indicate the percentage of students scoring at the advanced/proficient and the partially proficient/ not yet proficient levels. Table 7 presents the MEAP scores at each level.

Table 7

Descriptive Statistics: MEAP Results by Percentage of Students at Each Level

MEAP Scores	N	Mean	SD	Median	Range	
					Minimum	Maximum
Reading						
Advanced/Proficient	102	68.77	16.25	64.55	42.20	95.00
School A	20	53.07	7.38	55.00	42.90	61.80
School B	19	52.01	4.37	53.70	42.20	54.10
School C	14	66.81	6.24	67.30	60.30	76.70
School D	31	83.65	3.85	85.40	78.30	87.50
School E	18	79.79	17.10	89.80	59.10	95.00
Partially Proficient/Not Yet Proficient	102	36.82	13.94	40.80	20.00	61.70
School A	20	48.16	9.19	45.00	38.20	61.20
School B	19	48.64	5.81	46.30	46.00	61.70
School C	14	39.21	5.28	40.80	29.60	42.70
School D	31	22.88	2.04	22.80	20.00	25.30
School E	18	33.88	20.00	20.00	20.00	55.70
Math						
Advanced/Proficient	102	47.91	22.33	48.10	20.00	86.10
School A	20	27.90	6.76	27.30	22.30	38.70
School B	19	22.72	2.98	20.00	20.00	26.20
School C	14	39.91	14.77	51.10	23.50	52.90
School D	31	68.17	4.80	68.30	60.80	72.60
School E	18	68.09	16.80	76.80	48.10	86.10
Partially Proficient/Not Yet Proficient	102	54.40	26.98	51.80	20.00	89.10
School A	20	81.20	7.26	82.10	69.50	87.10
School B	19	85.71	3.72	89.10	80.80	89.10
School C	14	64.72	14.37	53.30	51.80	80.70
School D	31	31.83	4.80	31.70	27.40	39.20
School E	18	22.40	3.49	20.00	20.00	27.20
Social Studies						
Advanced/ Proficient	35	43.65	25.20	41.20	20.00	89.80
School A	5	20.20	0.00	20.20	20.20	20.20
School B	6	20.00	0.00	20.00	20.00	20.00
School C	3	31.10	0.00	31.10	31.10	31.10
School D	13	41.20	0.00	41.20	41.20	41.20
School E	8	84.74	14.32	89.80	49.30	89.80
Partially Proficient/Not Yet Proficient	35	74.84	13.42	67.90	59.10	94.80
School A	5	88.50	0.00	88.50	88.50	88.50
School B	6	94.80	0.00	94.80	94.80	94.80
School C	3	83.70	0.00	83.70	83.70	83.70
School D	13	67.90	0.00	67.90	67.90	67.90
School E	8	59.28	0.49	59.10	59.10	60.50

MEAP Scores	N	Mean	SD	Median	Range	
					Minimum	Maximum
Science						
Advanced/Proficient	39	24.27	6.31	20.00	20.00	36.70
School A	9	20.00	0.00	20.00	20.00	20.00
School B	10	20.00	0.00	20.00	20.00	20.00
School C	6	20.00	0.00	20.00	20.00	20.00
School D	8	28.30	0.00	28.30	28.30	28.30
School E	6	36.70	0.00	36.70	36.70	36.70
Partially Proficient/Not Yet Proficient	35	86.18	13.16	94.80	63.40	96.20
School A	9	96.20	0.00	96.20	96.20	96.20
School B	10	94.80	0.00	94.80	94.80	94.80
School C	6	96.10	0.00	96.10	96.10	96.10
School D	8	73.80	0.00	73.80	73.80	73.80
School E	6	63.40	0.00	63.40	63.40	63.40

The mean percent of students scoring at advanced/proficient on the MEAP reading test was 68.77% (SD = 16.25%), with a median of 64.55%. The range of students scoring at this level was from 42.20% to 95.00%. School B had the lowest percentage of students scoring at the advanced/proficient level (M = 52.01%, SD = 4.37%), with a median of 53.70%. The range of students scoring advanced/proficient on the MEAP reading test was from 42.20% to 54.10%. The school with the highest percentage of students scoring at advanced/proficient levels (M = 83.65%, SD = 3.85%) was School D. The range of students at this level was from 78.30% to 87.50%, with a median of 85.40%. In examining the mean scores, School District 1 (Schools A, B, and C) had substantially lower percentages of students scoring at the advanced/proficient levels on the MEAP reading test than School District 2 (Schools D and E).

The mean percent of the students scoring at the partially proficient/not yet proficient level on the MEAP Reading test was 36.82 (SD=13.94), with a median of 40.80. The range of students scoring at this level was from 20.00 to 61.20. School D had the lowest percentage of students scoring at the partially proficient/not yet proficient level with a mean of 22.88 (SD=2.04) and a median of 22.80. The range of students enrolled at School D scoring at this level was from 20.00

to 25.30. The school with the highest percentage of students scoring at the partially proficient/not yet proficient level was School B ($M=48.64$, $SD=5.81$), with a median of 46.30. The range of scores was from 46.00 to 61.70. Examining the results of the descriptive analysis of MEAP results, School District 2 (Schools D and E) had a substantially lower percentage of students scoring at the partially proficient/ not yet proficient level than School District 1 (Schools A, B, and C). The ethnic and socioeconomic make ups of the two schools districts that participated in this study are markedly different. School District 1 is majority African American and School District 2 is predominately Caucasian, and the median income of the residents of School District 1 is half that of the residents of School District 2.

The mean percentage of students scoring at the advanced/proficient level on the MEAP Math test was 47.91 ($SD=22.33$) with a median of 48.10. The range of students scoring at this level was from 20.00 to 86.10. School B had the lowest number of students scoring at the advanced/proficient level ($M=22.72$, $SD=2.98$) with a median of 20.00. These student's scores ranged from 20.00 to 26.20. School D had the highest percentage of students scoring at the advanced/proficient level with a mean of 68.17 ($SD=4.80$) with a median of 68.30. The range of the student scores was from 60.80 to 72.60. In examining the mean scores, School District 1 (Schools A, B, and C) had a substantially lower percentage of students scoring at the advanced/proficient level than School District 2 (Schools D and E).

The mean percentage of students scoring at the partially proficient/not yet proficient level on the MEAP Math test was 54.40 ($SD=26.98$) with a median of 51.80. The range of scores was from 20.00 to 89.10. The school with the lowest percentage of students scoring at this level was School E with a mean of 22.40 ($SD=3.49$) with a median of 20.00. The range of scores for students of School E was from 20.00 to 27.20. School B had the highest percentage of students scoring at the partially proficient/not yet proficient level ($M=85.71$, $SD=3.72$) with a median of

89.10. Scores at this level ranged from 80.80 to 89.10. School District 2 (Schools D and E) had the lowest percentage of students scoring at the partially proficient/not yet proficient level with School District 1 (Schools A, B, and C) having the highest percentage.

Social studies MEAP tests are completed by sixth grade students only. The mean percentage of students scoring at the advanced/proficient level was 43.65(SD=25.20) with a median of 41.20. The range of scores at this level was from 20.00 to 89.80. School B had the lowest percentage of students scoring at the advanced/proficient level with a mean of 20.00 (SD=0.00) with a median of 20.00. Scores ranged from 20.00 to 20.00. School E had the highest percentage of students scoring at the advanced/proficient level with a mean of 84.74 (SD=14.32) and a median of 89.80. The range of student scores was from 49.30 to 89.80. School District 1 (Schools A, B, and C) had a substantially lower percentage of students scoring at the advanced/proficient level than School District 2 (D and E).

The mean percentage of students scoring at the partially proficient/not yet proficient level on the MEAP Social Studies test was 74.84 (SD=13.42) with a median of 67.90. The range of scores at the partially proficient/not yet proficient level was from 59.10 to 94.80. School E had the lowest percentage of students scoring at this level (M=59.28, SD=0.49) with a median of 59.10. The range of scores was from 59.10 to 60.50. School B has the highest percentage of students scoring at the partially proficient/not yet proficient level on the MEAP Social Studies test (M=94.80, SD=0.00) with a median of 94.80. The standard deviation was 0.00 due to only one grade level being tested, and the number of student tested was less than ten. Scores ranged from 94.80 to 94.80. School District 2 (Schools D and E) had a substantially lower percentage of students scoring at the partially proficient/not yet proficient level on this section of the MEAP test than did School District 1 (School District D and E).

The science section of the MEAP test is administered to 8th grade students only. The mean percent of students scoring at the advanced/proficient level was 24.27 (SD=6.30) with a median of 20.00. The range of scores was from 63.40 to 96.20. Schools A, B, and C all had a mean score of 20.00 (SD=.00) with a median of 20.00. The range of schools for all three schools was from 20.00 to 20.00. These mean, median scores, standard deviations and the minimum and maximum scores are the same because at each school only one grade level and fewer than ten students were tested, and less than ten students at each of the three schools scored at this level. School E has the highest percentage of students scoring at the advanced/proficient level (M=36.70 SD=.49) with a median of 36.70. The range of scores was from 63.40 to 63.40. The minimum and maximum scores were the same due to only one grade level and less than ten students being assessed and less than ten students scoring at this level. School District 1 (Schools A, B, and C) had a substantially lower percentage of student scores than School District 2 (Schools D and E).

With only the 8th grade being assessed, the mean percentage of students scoring at the partially proficient/not yet proficient level on the MEAP Science test was 86.18 (SD=13.15) with a median of 94.80. The range of scores was from 63.40 to 96.20. The school with the lowest percentage of students scoring at the partially proficient/not yet proficient level was School E (M=63.40, SD=.00) with a median of 63.40. The range of scores was from 63.40 to 96.20. School A had the highest percentage of students scoring at the partially proficient/not yet proficient level (M=96.20, SD=.00) with a median of 96.20. The range of scores was from 96.20 to 96.20. The standard deviations for the schools with the lowest and the highest percentages of students scoring at the partially proficient/not yet proficient level are both .00 due to only one grade level being tested, the number of students being assessed and the number of students scoring at this level being less than ten. The same reason holds responsible for the range of

scores being the same number. School District 2 (Schools D and E) had a substantially lower percentage of students scoring at the partially proficient/not yet proficient level that School District 1 (Schools A, B, and C).

School District 1 (Schools A, B and C) is predominately African American and the population of the city where it is located in has a median income half that of the city where School District 2(Schools D and E) is located. School District 2 is predominately Caucasian and the population of the city has a higher socioeconomic status according to the population's median income.

The MAP scores ranged from high, high average, average, low average, and low. The percentage of students scoring at each level was summarized using descriptive statistics. Table 8 presents results of this analysis.

