A QUANTITATIVE ANALYSIS OF THE RELATIONSHIPS BETWEEN TEACHER TRUST, SELF-EFFICACY, AND SCHOOL ACADEMIC PERFORMANCE

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TRUST, SELF-EFFICACY, AND SCHOOL ACADEMIC PERFORMANCE

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ABSTRACT

This study sought to determine if teachers’ perceptions of trust and self-efficacy were related to school academic performance based on Ohio Achievement Assessment results for the 2009-10 school year in eight Midwestern public schools. Additionally, the study sought to determine if teacher trust and self-efficacy were related to one another.

Two multiple regression analyses were conducted, and the results indicated that both trust and self-efficacy were significantly related to school academic performance. Results also showed that the trust subscales of trust in colleagues and trust in clients, and the self-efficacy subscales of instructional strategies and classroom management were significantly related to school academic performance.

A canonical correlation was conducted, and the results showed a significant relationship between trust and self-efficacy. A univariate regression analysis was also used to assess if there were relationships between the subscales. Results showed that the self-efficacy subscale of student engagement was related to both trust in the principal and trust in colleagues. It also showed that the self-efficacy subscale of instructional strategies was related to trust in clients (students and parents).

This study was unique because it provided results by looking at relationships between school academic performance, trust and self-efficacy using the percentage of academic indicators passed on the Ohio Achievement Tests. It was unique because it demonstrated that specific subscales contributed separately to school academic
performance, and that some of these subscales were related to one another. This study provided more in depth results when looking at relationships between trust, self-efficacy and school academic performance, and at relationships between the subscales. There are implications for further research to identify the different variables and their degree of influence on each of the subscales that affects the strength of the relationships that each has with school academic performance.
DEDICATION

For Robert and Jerry
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CHAPTER I
INTRODUCTION

Schools across the country are under pressure to improve school academic performance and provide students with higher standards of learning. This is in an effort to prepare students with the skills that are necessary to live and work in an increasingly complex society. Historically, education has been the impetus for economic and political development; therefore increasing academic achievement can prepare students with the skills necessary to live in an increasingly complex society (Brewster & Railsback, 2003). The National Education Goals Panel (1995) stated that “if national education goals are to be achieved, families, schools, and communities must work collaboratively to form strong family-school partnerships.” In order to form these partnerships for student achievement, there are key processes that must be utilized among the stakeholders (Goddard, Tschannen-Moran, & Hoy, 2001).

No Child Left Behind (NCLB; January, 2002) mandated that schools provide a standards-based education that sets high expectations and measurable outcomes through standardized testing in an attempt to better educate all students and to close the achievement gap between different groups of students. This achievement gap has been defined as a disparity between performance of subgroups of students in a school or school district. The subgroups are divided into the following categories: Race, Students with
Disabilities, Limited English Proficient, Economically Disadvantaged, and All Students (students who are not in any of the other subgroups) (NCLB, 2008).

NCLB also mandated that schools provide measurable outcomes through yearly standardized testing to assess academic performance. Schools are assigned academic ratings based on the outcomes of their standardized testing. These ratings rank from “Excellent with Distinction, Excellent, Effective, Continuous Improvement, Academic Watch, and Academic Emergency” (ODE, 2010). Schools are also rated on the number of indicators passed for each subject on the state achievement tests, which determines if a school has met adequate yearly progress (AYP). If AYP is not met, schools are required to formulate school improvement plans to raise academic achievement. If the school does not increase their student achievement test scores during the time period allotted for their school improvement plan, students can opt to attend other schools outside of the district at that district’s expense (NCLB, 2008).

Regardless of the mandates set forth by NCLB and additional funding made available for programs to better educate students, disparities have continued to exist in academic performance among schools. Unless schools continue to review their educational practices and relationships, students will not have the necessary skills to meet the demands in the adult workforce (Brewster & Railsback, 2003). A key factor in understanding how educational practices and relationships affect student learning has been to examine ways in which teachers, staff, and administrators have viewed working together to adopt pedagogies with the potential to positively affect academic performance.
One way to understand relationships in a school has been to examine how trusting these relationships are and to determine how changes can be made in these relationships so that all students can succeed regardless of factors such as socioeconomic class, race, ethnicity, or gender. Additionally, perceptions of teacher self-efficacy in relation to student achievement should also be assessed to develop optimal learning environments where teachers believe that they can teach under the most difficult circumstances, and where students can achieve under adverse conditions. Studied together, these variables can provide school leaders with insight into change through school improvement processes.