Table 8

Descriptive Statistics: MAP Results by Percentage of Students at Each Level

MAP Scores	N	Mean	SD	Median	Range	
					Minimum	Maximum
Reading	102					
High		17.51	11.64	15.00	3.00	35.00
High Average		22.22	8.88	20.00	9.00	41.00
Average		21.63	3.71	22.00	12.00	27.00
Low Average		18.68	8.95	18.00	7.00	35.00
Low		19.26	13.45	23.00	2.00	50.00
Math	102					
High		19.30	19.30	5.00	0.00	53.00
High Average		18.61	8.24	21.00	7.00	32.00
Average		18.54	6.85	20.00	7.00	28.00
Low Average		19.64	9.22	17.00	0.00	36.00
Low		23.63	17.67	21.00	3.00	55.00
Science	53					
High		8.45	3.28	10.00	4.00	14.00
High Average		14.30	3.72	13.00	10.00	20.00
Average		20.83	4.41	21.00	15.00	27.00
Low Average		24.28	3.31	25.00	17.00	28.00
Low		31.74	6.90	35.00	21.00	42.00

The largest percentage of students ($M = 22.22\%$, $SD = 8.88\%$) scored at the high average level for the MAP reading test. The range of students scoring at the high average level was from 9.00% to 41.00%, with a median of 20.00%. The lowest percentage of students ($M = 17.51\%$, $SD = 11.64\%$) scored at the high level on reading, with a median of 15.00%. The percentage of students scoring at the high level was from 3.00% to 35.00%.

The greatest percentage of students ($M = 23.63\%$, $SD = 17.67\%$) scored at the low level on the MAP math test. The range of students scoring at this level was from 3.00% to 55.00%, with a median of 21.00%. The lowest percentage of students ($M = 18.54\%$, $SD = 6.85\%$) scored at the average level on the MAP math test. The range of students scoring at this level was from 7.00% to 28.00%, with a median of 20.00%.

The science test on the MAP was completed by students in one of the two school districts. The percent of students scoring at the low level was 31.74% ($SD = 6.90\%$), with a median of 35.00%. The range of students scoring at the low level was from 21.00% to 42.00%. The smallest percentage of students ($M = 8.45\%$, $SD = 3.28\%$) scored at the high level on science. The range of students at the high level was from 4.00% to 14.00%, with a median of 10.00%.

Research Question

The research question for this study (To what extent do the measures of academic optimism explain academic achievement?) was addressed using multiple linear regression analysis to determine if academic optimism (collective efficacy, faculty trust, and academic emphasis) could be used to explain MEAP and MAP scores.

MEAP test results. The MEAP results were combined into two groups (advanced/proficient and partially proficient/not yet proficient), with each group used as the

dependent variable in the multiple linear regression analyses. The results of the analysis using the MEAP reading scores for advanced/proficient scores are presented in Table 9.

Table 9

Multiple Linear Regression Analysis: MEAP Reading for Percent of Students Scoring at the Advanced/Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	31.60	-5.07	3.69	-.15	-1.37	.172
Faculty Trust		12.34	3.25	.45	3.79	<.001
Academic Emphasis		2.24	4.66	.05	.48	.632
Multiple R	.41					
Multiple R ²	.17					
F Ratio	6.59					
DF	3, 98					
Sig	<.001					

The three independent variables were accounting for 17% of the variance in MEAP Reading outcomes for the percentage of students scoring at the advanced/proficient students, $R^2 = .17$, $F(3, 98) = 6.59$, $p < .001$. One independent variable, faculty trust, was explaining a statistically significant amount of variance in MEAP Reading outcomes for advanced/proficient students, $\beta = .45$, $t = 3.79$, $p < .001$. The positive direction of the relationship between the percent of students scoring at the advanced/proficient level on the MEAP reading test and faculty trust indicated that teachers who had higher scores for faculty trust tended to have higher percentages of students scoring at the advanced/proficient level on the MEAP. The other two independent variables, collective efficacy and academic emphasis, were not explaining a statistically significant amount of variance in MEAP reading outcomes for the percent of students scoring at the advanced/proficient level.

The results of the multiple linear regression analysis to determine which of the three academic optimism variables could explain the percentage of students scoring at the partially proficient/not yet proficient level on the MEAP reading are presented in Table 10.

Table 10

Multiple Linear Regression Analysis: MEAP Reading for Percent of Students Scoring at the Partially Proficient/Not Yet Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	60.41	2.13	3.32	.08	.64	.523
Faculty Trust		-8.05	2.92	-.34	-2.76	.007
Academic Emphasis		.72	4.18	.02	.17	.863
Multiple R	.30					
Multiple R ²	.09					
F Ratio	3.15					
DF	3, 98					
Sig	.028					

Nine percent of the variance in the percent of students scoring at the partially proficient/not yet proficient levels for the MEAP Reading test was explained by the three independent variables measuring academic optimism, $R^2 = .09$, $F(3, 98) = 3.15$, $p = .028$. One of the three academic optimism variables, faculty trust, was explaining a statistically significant amount of variance in the percentage of students scoring at the partially proficient/not yet proficient level, $\beta = -.34$, $t = -2.76$, $p = .007$. The negative relationship between faculty trust and percentage of students scoring at the partially proficient/not yet proficient level indicated that teachers who had higher scores on faculty trust tended to have lower percentages of students scoring at the partially proficient/not yet proficient levels. The remaining two independent variables, collective efficacy and academic emphasis, were not explaining a statistically significant amount of variance in the percent of students scoring partially proficient/not yet proficient on the MEAP reading test.

The percentage of students scoring at the advanced/proficient levels of the MEAP math test was used as the dependent variable in a multiple linear regression analysis. The three measures of academic optimism were used as independent variables in this analysis. Table 11 presents the results.

Table 11

Multiple Linear Regression Analysis: MEAP Math for Percent of Students Scoring at the Advanced/Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	2.49	-7.31	5.15	-.16	-1.42	.159
Faculty Trust		15.16	4.54	.40	3.34	.001
Academic Emphasis		4.41	6.50	.08	.68	.499
Multiple R	.38					
Multiple R ²	.14					
F Ratio	5.37					
DF	3, 98					
Sig	.002					

The results of the multiple linear regression equation provided evidence that academic optimism was explaining 14% of the variance in the percentage of students scoring advanced/proficient on the MEAP math test, $R^2 = .14$, $F(3, 98) = 5.37$, $p = .002$. One independent variable, faculty trust, was explaining a statistically significant amount of variance in the percentage of students scoring at the advanced/proficient levels on the MEAP math test, $\beta = .40$, $t = 3.34$, $p = .001$. The positive relationship between faculty trust and the percentage of students scoring at the advanced/proficient levels on the MEAP math test indicated that teachers who had higher scores for faculty trust were more likely to have higher percentages of students scoring at the advanced/proficient levels on the MEAP math test. The remaining two variables, collective efficacy and academic emphasis, were not explaining statistically significant amounts of the percentage of students scoring at the advanced/proficient levels on the MEAP math test.

The percentage of students scoring at the partially proficient/not yet proficient levels on the MEAP math test was used as the dependent variable in a multiple linear regression analysis. Scores on the three measures of academic optimism were used as independent variables in this analysis. Table 12 presents results of this analysis.

Table 12

Multiple Linear Regression Analysis: MEAP Math for Percent of Students Scoring at the Partially Proficient/Not Yet Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	119.23	8.54	6.12	.16	1.40	.166
Faculty Trust		-19.56	5.40	-.43	-3.63	<.001
Academic Emphasis		-6.54	7.72	-.09	-.85	.399
Multiple R	.41					
Multiple R ²	.15					
F Ratio	6.69					
DF	3, 98					
Sig	<.001					

Fifteen percent of the variance in the percentage of students scoring at the partially proficient/not yet proficient levels on the MEAP math test was explained by the three measures of academic optimism, $R^2 = .15$, $F(3, 98) = 6.69$, $p < .001$. Faculty trust was explaining a statistically significant amount of variance in the percentage of students who scored partially proficient/not yet proficient on the MEAP math test, $\beta = -.43$, $t = -3.63$, $p < .001$. The negative relationship between the scores for faculty trust and the percentage of students scoring either partially proficient or not yet proficient on the MEAP math test indicated that teachers who had higher scores for faculty trust tended to have lower percentages of students scoring at partially proficient/not yet proficient on the MEAP math test. The remaining two independent variables, collective efficacy and academic emphasis, were not explaining a statistically significant amount

of variance in the percentage of students scoring at the partially proficient/not yet proficient levels on the MEAP math test.

The social studies MEAP test is completed by the sixth grade students. The percentage of students who scored at the advanced/proficient level on this test was used as the dependent variable in a multiple linear regression analysis. The three measures of academic optimism were used as independent variables for this analysis. Results of this analysis are presented in Table 13.

Table 13

Multiple Linear Regression Analysis: MEAP Social Studies for Percent of Students Scoring at the Advanced/Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	-65.84	-10.51	10.99	-.19	-.96	.347
Faculty Trust		25.48	10.15	.44	2.51	.017
Academic Emphasis		15.23	12.73	.22	1.20	.241
Multiple R	.47					
Multiple R ²	.22					
F Ratio	2.90					
DF	3, 31					
Sig	.051					

Twenty-two percent of the variance in the percentage of students scoring advanced/proficient on the social studies MEAP test was explained by the three measures of academic optimism, $R^2 = .22$, $F(3, 31) = 2.90$, $p = .051$. Although this result was not statistically significant, one measure of academic optimism, faculty trust, was explaining a statistically significant amount of variance in the percentage of students scoring at the advanced/proficient level on the social studies MEAP test, $\beta = .44$, $t = 2.51$, $p = .017$. Based on the positive relationship between the independent and dependent variables, it appears that teachers who had higher scores for faculty trust were more likely to have a higher percentage of students scoring advanced/proficient on the social studies MEAP test. The other two measures of academic

optimism, collective efficacy and academic emphasis, were not explaining a statistically significant amount of variance in the percent of students who scored at the advanced/proficient level on the MEAP social studies test.

The percentage of students scoring at the partially proficient/not yet proficient levels of the MEAP social studies tests were used as the dependent variable in a multiple linear regression analysis. The mean scores for the three measures of academic optimism were used as independent variables in this analysis. Table 14 presents results of this analysis.