**Theoretical Framework**

Trust in organizations and teacher self-efficacy have been identified as catalysts that have improved the learning environment of a school and are linked to increasing student achievement. As schools have sought answers to reach academic excellence, there is a need to investigate how trust and self-efficacy play a major role in students’ academic success. According to Tschannen-Moran (2004), trust is defined as “one’s willingness to be vulnerable to another based on the confidence that the other is benevolent, honest, open, reliable, and competent” (p. 17). This trust has been viewed as a necessary component for human learning, cooperative relationships, and the overall quality of schooling (Sebring-Bender & Bryk, 2000). Teachers’ self-efficacy beliefs have also been linked to student achievement through classroom behavior and teaching practices (Kaufman-Brimm & Sawyer, 2004). Self-efficacy is defined as teachers’ belief
about their ability to achieve desired outcomes in student engagement regardless of the type of students they are working with (Bandura, 1977).

Self-efficacy, when coupled with trust, has contributed to the creation of an atmosphere that was conducive to teaching and learning and resulted in an overall increase in student achievement. When faculty trust was present, it encouraged a sense of collective efficacy which reinforced and enhanced trust (Hoy, Tarter, & Woolfolk-Hoy, 2006). When teachers perceived an increase in their own self-efficacy levels, there is an increased commitment to the values of the organization. These perceptions about their self-efficacy allowed teachers to be more willing to adopt instructional practices, assist colleagues, and work harder to achieve the organizational goals of the school (Ross & Gray, 2006). Teachers with a high level of self-efficacy also believed that they can strongly influence student achievement and motivation regardless of factors such as socioeconomic class, race, gender, or the physiological, cognitive, and emotional needs of a child that can make learning difficult (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). This self-efficacy was also related to faculty trust that students, parents, and teachers can work collaboratively to improve student learning; the teachers believed that students were capable of learning at higher levels; and academic emphasis on student success is enacted by these beliefs. This was a reciprocal causal relationship where teachers believed they could make a difference, students learned at higher levels, and academic performance was achieved (Hoy et al., 2006). Since this is a reciprocal relationship, the lack of trust can affect teachers’ self-efficacy, which can ultimately have an adverse impact on student learning.
Individuals and groups of people trust one another for a variety of reasons, either for personal fulfillment or the needs of an organization (Deutsch, 1958). The amount of trust needed depends upon how much people rely upon one another to reach a desired goal. When studying trust within the context of the school setting, there is a mutual reliance among colleagues that is necessary to reach a shared vision of student achievement. This reliance is based upon trust that a person can make themselves vulnerable without the risk of betrayal (Tschannen-Moran, 2004).

Teachers’ perceptions of self-efficacy have provided a framework for decisions that drive their actions within the classroom. These perceptions have influenced their attitudes and beliefs about their ability to teach effectively (Tschannen-Moran & Woolfolk-Hoy, 2001). Since perceptions typically guide persons’ thoughts and actions, it is apparent that teachers’ perceptions of trust within their schools should be examined to provide insight into how relationships are ultimately affecting teacher self-efficacy and the learning environment of the school.

**Purpose of the Study**

The purpose of this research was to study if there was a correlation between teachers’ perceptions of trust and school academic performance, and teachers’ perceptions of self-efficacy and school academic performance. This research also studied if there is a correlation between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy.
Research Questions

- Is there a significant relationship between teachers’ perceptions of trust and school academic performance?
- Is there a significant relationship between teachers’ perceptions of self-efficacy and school academic performance?
- Is there a significant relationship between teachers’ perceptions of trust and self-efficacy?

Research Hypotheses

Research Hypothesis 1: There is a statistically significant relationship between teachers’ perceptions of trust and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Research Hypothesis 2: There is a statistically significant relationship between teachers’ perceptions of self-efficacy and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Research Hypothesis 3: There is a statistically significant relationship between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy (including the overall score and subscale scores).

Operational Definitions

Academic Designations – designations that are assigned to schools and are determined by an accountability system that includes four measures: 30 State Indicators, Performance Index Score, Adequate Yearly Progress (AYP), and Value-Added Data (ODE, 2009).

Achievement Test – a type of performance test intended to measure an individual’s knowledge of specific facts, as well as the individual’s capability to perform
higher level cognitive processes, such as reasoning and problem solving, in a particular subject area (Gall, Gall, & Borg, 2007).

**Adequate Yearly Progress (AYP)** – a school meeting the goals of closing the achievement gap and ensuring every child has achieved proficiency in reading and mathematics by 2014 (ODE, 2009).

**Construct Validity** – how well an instrument reflects an underlying construct (Salkind, 2004).

**Content Validity** – the extent to which the items on an instrument actually measure the construct that it is intended to measure (Gall et al., 2007).

**Correlation Coefficient** – a mathematical expression of the direction and magnitude of the relationship between two measured variables (Gall et al., 2007).