Table 14

Multiple Linear Regression Analysis: MEAP Social Studies for Percent of Students Scoring at the Partially Proficient/Not Yet Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	135.68	5.87	5.60	.20	1.05	.303
Faculty Trust		-17.56	5.17	-.57	-3.40	.002
Academic Emphasis		-2.96	6.49	-.08	-.46	.652
Multiple R	.53					
Multiple R ²	.29					
F Ratio	4.13					
DF	3, 31					
Sig	.014					

The three measures of academic optimism explained 28% of the variance in the percentage of students scoring at the partially proficient/not yet proficient levels of the MEAP social studies test, $R^2 = .29$, $F(3, 31) = 4.13$, $p = .014$. One variable, faculty trust, was explaining a statistically significant amount of variance in the percentage of students scoring at the partially proficient/not yet proficient levels of the MEAP social studies test, $\beta = -.58$, $t = -3.40$, $p = .002$. The negative relationship between the two variables indicated that teachers who had higher mean scores for faculty trust were likely to have lower percentages of students scoring at the partially proficient/not yet proficient levels. The remaining two measures of academic optimism,

collective efficacy and academic emphasis, were not explaining statistically significant amounts of variance in the dependent variable.

Students in the eighth grade complete the MEAP science test. The percentage of students scoring at the advanced/proficient levels on the MEAP science test was used as the dependent variable in a multiple linear regression analysis. The mean scores for the three scales measuring academic optimism were used as the independent variables. Table 15 presents the results of this analysis.

Table 15

Multiple Linear Regression Analysis: MEAP Science for Percent of Students Scoring at the Advanced/Proficient Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	1.91	-2.82	2.12	-.19	-1.33	.192
Faculty Trust		3.12	1.85	.28	1.68	.101
Academic Emphasis		7.87	2.70	.48	2.91	.006
Multiple R	.63					
Multiple R ²	.40					
F Ratio	7.71					
DF	3, 35					
Sig	<.001					

Forty percent of the variance in the percentage of students scoring at the advanced/proficient levels on the MEAP science test was explained by the three variables measuring academic optimism, $R^2 = .40$, $F(3, 35) = 7.71$, $p < .001$. One independent variable, academic emphasis, was explaining a statistically significant amount of variance in the percentage of students scoring at the advanced/proficient levels on the MEAP science test, $\beta = .48$, $t = 2.91$, $p = .006$. The positive relationship between the independent and dependent variables indicated that teachers who had higher mean scores for academic emphasis were more likely to have a greater percentage of students scoring at the advanced/proficient levels on the

MEAP science test. Collective efficacy and faculty trust, two measures of academic optimism, did not enter the multiple linear regression equation indicating they were not explaining a statistically significant amount of variance in the percentage of students scoring at the advance/proficient levels on the MEAP science test.

A multiple linear regression analysis was used to determine if the three measures of academic optimism were explaining the percentage of students who scored at the partially proficient/not yet proficient levels on the MEAP science test. The results of this analysis are presented in Table 16.

Table 16

Multiple Linear Regression Analysis: MEAP Science for Percent of Students Scoring at the Partially Proficient/Not Yet Proficient Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	134.80	4.43	4.58	.14	.97	.340
Faculty Trust		-6.32	4.00	-.27	-1.58	.123
Academic Emphasis		-15.04	5.83	-.44	-2.58	.014
Multiple R	.60					
Multiple R ²	.36					
F Ratio	6.42					
DF	3, 35					
Sig	.001					

The three measures of academic optimism were explaining 36% of the variance in the percentage of students scoring at the partially proficient/not yet proficient levels of the MEAP science test, $R^2 = .36$, $F(3, 35) = 6.42$, $p = .001$. Academic emphasis, a measure of academic optimism, was explaining a statistically significant amount of variance in the percentage of students scoring at the partially proficient/not yet proficient levels on the MEAP science test, $\beta = -.44$, $t = -2.58$, $p = .014$. The negative relationship between the independent and dependent variables indicated that teachers who had higher mean scores for academic emphasis tended to

have lower percentages of students scoring at the partially proficient/not yet proficient levels on the MEAP science test. Two measures of academic optimism, collective efficacy and faculty trust, were not explaining a statistically significant amount of variance in the percentage of students scoring at the partially proficient/not yet proficient levels of the MEAP science test.

MAP test results. The scores for the MAP tests are categorized in five levels, high, high average, average, low average, and low. For the purposes of this study, the percentage of students scoring at the high and high average were grouped together, the students scoring average were in a separate group, and students scoring low average and low were grouped together. One of the school districts in the present study provided results for MAP reading, math, and science, while the second school district provided results for MAP reading and math.

The multiple linear regression analysis used the percentage of students scoring at the high/high average levels on the MAP reading test as the dependent variable. The independent variables in this analysis were the three measures of academic optimism. Table 17 presents results of this analysis.

Table 17

Multiple Linear Regression Analysis: MAP Reading for Percent of Students Scoring at the High/High Average Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	1.15	-7.97	4.52	-.20	-1.77	.081
Faculty Trust		12.88	3.98	.39	3.24	.002
Academic Emphasis		6.61	5.70	.13	1.16	.248
Multiple R		.39				
Multiple R ²		.15				
F Ratio		5.74				
DF		3, 98				
Sig		.001				

The three measures of academic optimism explained 15% of the variance in the percentage of students scoring high/high average levels on the MAP reading test, $R^2 = .15$, $F(3, 98) = 5.74$, $p = .001$. One of the scales measuring academic optimism, faculty trust, was explaining a statistically significant amount of variance in the percentage of students who scored at the high/high average levels on the MAP reading test, $\beta = .39$, $t = 3.24$, $p = .002$. The positive relationship between the independent and dependent variables indicated that teachers who had higher mean scores for faculty trust were more likely to have a higher percentage of students scoring at the high/high average levels on the MAP reading test. Collective efficacy and academic emphasis did not enter the multiple linear regression equation as they were not explaining a statistically significant amount of variance in the percentage of students scoring at the high/high average levels on the MAP reading test.

The percent of students scoring at the average level of the MAP reading test was used as the dependent variable in a multiple linear regression analysis. The mean scores for the three measures of academic optimism were used as the independent variables. Table 18 presents results of this analysis.

Table 18

Multiple Linear Regression Analysis: MAP Reading for Percent of Students Scoring at the Average Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	20.21	.65	.92	.09	.70	.484
Faculty Trust		-.64	.81	-.10	-.71	.431
Academic Emphasis		.50	1.16	.05	.43	.670
Multiple R	.10					
Multiple R ²	.01					
F Ratio	.31					
DF	3, 98					
Sig	.819					

One percent of the variance in the percent of students scoring at the average level on the MAP reading test was explained by the three measures of academic optimism, $R^2 = .01$, $F(3, 98) = .31$, $p = .819$. This finding provided support that the three measures of academic optimism were not explaining a statistically significant amount of variance in the percent of students scoring at the average level on the MAP reading test and scores on the three measures of academic optimism.

A multiple linear regression analysis was used to determine if the three measures of academic optimism could be used to explain the percentage of students who were scoring at the low average/low levels on the MAP reading test. Table 19 presents results of this analysis.

Table 19

Multiple Linear Regression Analysis: MAP Reading for Percent of Students Scoring at the Low Average/ Low Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	74.51	7.91	4.88	.19	1.62	.108
Faculty Trust		-11.94	4.30	-.34	-2.78	.007
Academic Emphasis		-7.29	6.16	-.13	-1.18	.240
Multiple R	.35					
Multiple R^2	.12					
F Ratio	4.51					
DF	3, 98					
Sig	.005					

The three measures of academic optimism were explaining 12% of the variance in the percent of students who scores at the low average/low levels on the MAP reading test, $R^2 = .12$, $F(3, 98) = 4.51$, $p = .001$. One measure of academic optimism, faculty trust, was explaining a statistically significant amount of variance in the percent of students scoring at the low average/low levels on the MAP reading test, $\beta = -.34$, $t = -2.78$, $p = .007$. The negative relationship between the independent and dependent variables indicated that teachers who had

higher mean scores on the faculty trust scale were more likely to have a lower percentage of students scoring at the low average/low levels on the MAP reading test. The two other measures of academic optimism, collective efficacy and academic emphasis, were not explaining a statistically significant amount of variance in the percentage of students scoring at the low average/low levels on the MAP reading test.

The percentage of students scoring at the high/high average levels on the MAP math test was used as the dependent variable in a multiple linear regression analysis. The mean scores on the three measures of academic optimism were used as the independent variables in this analysis. Table 20 presents results of this analysis.

Table 20

Multiple Linear Regression Analysis: MAP Math for Percent of Students Scoring at the High/High Average Levels

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	-23.03	-10.02	5.73	-.20	-1.75	.083
Faculty Trust		17.99	5.05	.42	3.57	.001
Academic Emphasis		10.02	7.22	.15	1.39	.168
Multiple R	.43					
Multiple R ²	.18					
F Ratio	7.36					
DF	3, 98					
Sig	<.001					

The three measures of academic optimism were explaining 18% of the variance in the percent of students scoring at the high/high average levels on the MAP math test, $R^2 = .18$, $F(3, 98) = 7.36$, $p < .001$. One measure of academic emphasis, faculty trust, was explaining a statistically significant amount of variance in the percent of students scoring at the high/high average levels on the MAP math test, $\beta = .42$, $t = 3.57$, $p = .001$. The relationship between the

independent and dependent variables was in a positive direction, indicating that teachers who had higher scores for faculty trust were more likely to have a greater percentage of students scoring at the high/high average levels on the MAP math test. The remaining two measures of academic optimism, collective efficacy and academic emphasis, were not explaining a statistically significant amount of variance in the percent of students who scored at the high/high average levels on the MAP math tests.

A multiple linear regression analysis was used to determine if the scores on the three measures of academic optimism could be used to explain the percent of students scoring at the average level on the MAP math test. The results of this analysis are presented in Table 21.

Table 21

Multiple Linear Regression Analysis: MAP Math for Percent of Students Scoring at the Average Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	20.85	2.55	1.64	.18	1.56	.124
Faculty Trust		.20	1.45	.02	.14	.890
Academic Emphasis		-5.34	2.07	-.30	-2.58	.011
Multiple R	.27					
Multiple R ²	.07					
F Ratio	2.61					
DF	3, 98					
Sig	.056					

The three measures of academic optimism explained 7% of the variance in the percent of students scoring at the average level on the MAP math test, $R^2 = .07$, $F(3, 98) = 2.61$, $p = .056$. Although the overall result was not statistically significant, one independent variable, academic emphasis was explaining a statistically significant amount of variance in the percent of students scoring at the average level on the MAP math test, $\beta = -.30$, $t = -2.58$, $p = .011$. The negative relationship between the independent and dependent variables indicated that teachers who had

higher scores for academic emphasis tended to have a higher percentage of students scoring at the average level on the MAP math test.

The three measures of academic optimism were used as the independent variables in a multiple linear regression analysis. The percent of students scoring at the low average/low levels on the MAP math test were used as the dependent variable in this analysis. Table 22 presents results of this analysis.