**Correlational Research** – a type of investigation that seeks to discover the direction and magnitude of the relationship between variables through the use of correlational statistics (Gall et al., 2007).

**Descriptive Statistics** – mathematical techniques for organizing, summarizing, and displaying a set of numerical data (Gall et al., 2007).

**No Child Left Behind (NCLB)** – a federal law that is aimed at improving academic performance of students in both primary and secondary schools (NCLB, 2008).

**Participant** – a teacher who is a student enrolled in graduate courses in the College of Education that answers the questions on the surveys.

**Reliability** – the consistency of an instrument to represent a specific construct (Salkind, 2004).
School Performance Index – a weighted average that includes all tested and untested subjects and grades (ODE, 2009).

Self-Efficacy – a teacher’s belief about their ability to achieve desired outcomes in student engagement regardless of the type of students they are working with (Bandura, 1977).

State Indicators – academic subject areas, attendance rates, and graduations rates of schools and districts (ODE, 2009).

Statistical Package for the Social Sciences (SPSS) – a comprehensive, integrated collection of computer programs that is available for managing, analyzing, and displaying data (Gall et al., 2007).

Student Engagement – students’ perceptions that they can do well in their schoolwork, value learning, and can think critically and creatively (Tschannen-Moran & Woolfolk-Hoy, 2001).

Trust – a group or individual’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, 1999).

Value-Added Data – data used to determine how much progress a student has made over two consecutive years on the Reading and Math tests in grades 4-8 only (ODE, 2009).

Summary
As schools have sought to increase student achievement, trust relationships and teacher self-efficacy need to be examined to determine their affects on school academic
performance. While some schools have met academic expectations set forth by No Child Left Behind, other schools have fallen behind in their efforts to raise school academic performance. The schools that have not met academic expectations are required to implement school improvement plans up to a period of five years in an attempt to raise academic performance. Regardless of the attempts to improve academic performance through school improvement plans and supplemental programs, some schools have continued to struggle academically and have failed to meet adequate yearly progress (AYP). Therefore, it is imperative to investigate other factors that may be affecting academic performance. Trust relationships and teacher self-efficacy have both been linked to academic achievement in schools. This study investigated if there were interrelationships between teachers’ perceptions of trust, teachers’ perceptions of self-efficacy, and school academic performance of schools based on their current academic status assigned by the Ohio Department of Education.
CHAPTER II
REVIEW OF THE LITERATURE

Schools across the country have sought methods to increase academic achievement and provide students with higher standards of learning. Historically, education has served as an impetus for economic and political development; therefore, it has been posited that increasing academic achievement can prepare students with the skills necessary to live in an increasingly complex society (Brewster & Railsback, 2003). The National Education Goals Panel (1995) stated that if national education goals are to be achieved, families, schools, and communities must work collaboratively to form strong family-school partnerships. In order to form these partnerships for student achievement, key processes have been identified that must be utilized among the stakeholders (Goddard et al., 2001).

Processes such as communication, collaboration, organizational citizenship, and the creation of rules have been instrumental in the establishment of trust relationships (Tschannen-Moran & Hoy, 2000). Open communication and collaboration where others are willing to share their ideas and participate in shared-decision-making have increased the likelihood of trust (Hale, 2000; Tschannen-Moran & Hoy, 2000). Organizational citizenship has also been evident when others go beyond the formal requirements of their job and has involved working with others past the normal work day to improve conditions and trust relationships in a school. The use of rules in a school to safeguard
employees against opportunistic behavior without interfering with others’ ability to do their jobs engenders a climate of trust. The rules outline clear expectations and responsibilities of a job without a proliferation of rules that can cause alienation and resentment (Tschannen & Hoy, 2000). The United States Department of Education’s Comprehensive School Reform Program (CSR) has emphasized that improvement in student achievement is characterized by a strong foundation of trust among school members, collegial relationships, and widespread buy-in and support, as well as a shared vision for change (Hale, 2000).

The development and maintenance of trust has enabled stakeholders to work collaboratively for the benefit of the school which has created optimal learning environments where students feel respected, protected, and valued as individuals. It is imperative in creating positive work relationships and has been attributed to individuals and teams that have worked towards a vision even in times of stress and uncertainty (Willie, 2000). Cooperative work relations among all adults have characterized schools that show improvement. A substantial amount of trust is required to achieve these relationships among parents, teachers, students, and other major stakeholders. These trust relationships reduced the sense of risk when initiating change or when engaging with colleagues or parents in planning, implementing, and evaluating the effectiveness of school programs and teaching methods (Hoy & Woolfolk-Hoy, 2003). In schools where trust and cooperative efforts were strong, students reported that they felt safe and sensed that their teachers care about them, which resulted in greater academic achievement. In contrast, schools with declining or low test scores employ teachers who were more likely to state that they did not trust one another, and both teachers and students reported less
satisfaction with their experiences (Sebring-Bender & Bryk, 2000). These perceptions of
trust on student achievement in schools are presented in an upcoming section of this
chapter titled, “Trust Research.”