Table 22

Multiple Linear Regression Analysis: MAP Math for Percent of Students Scoring at the Low Average/Low Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	100.54	7.61	5.58	.15	1.36	.176
Faculty Trust		-17.98	4.92	-.43	-3.66	<.001
Academic Emphasis		-4.76	7.04	-.07	-.68	.501
Multiple R	.41					
Multiple R ²	.17					
F Ratio	6.49					
DF	3, 98					
Sig	<.001					

The three measures of academic optimism were explaining 17% of the variance in the percent of students scoring at the low average/low levels on the MAP math test, $R^2 = .17$, $F(3, 98) = 6.49$, $p < .001$. One measure of academic optimism, faculty trust, was explaining a statistically significant amount of variance in the percent of students scoring at the low average/low levels on the MAP math test, $\beta = -.43$, $t = -3.66$, $p < .001$. The relationship between the independent and dependent variables was in a negative direction, indicating that teachers whose mean scores for faculty trust were higher were more likely to have a lower percentage of students scoring at the low average/low levels on the MAP math test. Collective efficacy and

academic emphasis were not explaining a statistically significant amount of variance in the percent of students scoring at the low average/low levels on the MAP math test.

One school district does not have their students complete the MAP science test, therefore, the findings were limited to the other school district. The three measures of academic optimism were used as the independent variables in a multiple linear regression analysis, with the percentage of students scoring at the high/high average levels on the MAP science test used as the dependent variable. The results of this analysis are presented in Table 23.

Table 23

Multiple Linear Regression Analysis: MAP Science for Percent of Students Scoring at the High/High Average Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	17.34	-.93	1.52	-.09	-.61	.545
Faculty Trust		2.14	1.37	.24	1.56	.125
Academic Emphasis		.21	1.77	.02	.12	.905
Multiple R		.23				
Multiple R ²		.05				
F Ratio		.91				
DF		3, 49				
Sig		.441				

The three measures of academic optimism were explaining 5% of the variance in the percentage of students scoring at the high/high average levels on the MAP science test, $R^2 = .05$, $F(3, 49) = .91$, $p = .441$. None of the independent variables, collective efficacy, faculty trust, and academic emphasis, were explaining statistically significant amounts of variance in the percentage of students scoring at the high/high average levels on the MAP science test.

A multiple linear regression analysis was used to determine if the three measures of academic optimism could be used to explain the percentage of students scoring at the average level on the MAP science test. The results of this analysis are presented in Table 24.

Table 24

Multiple Linear Regression Analysis: MAP Science for Percent of Students Scoring at the Average Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	6.46	1.46	1.30	.15	1.12	.269
Faculty Trust		3.56	1.17	.42	3.04	.004
Academic Emphasis		-2.63	1.52	-.24	-1.74	.089
Multiple R	.47					
Multiple R ²	.22					
F Ratio	4.53					
DF	3, 49					
Sig	.007					

Twenty-two percent of the variance in the percent of students scoring at the average level on the MAP science test was explained by the three measures of academic optimism, $R^2 = .22$, $F(3, 49) = 4.53$, $p = .007$. One independent variable, faculty trust, was explaining a statistically significant amount of variance in the percent of students scoring at the average level on the MAP science test, $\beta = .42$, $t = 3.04$, $p = .004$. The positive direction of the relationship between the independent and dependent variables indicated that teachers who had higher scores for faculty trust were more likely to have a higher percentage of students scoring at the average level on the MAP science test. The remaining two independent variables, collective efficacy and academic emphasis, were not explaining a statistically significant amount of variance in the percent of students scoring at the average level on the MAP science test.

A multiple linear regression analysis was used to determine if the three measures of academic optimism could be used to explain the percent of students scoring at the low average/low levels of the MAP science test. The results of this analysis are presented in Table 25.

Table 25

Multiple Linear Regression Analysis: MAP Science for Percent of Students Scoring at the Low Average/Low Level

Independent Variables	Constant	b weight	Std. Error B	β -weight	t-Value	Sig
Collective Efficacy	76.18	-.54	2.13	-.04	-.25	.801
Faculty Trust		-5.92	1.92	-.44	-3.08	.003
Academic Emphasis		2.63	2.48	.15	1.06	.294
Multiple R	.43					
Multiple R ²	.18					
F Ratio	3.62					
DF	3, 49					
Sig	.019					

The three measures of academic optimism were explaining 18% of the variance in the percent of students scoring at the low average/low levels on the MAP science test, $R^2 = .22$, $F(3, 49) = 4.53$, $p = .007$. One of the three measures of academic optimism, faculty trust, was explaining a statistically significant amount of variance in the percent of students scoring at the low average/low levels on the MAP science test, $\beta = -.44$, $t = -3.08$, $p = .003$. The negative relationship between the independent and dependent variables indicated that teachers who had higher scores for faculty trust were more likely to have a lower percentage of students scoring at the low average/low levels on the MAP science test. Collective efficacy and academic emphasis, the two remaining measures of academic optimism, were not explaining a statistically significant amount of variance in the percent of students scoring at the low average/low levels on the MAP science test.

Ancillary Findings

The three measures of academic optimism were used as the dependent variables in a one-way multivariate analysis of variance (MANOVA). The school district was used as the independent variable in this analysis. Table 26 presents results the descriptive statistics used obtained for the two school districts.

Table 26

Descriptive Statistics: Academic Optimism by School District

Academic Optimism	N	Mean	SD
Collective efficacy			
District 1	53	4.40	.46
District 2	49	4.46	.53
Faculty trust			
District 1	53	4.18	.52
District 2	49	4.52	.60
Academic Emphasis			
District 1	53	2.63	.40
District 2	49	2.80	.35

The results of the MANOVA and between-subjects effects are presented in Table 27.

Table 27

MANOVA: Academic Optimism by School District

<u>MANOVA (df = 3, 98)</u>		<u>Between Subjects Effects (df = 1, 100)</u>					
F	η^2	F	η^2	F	η^2	F	η^2
4.13**	.11	.42	.01	9.57**	.09	5.17*	.05

Note: F ratio is a Wilk's lambda approximation.

*p = .05; **p < .01

The results of the MANOVA provided support that the school districts were differing significantly on the three measures of academic optimism, $F(3, 98) = 4.13$, $p = .008$, $\eta^2 = .11$. To determine which of the three measures of academic optimism were contributing to the statistically significant difference on the MANOVA, the between subjects effects were examined. A statistically significant difference was found for faculty trust, $F(1, 100) = 9.57$, $p = .003$, $\eta^2 = .09$. Teachers in School District 2 ($M = 4.52$, $SD = .60$) had significantly higher scores for faculty trust than teachers in School District 1 ($M = 4.17$, $SD = .52$). The comparison of the mean scores for School District 1 ($M = 2.63$, $SD = .40$) and School District 2 ($M = 2.80$, $SD =$

.35) also was statistically significant, $F(1, 100) = 5.17, p = .025, \eta^2 = .05$. When the mean scores for collective efficacy were compared between the two school districts, the difference was not statistically significant.

The five schools in the two districts were compared to determine if any differences existed in academic optimism. The dependent variables were the three measures of academic optimism, collective efficacy, faculty trust, and academic emphasis. The independent variables were the five schools included in the study. Table 28 presents the descriptive statistics for the three measures of academic optimism by the five schools.

Table 28

Descriptive Statistics: Academic Optimism by School

Academic Optimism	N	Mean	SD
Collective efficacy			
School A	20	4.14	.48
School B	19	4.55	.35
School C	14	4.55	.44
School D	31	4.41	.55
School E	18	4.55	.49
Faculty trust			
School A	20	3.91 _{a,b}	.44
School B	19	4.14 _c	.57
School C	14	4.61 _a	.22
School D	31	4.36	.66
School E	18	4.80 _{b,c}	.37
Academic Emphasis			
School A	20	2.50 _a	.43
School B	19	2.71	.37
School C	14	2.70	.35
School D	31	2.69	.34
School E	18	3.00 _a	.29

Note: Means in a cell sharing subscripts are significantly different from each other.

The results of the MANOVA and between-subjects effects are presented in Table 29.

Table 29

MANOVA: Academic Optimism by School District

<u>MANOVA (df = 12, 251.64)</u>		<u>Between Subjects Effects (df = 4, 97)</u>					
F	η^2	F	η^2	F	η^2	F	η^2
4.05**	.15	2.59*	.10	8.81**	.27	4.62**	.16

Note: F ratio is a Wilk's lambda approximation.

*p = .05; **p < .01

The results of the MANOVA provided support that the three measures of academic optimism were differing significantly among the five schools, $F(12, 251.64) = 4.05$, $p < .001$, $\eta^2 = .15$. To determine which of the three measures of academic optimism were contributing to the statistically significant difference, the between subjects effects were compared. Scheffé post hoc tests were used to compare all possible pairwise comparisons among the five schools. To show which of the schools were differing from each other significantly, subscripts were used in Table 28. Matching subscripts within a cell on Table 28 indicated the two schools were statistically significant. The comparison of collective efficacy differed among the five schools, $F(4, 97) = 2.59$, $p = .041$, $\eta^2 = .10$. Although a statistically significant difference was found on the between subjects effects, the pairwise comparisons using Scheffé post hoc tests provided no evidence of statistically significant differences between each of the schools. The comparison of faculty trust differed significantly among the five schools, $F(4, 97) = 8.81$, $p < .001$, $\eta^2 = .27$. The comparisons of the mean scores using Scheffé post hoc tests found that School A ($M = 3.91$, $SD = .44$) differed significantly from School C ($M = 4.61$, $SD = .22$) and School E ($M = 4.80$, $SD = .37$), School B ($M = 4.14$, $SD = .57$) differed significantly from School E. The remaining pairwise comparisons were not statistically significant. Academic emphasis was differing significantly among the five schools, $F(4, 97) = 4.62$, $p = .002$, $\eta^2 = .16$. The results of the Scheffé post hoc tests found a statistically significant difference between School A ($M = 2.50$, $SD = .43$) and School E ($M = 3.00$, $SD = .29$). The remaining pairwise comparisons among the five schools were not statistically significant.

Teachers in Schools B, C, and E had the same mean scores for collective efficacy but with different standard deviations. The majority of teachers in all three schools (~66%) had a mean score of 4.55 indicating a moderately high level of certainty that the faculty in their respective schools have the ability to develop and facilitate instructional strategies and other effective measures to improve student achievement.

The standard deviation for School B indicated a narrow range in possible mean scores as the scores fell between moderately high (4.2 [4.55-.35]) and high (4.9 [4.55+.35]). This narrow range shows more agreement than disagreement among teachers regarding their ability to effectively work together as a faculty to increase student achievement and demonstrate a moderately to high level of collective efficacy.

The standard deviation for School C indicated a slightly wider range in possible mean scores. The scores fell between moderately high (4.11 [4.55-.44]) and high (4.99 [4.55+.44]). The scores of the teachers in School C indicate they are moderately highly to highly confident in their ability as a faculty to implement appropriate measures that will positively affect student achievement.

School E teachers scores fell between moderately high (4.06 [4.55-.49]) and high (5.04+.49). These scores indicate a moderately high to high level of collective efficacy. These teachers feel confident that as a whole they work effectively together to produce increased student academic achievement.

Two of the schools in the study were highly selective schools, with all students having to apply for admittance to one of the schools, and with all students having to enter a lottery for admittance for the other. The students and their parents are required to submit their MEAP scores, prior class grades, and letters of recommendation prior to being enrolled in these two schools. The teachers' mean scores on the three measures of academic optimism were compared

between the two schools using t-tests for independent samples. Table 30 presents results of these findings.

Table 30

t-Tests for Independent Samples: Academic Optimism by Highly Selective Schools

Academic Optimism	N	M	SD	DF	t	Sig
Collective efficacy						
School C	14	4.55	.44	30	<.01	1.000
School E	18	4.55	.49			
Faculty Trust						
School C	14	4.61	.22	30	-1.75	.091
School E	18	4.80	.37			
Academic Emphasis						
School C	14	2.70	.35	30	-2.61	.014
School E	18	3.00	.29			

One statistically significant difference was found for academic emphasis between teachers at the two application schools. Teachers at School E ($M = 3.00$, $SD = .29$) had statistically significant higher scores for academic emphasis than teachers at School C ($M = 2.70$, $SD = .35$), $t(30) = -2.61$, $p = .014$. The scores for collective efficacy and faculty trust did not differ significantly between the two schools.

The percentage of students scoring at the advanced/proficient and partially proficient/ not yet proficient on the reading and math MEAP tests were compared between the two school districts for all of the students, African American students, economically disadvantaged students, and students with special needs using Mann Whitney tests for two independent samples. Table 31 presents the results of these analyses.

Table 31

Mann-Whitney Test for Two Independent Samples – Percentage of Students Scoring at Advanced/Proficient and Partially Proficient/Not Yet Proficient on the MEAP Reading and Math Tests

Test and Group	N	M	SD	Mean Rank	Z	Sig
All Students						
Reading – Advanced/Proficient						
District 1	9	56.87	11.19	5.00	-3.18	<.001
District 2	6	90.13	4.00	12.50		
Reading – Partially Proficient/Not Yet Proficient						
District 1	9	44.83	11.68	11.00	-3.18	<.001
District 2	6	9.72	3.91	3.50		
Math – Advanced/Proficient						
District 1	9	24.77	14.00	5.00	-3.18	<.001
District 2	6	78.02	8.07	12.50		
Math – Partially Proficient/Not Yet Proficient						
District 1	9	75.08	13.53	11.00	-3.18	<.001
District 2	6	25.13	5.03	3.50		
African American Students Only						
Reading – Advanced/Proficient						
District 1	9	52.04	9.80	5.11	-2.31	.018
District 2	6	70.87	6.22	10.67		
Reading – Partially Proficient/Not Yet Proficient						
District 1	9	49.18	12.01	7.89	-2.31	.018
District 2	6	29.13	6.22	2.33		
Math – Advanced/Proficient						
District 1	9	27.77	21.84	5.56	-1.57	.145
District 2	6	48.67	8.58	9.33		
Math – Partially Proficient/Not Yet Proficient						
District 1	9	72.24	21.84	7.44	-1.57	.145
District 2	6	51.37	8.54	3.67		
Economically Disadvantaged Students						
Reading – Advanced/Proficient						
District 1	9	50.82	13.72	5.72	-1.30	.209
District 2	3	63.13	6.08	8.83		
Reading – Partially Proficient/Not Yet Proficient						
District 1	9	49.18	13.72	7.22	-1.20	.282
District 2	3	36.87	6.40	4.33		
Math – Advanced/Proficient						
District 1	9	18.57	9.61	5.33	-1.94	.064
District 2	3	38.60	11.77	10.00		
Math – Partially Proficient/Not Yet Proficient						
District 1	9	80.33	9.84	7.67	-1.94	.064
District 2	3	61.43	11.82	3.00		

Test and Group	N	M	SD	Mean Rank	Z	Sig
Students with Special Needs						
Reading – Advanced/Proficient						
District 1	4	15.25	11.12	3.00	-1.73	.114
District 2	4	50.98	23.47	6.00		
Reading – Partially Proficient/Not Yet Proficient						
District 1	4	84.48	11.12	6.00	-1.73	.114
District 2	4	46.75	25.46	3.00		
Math – Advanced/Proficient						
District 1	3	9.40	7.62	2.50	-1.62	.114
District 2	4	32.78	17.39	5.13		
Math – Partially Proficient/Not Yet Proficient						
District 1	4	92.95	7.80	6.25	-2.03	.057
District 2	4	68.13	18.03	2.75		

When all of the students in the two school districts were compared on the MEAP reading test, statistically significant differences were found for the percentage of students scoring advanced/proficient ($Z = -3.18, p < .001$), and the percentage of students scoring partially proficient/not yet proficient ($Z = -3.18, p < .001$). The percentage of students in School District 1 scoring advanced/proficient was lower than the percentage of students in School District 2. The percentage of students scoring at the partially proficient/not yet proficient for reading at School District 1 was statistically significantly higher than School District 2.

Similar outcomes were obtained for the percentage of students scoring at the advanced/proficient level ($Z = -3.18, p < .001$) and at the partially proficient/not yet proficient level ($Z = -3.18, p < .001$) on the MEAP math test. The percentage of students scoring at the advanced/proficient level on the MEAP math test was significantly lower for School District 1 than for School District 2. A significantly higher percentage of students in School District 1 scored at the partially proficient/not yet proficient level on the MEAP math test than School District 2.

When scores for African American students only were compared between the two school districts, statistically significant differences were found for reading, but not for math. The

percentage of students scoring at the advance/proficient levels on the MEAP reading test were significantly lower for School District 1 than for School District 2, ($Z = -2.31$, $p = .018$). The comparison of the percentage of students scoring at the partially proficient/not yet proficient levels on the MEAP reading test were significantly higher for School District 1 than for School District 2, ($Z = -2.31$, $p = .018$).

Comparisons for the percentage of economically disadvantaged students at the advanced/proficient or the partially proficient/not yet proficient levels of the MEAP reading and math tests were not statistically significant. Similar outcomes were obtained when the percent of students with special needs were compared at the two levels for reading and math.

Summary

This study was conducted in two suburbs adjacent to a large Midwestern industrial city. District 1 was majority African American and District 2 was majority Caucasian. The survey used was a revision and combination of three surveys: the Collective Efficacy Survey (Goddard, 2002), Omnibus Trust Survey developed by Hoy and Tschannen-Moran (2003), and the Organizational Health Inventory developed in 1991 by Hoy, Tarter, and Kottkamp. Permission to conduct the study was granted by Wayne State University's IRB. District 1's Superintendent and District 2's Deputy Superintendent both agreed for the survey to be conducted in their respective school districts. The survey was administered to three middle school faculties in District 1 and two in District 2. Each survey was conducted at a faculty meeting where all participants were read a prepared script by an adult not affiliated with that particular school. The script directed the participants to an email from the researcher containing a link to Google Forms where the survey was contained. The teachers consented by clicking on the link and opening the survey. A total of 102 teachers participated.

The results were downloaded in an SPSS file for analysis. The analysis indicated that faculty trust in parents and students most often explained the variance in the percentage of students who scored at the advanced/proficient level and the partially proficient/not yet proficient level on MEAP Reading, MEAP Math, and MEAP Social Studies tests. Academic emphasis was explaining a statistically significant amount of variance in MEAP Science outcomes. Similar findings resulted in the analysis regarding the MAP assessments. Faculty trust in parents and students was the single statistically significant variable for the percentage of students who scored at the high/high average level and the low average/ low level on the MAP Reading and MAP Math. The MAP Science results were mixed. None of the independent variables, collective efficacy, faculty trust in parents and students, or academic emphasis, emerged as being statistically significant for the percentage of students scoring at the high/ high average level. However, faculty trust in students and parents was explaining a statistically significant amount of variance in the percentage of students scoring at the average level and the low average/low level. None of the independent variables emerged as statistically significant for the percentage of students scoring at the average level for MAP Reading or MAP Science.

Chapter 4 has presented a description of the sample and addressed the research question posed for this study. In addition, ancillary analyses were used to provide additional information regarding academic optimism and student outcomes on the MEAP reading and math tests. A discussion of the findings and implications for education, as well as for further research can be found in Chapter 5.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of the study was to determine if the academic emphasis of a school, collective efficacy of a faculty, and faculty trust in parents and students could be used to explain students' aggregated achievement as measured by school-level MEAP scores and Measures of Academic Progress (MAP).

The focus on student achievement in K-12 public schools and the reasons for increases and decreases in student test scores have been demonstrated in publications such as *A Nation at Risk* in 1983, published by The National Commission on Excellence in Education, and in legislation such as Goals 2000: Education America Act legislation (P. L. 103-227), passed by Congress in 1994; and the *No Child Left Behind* (NCLB) Act of 2001 (P. L. 107-110) passed in 2005. Standards-based curricular and other systemic reform initiatives spelled out in the above publication and legislation led to states mandating standards-based assessments for all public school students. States were required to design school accountability systems based on these annual assessments. Each school was then held accountable and responsible for its students' achievement in mathematics and reading.

In the state of Michigan, the Michigan Educational Assessment Program (MEAP) was utilized to meet these federal mandates. A public school whose students continually fail to demonstrate an increase in student achievement on this one assessment faced consequences leading to that school being required to restructure and perhaps having to close its doors. These high stakes tests are the result of thinking that standards, assessments, flexibility and, accountability are key components to bring about systemic reform in the American public education system.

Examining the role that student achievement has played in school reform leads to an understanding of how educators came to focus on methods of increasing academic achievement. In 1966, educators were startled with Coleman's findings that the characteristics of a school mattered little in explaining student achievement. Coleman argued that schools had only a negligible effect on student performance and that most of the variation in student learning was a product of differences in family background (Hoy, Tarter, & Woolfolk-Hoy, 2006). Coleman's lack of optimism that a school and its faculty and staff had the ability to plan and enact measures to influence academics was refuted by Edmonds.

Edmonds with Frederiksen (1979), published, *Search for Effective Schools: The Identification and Analysis of City Schools That Are Instructionally Effective for Poor Children*. Their stance was that all children are educable, and the behavior of the school is important in determining the quality of that education. As a result of the *Search for Effective Schools* project and the Weber study (as cited in Edmonds, 1979), strong administrative leadership; high expectations for student achievement; strongly emphasized basic skills, and continuous monitoring of pupil progress emerged as school characteristics that determine student achievement. These characteristics were similar to academic emphasis, collective efficacy, and faculty trust in students and parents; organizational properties that have been shown to make a difference in student achievement (Hoy, Tarter & Woolfolk-Hoy, 2006). Hoy et al. (2006) grouped these three constructs under the term academic optimism.

Optimism is the belief that good things can happen but does not focus on one's personal control or agency in realizing these outcomes (Rand, 2009). Optimism in education speaks to expectancy of positive results and the positive frame of mind that controls the outcome, student achievement. Hoy et al. (2006) chose the term academic optimism to reflect the beliefs of the capacity of individuals to act independently as they work in schools.

Efficacy is the belief that the faculty can make a positive difference in student learning; teachers believe in themselves. Faculty trust in students and parents is the belief that teachers, parents, and students can cooperate to improve learning, that is, the faculty believes in its students. Academic emphasis is the enacted behavior prompted by these beliefs, that is, the focus is student success. (Hoy et al., 2006. p. 445)

Accepting challenging goals, exerting positive effort as an organization, and a tenacity that moves toward improved performance are positive outcomes of high level of collective teacher efficacy. Collective teacher efficacy is a factor quantifying teachers' beliefs about the collective ability of a faculty to have an influence on student achievement; it is referring to the beliefs of a school faculty that their efforts can have a positive effect on student achievement (Goddard et al., 2000). Schools characterized by high levels of collective efficacy communicate a press for effective teaching and learning that yields improved student achievement.

For effects on student achievement to be positive, reciprocity must exist in faculty trust in parents and students. Trust is an important characteristic that was found by Goddard et al., (2007) to enhance learning. Further, they were able to correlate trust to student achievement and as a strong predictor of student achievement, even when controlling for socioeconomic standing. Goddard and his fellow researchers (as cited in Kirby & DiPaola, 2011) also found a relationship exists between academic achievement and teacher's trust in parents and students. Sheldon (2003) found a direct link between parental involvement in school and student achievement. According to Hoy (2002), cooperation between parents and teachers and teachers and students creates trust between the parties involved as trust is an integral part of human learning and learning is often a cooperative process.

Academic emphasis was found to have a significant influence on student achievement (Hoy et al., 1990; Lee & Bryk, 1989). Hoy et al. (2006) defined "academic emphasis as the extent to which a school focuses on intellectual activity and student achievement" (p. 434). Lee

and Bryk (1989) determined that a more even distribution of high academic achievement across a myriad of social, economic, racial and ethnic backgrounds is likely to occur when the average level of academic course work is high, and differences among students' program of study are small. When the average level of academic course work is high and high academic goals have been set for the students, the emphasis on academics is present.

Attempting to meet the unique developmental needs of early adolescents who are undergoing tremendous intellectual, social, physical, and emotional changes was the most dominant objective in the development of middle level education (Bough, 1969). Understanding the interaction of the psychosocial issues with the biological, cognitive and social changes of early adolescents is important in the building and reforming of middle level education. To meet the complex needs of this age group and tailor the teaching and learning needed to produce achievement, the administrator and teachers who know, understand, and act on this understanding is integral. Middle schools were created to be responsive to the educational and developmental needs of the adolescent.

In the state of Michigan, schools are deemed successful based on positive student achievement by one state standards-based assessment, MEAP. Many school districts in Michigan are "taking the temperature" of student achievement through the utilization of data from the Measures of Educational Progress (MAP) to revise and customize curriculum and instruction with the goal of student academic growth.

With the adolescent developmental and educational importance of middle school and the need for public school administrators and teachers to demonstrate positive student achievement, this study provided middle school principals with an awareness that academic optimism can have that positive effect on student outcomes.

Methods

A nonexperimental, multiple regression research design was used, with no treatment or intervention provided to the participants. The analysis of factors that happen naturally, academic emphasis of a school, collective efficacy of a faculty, and faculty trust in parents and students was analyzed instead. The data collection tools were a revision of three surveys that measured the three components of academic optimism, and school-level MEAP and MAP test results.

The study was conducted in two school districts located in suburbs adjacent to a large Midwestern industrial city. A total of 102 middle school teachers from five middle schools participated in the study. All core academic teachers, (language arts, mathematics, social studies and science), special education teachers, and elective teachers (art, foreign language, music, physical education, and technology) were invited to participate.

Three surveys, Collective Efficacy Scale (Goddard, 2002), Omnibus-Trust Scale (Hoy & Tschannen-Moran, 2003), and the Organizational Health Inventory (Hoy, Tarter, & Kothkamp, 1991) were revised to determine the presence and level of the three factors of academic optimism: collective efficacy, faculty trust in parents and students, and academic press. Data from school-level results for the MEAP were used to determine student achievement in reading and math at each grade level, social studies at the sixth grade level, and science at the eighth grade level. The school-level results for the MAP were used to determine student achievement in reading, math and science in District 1 and reading and math in the District 2. Data were collected electronically using Google Forms, and submission of the completed survey indicated the willingness of the teacher to participate in the study. The surveys were not coded to maintain the anonymity of the teachers, and they were able to skip any question they chose not to answer.

The percentage of students scoring at the four levels on the MEAP was obtained from www.mischooldata.org for each school district. The school composite scores on the MAP were

provided by the principal of each school and distributed to the teachers prior to beginning the survey on Google Forms. The surveys were accessed and completed at faculty meetings where teachers had access to internet connections. An adult volunteer not connected with the school read a prepared script at the teacher's meeting, answered questions regarding their participation, and directed the teachers to an email from the researcher that contained a link to the survey. All data were collected at the meeting and any teacher absent did not participate in the study.

Data from the survey was downloaded into an SPSS file for analysis. The analyses were divided into two sections. The first section used descriptive statistics to summarize scores for the scaled variables, collective efficacy, faculty trust in students and parents, and academic emphasis. Inferential statistical analyses, including multiple regression analysis, were used in the second section to address the research question developed for this study.

Research Question and Findings:

The research question, "To what extent do the measure of academic optimism explain academic achievement?" was analyzed using separate multiple linear regression analyses. Academic achievement was determined by the percentages of students scoring at all four levels on the MEAP test and the school composite scores at the five levels on the MAP test. The three constructs of academic optimism; collective efficacy, faculty trust in parents and students, and academic emphasis were the three explanatory variables.

Findings and Discussion

Academic optimism, as measured by collective efficacy, faculty trust in parents and students, and academic emphasis explained 17% of the variance in MEAP reading and 14% of the variance in MEAP math for students at the advanced/proficient students. Nine percent of the variance in MEAP reading and 15% of the variance in MEAP math was explained by academic optimism for students scoring at the partially proficient/not yet proficient levels. When MAP

reading scores were used as the dependent variable, academic optimism explained 15% for students scoring at the high/high average level, 1% at the average level, and 12% at the low/low average level. Academic optimism was explaining 18% of MAP math scores at the high/high average level, 7% at the average level, and 17% at the low average/low levels.

Faculty trust in parents and students was determined to be the only construct of academic optimism that was a statistically significant explanatory variable of MEAP reading outcomes for advanced/proficient students. Faculty trust in parents and students also was determined to be the only statistically significant explanatory variable of outcomes for advanced/proficient students in MEAP Math, MEAP Social Studies, MAP Reading, MAP Math, and MAP Science. Teachers, who had higher scores for faculty trust, tended to have higher percentages of students scoring at the advanced/proficient level on the standardized assessments named above. The teachers who perceived that their school's faculty created a trusting atmosphere in each classroom and in the school as a whole were shown to have the highest percentage of students scoring at the advanced/proficient level. "In 1999, Hoy and Tschannen-Moran proposed this working definition of trust. Trust is individuals' or group's willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest and open" (p. 189). Trust has been shown to play a significant role in school effectiveness and have a direct influence on student achievement. Bryk and Schneider (2003) cited two on-going examples of the effectiveness of faculty trust in students and parents and the positive effects on student achievement. "Comer's School Development Project demonstrates that strengthening connections between urban school professionals and parents of low socioeconomic status can improve their children's academic achievement" (Bryk & Schneider, 2003, p. 41). Deborah Meier, Board Member of the Coalition of Essential Schools, contended that building trust among teachers, school leaders, students, and parents was a key component of the success of the middle

school that she created in Harlem (Bryk & Schneider, 2003). The finding of faculty trust in parents and students as the only statistically significant explanatory variable for positive academic achievement is different from the outcome of the study done by Goddard, et al., (2000) where they found academic emphasis was an important element in explaining achievement in mathematics and reading. An explanation for this difference could be that their study was conducted in elementary schools, whereas this study was conducted in middle schools.

The same construct, faculty trust in parents and students also was a statistically significant explanatory variable of the percentage of students scoring at the partially proficient/proficient/not yet proficient level, but in a negative direction. These findings held true for MEAP reading, MEAP Math, MEAP Social Studies, MAP Reading, MAP Math, and MAP Science just as they did for the advanced/proficient level. The teachers with higher scores on faculty trust tended to have lower percentages of students scoring at the partially proficient/ not yet proficient level.

Academic emphasis was the only statistically significant explanatory variable of the percentage of students scoring at the advanced/proficient level on the MEAP Science test. Academic emphasis was also the only statistically significant explanatory variable of the percentage of students scoring at the partially proficient/not yet proficient level on the MEAP Science test. Both of these results were similar to the analysis of which variable best explains the percentages of students scoring at the advanced/proficient level and the partially proficient/not yet proficient level on the MEAP Reading, Math and Social Studies tests. In that analysis, one independent variable, faculty trust, was statistically significant for both the advanced/proficient level and the partially proficient/not yet proficient levels, although the relationships were in opposite directions. One reason for the difference in explanatory variables could be that only one grade level takes the MEAP Science. The number of teachers surveyed for percentage of

students scoring at any level on the MEAP Science was 39, while the number of teachers surveyed for all MEAP outcomes was 102.

The findings that show academic emphasis to be a statistically significant explanation of positive academic achievement were supported by the findings of Lee and Bryk (1989) who found a positive relationship between academic emphasis and student achievement in their research of social distribution of academic achievement in Catholic high schools. The findings also are supported by McGuigan and Hoy (2006) who noted that academic emphasis was strongly related to success whether defined by the commitment of teachers to the school, the teachers' judgment of the effectiveness of the school, or student test scores. In this study, student test scores were used to determine academic achievement.

The analysis of which explanatory variable was statistically significant in explaining average level student scores on the MAP reading, math, and science tests yielded mixed results. While collective efficacy, faculty trust in students and parents, or academic emphasis were not statistically significant explanations for the MAP reading average level scores, academic emphasis was a statistically significant explanation for average level scores on the MAP math, and faculty trust in parents and students was a statistically significant explanation for average level scores for MAP science. Most attention from teachers goes to the upper and lower 30% of students leaving the middle or average student unable to build trusting relationships with the teacher. Perhaps the difference in the two independent variables in explaining the percentage of students who perform at the average level for MAP math and MAP science may be due to the trust relationships between teachers and students. "Students' trust in teachers has also been found to be related to their perceptions of academic press in their schools" (Tschannen-Moran, 2014, p. 66). Relational trust was an added element to the definition of trust by Bryk and Schneider (2003).

Faculty trust in students and parents, a construct of academic optimism, is the most reliable in explaining students' aggregated achievement as measured by school-level MEAP scores and Measures of Academic Progress (MAP). Academic emphasis, another construct of academic optimism, proved to be a weak explanation of a student's achievement. Collective efficacy did not emerge as either an explanation of academic achievement.

Ancillary Findings

Ancillary findings results related the influence of race and socioeconomic status on academic optimism and student achievement. District 1 is majority African American with a lower per pupil expenditure than District 2. District 2 is majority Caucasian and that district's per pupil expenditure is more than that of District 1.

When the two school districts were used as independent variables, their scores were statistically significantly different from each other on the three constructs of academic optimism; collective efficacy, faculty trust in students and parents, and academic emphasis when taken as a group. Further analysis showed teachers in District 2 had statistically significant higher scores on faculty trust in students and parents. The analysis also showed that teachers' scores in the two districts for collective efficacy and academic emphasis were not statistically significantly different. When the school districts were used as the independent variable, faculty trust in students and parents appeared to be strongly influenced by race and socioeconomic status. The district with the majority of African American students had lower scores on faculty trust than the district with a majority of Caucasian students. It is doubtful, however, that socioeconomic status had a great influence as studies by Ogbu (1994) and Ladson-Billings and Tate (1995) have demonstrated. It is often thought that socioeconomic status is a major factor affecting the achievement gap between African American students and Caucasian students. The tendency is to discuss the academic problems of African American students as if they are the product of an

African American underclass, or the products of an inner-city environment, or both. Ladson-Billings and Tate (1995) noted that when class is held constant, middle-class African American students do not achieve the same as their Caucasian counterparts. Trent (1997) found in his analysis the race effect, meaning African American students perform less well on the Stanford Achievement test in both reading and mathematics than their Caucasian peers, persists even after introduction of several control measures. Among these control measures were socioeconomic status. Noguera (2001) determined that the academic disparities between White and minority students in his study were influenced by the structure of opportunity within the schools. When examining the analysis of academic optimism by school district, faculty trust in parents and students seems to be influenced by race only.

The three constructs of academic optimism when taken together were statistically significantly different from each other when the five schools were used as levels of the independent variable. Collective efficacy did not emerge as statistically significantly different when analysis was completed between pairs of schools. Faculty trust in parents and students was found to be significantly lower in School A than either School C or E. School B was significantly lower than School E for faculty trust in parents and students. It is interesting to note that faculty trust in parents and students was not found to be statistically significantly different between any of the schools in District 1 and School D in District 2. It is also interesting to note that faculty trust in parents and students was not found to be statistically significantly different between School C in District 1 and any of the schools in District 2. Schools A, B and C are in District 1 and Schools D and E are in District 2. School D had more African American students than School E and was not significantly different from the schools in District 1 that had majority African American students. The results of the analysis between pairs of schools shows faculty trust in students and parents did not appear to be influenced by race or socioeconomic status.

In one of the ancillary findings, Schools C and E were used as levels of the independent variable as both are highly selective schools. School C, in District 1 with a majority of African American students, is an application school and School E, in District 2 with a majority of Caucasian students, admits students by lottery only. When these two schools were compared, academic emphasis was statistically significant with School E having significantly higher scores. Race and socioeconomic status appeared to have a strong influence on the teachers' scores for academic emphasis.

In comparing student achievement of all students in both districts, District 1 had a statistically significantly lower percentage of students scoring at the advanced/proficient level than District 2 on the Reading and Math sections of the MEAP. The students in District 1 had statistically significantly higher percentages of scores at the partially proficient/not yet proficient level on the MEAP Reading and MEAP Math sections than District 2. The MEAP Social Studies and MEAP Science sections were not analyzed as these sections of the assessment were only administered to one grade level each. Race and socioeconomic status proved to have a strong influence on the student achievement results of both the MEAP Reading and MEAP Math sections.

The results of the analysis of the achievement of the African American students in both districts showed different results. In District 1 the African American students had a statistically significantly lower percentage of scores at the advanced/proficient level on the MEAP Reading section than the African American students in District 2. The African American students in District 1 had statistically significantly higher percentage of scores at the partially proficient/ not yet proficient level than the African American students in District 2. The analysis of the MEAP Math scores yielded different results. The scores of District 1 African American students on the MEAP Math section were not statistically significantly different than the scores of the African

American students in District 2. Race and socioeconomic status influenced the academic achievement of the African American students on the reading section of the MEAP. Socioeconomic status had no bearing on the math section of the MEAP for African American students in either district. Similar findings were not available for the reading and math MAP tests as the school data were not disaggregated by economically disadvantaged, race, or special education.

The findings of the analysis of the influence of race on student achievement are aligned with the research of Ogbu (1994), Ladson-Billings and Tate (1995), and Trent (1997). When addressing the achievement gap between African American students and Caucasian students, it is often thought that socioeconomic status is a major factor affecting the gap, but research findings have not supported this assumption. The tendency is to discuss the academic problems of African American children as if they are the product of African American underclass, or inner-city environment, or both (Ogbu, 1994). Ladson-Billings and Tate (1995) asserted that although both class and gender can and do intersect race, as stand-alone variables they do not explain all of the educational achievement differences apparent between Caucasians and students of color. They also noted that when class was held constant, middle-class African-American students did not achieve at the same level as their Caucasian counterparts. Trent's (1997) findings indicated that 7% of the difference in test scores could be explained by race alone. The gap narrows when African American and Caucasian children attend the same school, and it narrows somewhat when African American and Caucasian families have the similar levels of education, same income, and the same wealth.

The results of the analysis of the influence of socioeconomic status on student achievement were aligned with White (1982) and Siren (2005). Wright (1982) found that when the student is used as the unit of analysis and when socioeconomic status is defined as parent's

income, educational attainment, or occupational level, socioeconomic status is positively correlated with measures of academic achievement. Siren (2005) found similar results in his meta-analysis. His results showed that the parent's location in the socioeconomic structure has a strong impact on student's academic achievement. It was also determined that the relationship between socioeconomic status and minority student's academic achievement is weaker than the relationship between socioeconomic status and white student's academic achievement (Sirin, 2005).

With this study conducted in middle schools only, it was expected that collective efficacy would be the construct of academic optimism to be the most statistically significant in having a positive influence on academic achievement. This was the expected outcome as middle schools are structured for faculties to work as a team or teams to increase student learning and achievement. This characteristic is listed in the National Middle School Association's position paper, "This We Believe" (Lounsbury, 1996, p. 2). Many middle school faculties are composed of grade level and/or content level teams that meet daily for the planning of instructional strategies that will work best with their specific students. These teams operate as a collective, a whole, to effectively plan and implement instruction to increase achievement. With this being the structure of many middle schools, the emergence of faculty trust in parents and students emerging as the most statistically significant in influencing academic achievement was not expected.

It was expected that the MEAP results of the African American students in District 2 to statistically significantly similar to the MEAP results of the African American students in District 1. This was true for the MEAP math results but not the MEAP reading results. These mixed results are unexpected as they do not totally align with the studies of White (1982) or Siren (1985).

Implications for Education

Due to the National Commission on Excellence in Education 1983 report, “A Nation at Risk,” legislation passed by Congress in 1994, Goals 2000: and the No Child Left Behind Act (NCLB) of 2001, the validity and continued existence of a public school in the United States rested on one measure, student achievement. Even though local educators and local school boards disaggregated data from a variety of formative and summative assessments to determine a student’s achievement, due to NCLB, national policy makers have determined one assessment gives the information needed. In the state of Michigan, this assessment is the Michigan Education Assessment Program, the MEAP. A public school that continually fails to demonstrate increasing student achievement on this one assessment suffers consequences that could lead to restructuring and eventual demise. With such high stakes, local school administrators must know and understand research based ways to effect improvement in student achievement.

The results of this study give central office administrators and principals a tool to improve student achievement at the local school and district level. Faculty trust in students and parents is a construct of academic optimism that can affect student achievement positively. The teachers who had higher percentages of students scoring at the advanced/proficient on the MEAP Reading, Math, and Social Studies, and the high/high average on the MAP Reading, Math, and Science were the teachers who had the higher scores in faculty trust in students and parents. Administrators and teacher leaders planning and facilitating intentional and purposeful programs and activities with the goal of building and enhancing trusting relationships between the classroom and the home and between classroom teacher and student can contribute to improved student achievement on standardized assessments.

Faculty trust in students and parents was also the construct of academic optimism that showed a negative relationship between independent and dependent variables. The teachers who

had higher scores for faculty trust in students and parents also tended to have the lower percentages of students scoring at the partially proficient/not yet proficient level on the MEAP Reading and Math and the MAP Reading, Math, and Science. Administrators and teachers must work to build trust with the students to motivate them to learn, which could help improve their test scores.

Academic emphasis was the construct of academic optimism that positively affected student's academic achievement on the MEAP Science assessment. Teachers with higher scores for academic emphasis were more likely to have a higher percentage of students scoring at the advanced/proficient level on MEAP science. Teachers as a whole faculty, not just individually, who push for high levels of academic excellence tend to have students score higher on standardized science assessments. Central and local school administrators developing and continually supporting a culture of academic excellence could experience increased student achievement on science standardized assessments.

Academic emphasis also appeared to have a negative effect on academic achievement. Teachers with the higher scores of academic emphasis also had lower percentages of students scoring at the partially proficient/not yet proficient level on the MEAP Science. School administrators and teachers need to create a culture that stresses academic excellence to motivate students and improve achievement in science.

Limitations of study

The following limitations could affect the generalizability of this study:

1. Student scores were available only by grade level for each school, which limited the variability in the scores. Student scores by individual teachers should be included to generate more variability and provide greater implications for educators.

2. The study was limited to two school districts that were adjacent to each other. Additional school districts need to be included in future studies to determine the effects of academic optimism on student achievement.
3. The ethnicities of the student populations in the two school districts were generally African American or Caucasian. School districts with greater ethnic diversity need to be studied to determine the true effects of ethnicity on academic optimism and student achievement.

Recommendations for Future Studies

The following recommendations for further studies are made to continue research on academic optimism and its three constructs; collective efficacy, faculty trust in students and parents, and academic emphasis, and their effect on academic achievement:

1. Comparison of individual teacher academic optimism to the academic optimism of a faculty as a whole would indicate which construct, collective efficacy, faculty trust in students and parents or academic emphasis, is lowest. The results of this research could assist educators in knowing where the greatest need is for professional development or other appropriate measures
2. Study the inclusion of student grades on teacher made assessments to assist educators in aligning local district and school curriculum with national standards.
3. Examine the inclusion of student grades on teacher made assessments to assist educators in knowing if the effects of academic optimism and its three constructs are highest for standardized assessments or local assessments.
4. Conduct a longitudinal research study to determine the change in academic achievement and the influence of academic optimism over the three years of middle school.

APPENDIX A

ACADEMIC OPTIMISM SURVEY

Developed for Dissertation Study

* Required

1. During the school year 2013-2014, I taught the following grade level(s).

- 6th
- 7th
- 8th

2. Please indicate the school where you taught during the school year 2013-2014 *

- A - Birney K-8
- B - Levey Middle
- C - MacArthur K-8
- D - Berkshire Middle
- E - Covington 3-8
-

3. Please indicate the percentage of students whom you taught this past school year that were Advanced, Proficient, Partially Proficient, and Not Proficient in Mathematics on the MEAP.

Advanced
 Proficient
 Partially Proficient
 Not Proficient

4. Please indicate the percentage of students whom you taught this past school year that were Advanced, Proficient, Partially Proficient, and Not Proficient in Social Studies on the MEAP.

Advanced
 Proficient
 Paritally Proficient
 Not Proficient

5. Please indicate the percentage of students whom you taught this past school year that were Advanced, Proficient, Partially Proficient, and Not Proficient in Science on the MEAP.

Advanced
 Proficient
 Partially Proficient
 Not Proficient

6. Please indicate the percentage of students whom you taught this past school year that rated High, High Average, Average, Low Average, and Low in Reading on the Spring 2013-2014 MAP.

High
High-Average
Average
Low Average
Low

7. Please indicate the percentage of students whom you taught this past school year that rated High, High Average, Average, Low Average, and Low in Mathematics on the Spring 2013-2014 MAP.

High
High Average
Average
Low Average
Low

8. Please indicate the percentage of students whom you taught this past school year that rated High, High Average, Average, Low Average, and Low in Language Usage on the Spring 2013-2014 MAP.

High
High Average
Average
Low Average
Low

9. Please indicate the percentage of students whom you taught this past school year that rated High, High Average, Average, Low Average, and Low in General Science on the Spring 2013-2014 MAP.

High
High-Average
Average
Low Average
Low

10. I am able to get through to the most difficult students.

- Strongly disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

11. I am confident I am able to motivate students.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

12. If a child doesn't want to learn, I give up.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Somewhat Agree

13. I don't have the skills needed to produce meaningful student learning.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

14. I don't have the skills to deal with student disciplinary problems.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

15. Learning is more difficult at this school because students are worried about their safety.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

16. Drug and alcohol abuse in the community make learning difficult for students.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

17. I trust my students.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

18. I trust my students' parents.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

19. Students in this school care about each other.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

20. Parents in this school are reliable in their commitments.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

21. Students in this school can be counted on to do their work.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

22. I can count on parental support.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

23. My students are competent learners.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

24. Most of the parents do a good job.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

25. I can believe what parents tell me.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

26. Students here are secretive.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

27. The principal explores all sides of topics and admits that other options exist.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

28. The students make provisions to acquire extra help.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

29. The principal gets what he or she asks for from superiors.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

30. The principal discusses my classroom issues with me.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

31. Extra materials are available if requested.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

32. My students neglect to complete homework.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

33. The school is vulnerable to outside pressure.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

34. The principal is able to influence the actions of his or her superiors.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

35. Teachers are provided with adequate materials for their classrooms.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

36. The principal lets faculty know what is expected of them.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

37. Students respect others who get good grades.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

38. The principal's recommendations are given serious considerations by his or her superiors.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

39. Students seek extra work so they can get good grades

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

40. Students try hard to improve on previous work.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

41. The learning environment is orderly and serious.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

42. Teachers are protected from unreasonable community and parental demands.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

43. The principal is friendly and approachable.

- Rarely Occurs
- Sometimes Occurs
- Often Occurs
- Very Frequently Occurs

APPENDIX B**CONSENT SCRIPT FOR RECRUITERS OF PARTICIPANTS IN STUDY
FOR RITA TEAGUE, DOCTORAL STUDENT AT WAYNE STATE UNIVERSITY**

Hello, my name is [INSERT FULL NAME]. I am a recruiter for a doctoral student. As part of her studies in Educational Leadership and Policy Studies, I am conducting a research study about the impact of academic optimism on student achievement.

I have a brief survey that would take about 30 minutes of your time to complete. Your participation is entirely voluntary; you may skip any questions that you don't want to answer. No personally identifying information is being collected. I will only use aggregated data in my dissertation. Do you have any questions about the research study?

Thank you for your participation in this research study. If you have any questions later on you may reach the student by email at rita.teague@gmail.com. If you agree to participate, please open and read the email from Rita Teague in your inbox. Thank you in advance for your time.

APPENDIX C

RESEARCH INFORMATION SHEET

Dear Colleagues,

My name is Rita Teague, and I am currently enrolled in the doctoral program at Wayne State University in the area of Education Leadership and Policy Studies. I am hoping you will be willing to assist.

My dissertation studies concern *The Impact of Academic Optimism on Student Achievement at Five Middle Schools*. The purpose of this study is to determine if the academic emphasis of a school, collective efficacy of a faculty, and faculty trust in parents and students could be used to either explain or predict students' aggregated achievement as measured by school-level MEAP scores and Measures of Academic Progress (MAP). The survey asks you to respond to certain statements that describe how teachers, students, and the administrators interact in your school. Your participation is voluntary; you are free to participate or not to participate. I respectfully request you to complete and return the questionnaire.

By completing this survey you are giving your consent to participate in this study and you are certifying you are over 18 years of age. **Your responses will be anonymous. No name of any participant will be identified in any way.** There is a possible risk as the survey is internet based, and there is a possible breach of confidentiality. The survey will take approximately 30 minutes to complete. Simply click on the link below.

The Institutional Review Board of Wayne State University and the Superintendent and Associate Superintendents of Southfield Public Schools and Birmingham Public Schools have approved the study.

I thank you in advance for your participation in this study. I will be happy to answer any questions you may have. My email is rita.teague@gmail.com.

With sincerity and thanks,

Rita H. Teague
Graduate student, College of Education
Wayne State University

APPENDIX D

WAYNE STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD APPROVAL

WAYNE STATE
UNIVERSITY

IRB Administration Office
87 East Canfield, Second Floor
Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
<http://irb.wayne.edu>

NOTICE OF EXPEDITED APPROVAL

To: Rita Teague
College of Education

From: Dr. Deborah Ellis or designee D. Roberts/BB
Chairperson, Behavioral Institutional Review Board (B3)

Date: August 21, 2014

RE: IRB #: 056914B3E
Protocol Title: The Impact of Academic Optimism on Student Achievement in Five Middle Schools
Funding Source:
Protocol #: 1405013090

Expiration Date: August 20, 2015

Risk Level / Category: Research not involving greater than minimal risk

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* Category (#7)* by the Chairperson/designee for the Wayne State University Institutional Review Board (B3) for the period of 08/21/2014 through 08/20/2015. This approval does not replace any departmental or other approvals that may be required.

- This research meets the criteria for expedited review per Category #7.
- Revised Protocol Summary Form (received in the IRB Office 8/21/2014)
- Protocol (received in the IRB Office 5/22/2014)
- A waiver of requirement for written documentation of informed consent has been granted according to 45 CFR 46 116(d). This waiver satisfies: 1) the research involves no more than minimal risk to the participants. Unidentifiable data in an online survey; 2) the research involves no procedures for which written consent is normally required outside of the research context. Online survey; 3) the consent process is appropriate and 4) an information sheet disclosing the required and appropriate additional elements of consent disclosure will be provided to participants.
- Research Information Sheet (dated 6/23/2014)
- Script to be read by facilitators
- Recruitment Email
- Data Collection Tool: Academic Optimism Survey Revision

* Federal regulations require that all research be reviewed at least annually. You may receive a "Continuation Renewal Reminder" approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval *before* the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.

* All changes or amendments to the above-referenced protocol require review and approval by the IRB **BEFORE** implementation.

* Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (<http://www.irb.wayne.edu/policies-human-research.php>).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the IRB Administration Office must be contacted immediately.
2. Forms should be downloaded from the IRB website at each use.

*Based on the Expedited Review List, revised November 1998

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ABSTRACT**THE IMPACT OF ACADEMIC OPTIMISM ON STUDENT ACHIEVEMENT
IN FIVE MIDDLE SCHOOLS****RITA H. TEAGUE**

May 2015

Advisor: Dr. Michael Owens**Major:** Educational Leadership and Policy**Degree:** Doctor of Education

This study addressed the research question: To what extent do the measures of academic optimism predict academic achievement? The study was conducted in two suburban, adjacent school districts with 102 middle school teachers from five middle schools participating.

A non-experimental, multiple regression research design was used as no treatment or intervention was provided. Data collection tools were a revision of three surveys that purport to measure the three components of academic optimism, and school level outcomes from the Michigan Education Assessment Program and the Measures of Academic Progress. Using Google Forms, data were collected electronically at faculty meetings with submission of the completed survey indicating participants' willingness. Percentages of students scoring at the four levels of the MEAP were obtained from www.mischooldata.org. School composite scores for the five levels of the MAP were obtained from school principals and distributed prior to administering the survey. Data was downloaded into a SPSS file for analysis.

The analysis indicated faculty trust in parents and students was most often explaining statistically significant amounts of variance for students scoring at the advanced/proficient level and the partially proficient/not yet proficient level on MEAP Reading, Math and, Social Studies tests.

Academic emphasis was explaining a statistically significant amount of variance for MEAP

Science. Faculty trust in parents and students was the statistically significant variable for the percentage of students scoring at the high/high average level and the low average/ low level on MAP Reading and Math. MAP Science results were mixed. None of the independent variables, collective efficacy, faculty trust in parents and students, or academic emphasis, was statistically significant for the percentage of students scoring at the high/high average level. Faculty trust in students and parents was explaining a statistically significant amount of variance for the percentage of students scoring at the average level and the low average/low level. None of the independent variables was statistically significant for the percentage of students scoring at the average level for MAP Reading or MAP Science.

Study results indicate that school administrators and teachers must work to build trust with parents and students and create a culture stressing academic excellence as both could help improve student achievement.

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