**Definition of Trust**

Trust is defined as the extent to which people are willing to rely upon others and make themselves vulnerable to others without the fear of betrayal or harm. It also has been defined as “the assurance that the other will not exploit one’s vulnerability or take excessive advantage of one even when the opportunity is available” (Tschannen-Moran & Hoy, 2000). Trust has been considered a psychological state, such as a belief or attitude towards another individual or group where a person is willing to accept being vulnerable based upon positive expectations from the behaviors of others (Dirks & Ferrin, 2001). From an organizational perspective, trust is often a collective judgment that another group will not act opportunistically, is honest in negotiations, and makes a good faith effort to behave in accordance with commitments (Bradach & Eccles, 1989). According to Tschannen-Moran (2004), trust is defined as “one’s willingness to be vulnerable to another based on the confidence that the other is benevolent, honest, open, reliable, and competent” (p. 17). This level of confidence is dependent upon the amount of trust a person has over an extended period of time that someone will act in their best interests (Tschannen-Moran & Hoy, 2000). Five major facets are considered instrumental in cultivating trust relationships within an organization. The five main facets of trust identified are benevolence, honesty, openness, reliability, and competence (Tschannen-Moran, 2004). These facets are discussed further in the following section.
**Benevolence**

According to Tschannen-Moran (2004), “benevolence is the assurance that one can count on others to act in their best interests, treating others with fairness and compassion” (p. 19). When benevolence is present in an organization, colleagues and students can have the assurance that they are not vulnerable to situations that are beyond their control. They have the support of others to protect them from emotional/physical harm, betrayal, or belittlement. Individuals feel confident that additional help is available to problem solve, and that they will be provided with a safe environment for teaching and learning (Willie, 2000). Benevolence within a workplace fosters a feeling of mutual trust where there is an attitude of good will and compassion for others within the organization.

When benevolence is missing, the cost to overall productivity is the result of people investing energy into seeking alternative plans to protect themselves in the event of betrayal. Teachers may feel that an administrator may exploit or betray them for personal gain. This can create a wall of mistrust that prevents teachers from communicating with administration for fear they will be chastised or deemed as incompetent for not handling situations themselves. Although teachers should take responsibility for the many facets of their job, they need the assurance that when a problem arises that is above their level of authority, they can trust their superior to assist them in finding the best possible solution without being blamed for the situation. Students are also affected by this lack of benevolence in regards to both their teachers and other students. When students are in a position or environment where they perceive that actions do not reflect their best interests or if they feel unprotected, they are unable to fully engage themselves in the learning process. Both teachers and students instead invest their
energy in devising ways to protect themselves from psychological or physical harm (Willie, 2000).

**Honesty**

Honesty is another facet of trust that is vital to building trust within an organization. It is part of a person’s character, their integrity, and authenticity reflected in their actions and words. According to Tschannen-Moran (2004), honesty in an organization implies a type of trust that is earned through integrity – the expectancy that a person will follow through on initiatives, promises, and visions for an organization (p. 22). Integrity and authenticity involve the adherence to strong moral-ethical standards and values that support and foster trust within the team. It is reinforced by consistently behaving in a manner that is in alignment with those standards and beliefs (Willie, 2000). Correspondence between a person’s word, promise, verbal or written statement, and their deeds ultimately characterizes integrity (Tschannen-Moran & Hoy, 2000). When an administrator consistently has kept their word and has followed through on initiatives, colleagues have been more likely to trust their judgments with fewer questions and doubts about their character and intentions. They were more willing to cooperate with an administrator’s new initiatives, because they believe that the administrator was sincere and would offer the support and resources needed for success (Sebring-Bender & Bryk, 2000). When an administrator or teacher has failed to follow through or keep their word, colleagues and students alike have questioned their intentions, which created a feeling of cynicism and mistrust. It has also raised doubt about a person’s overall character in
relation to their intentions, integrity, authenticity, and overall interest in the well being of the organization.

**Openness**

Tschannen-Moran (2004) states that “openness is a process in which people share information, influence, and control. Sharing information with others can be done through divulging facts, sharing knowledge and expertise, and one’s intentions and judgments about various situations (p. 25). This openness has resulted in a reciprocal type of trust where all of the individuals involved had the confidence their information would not be exploited or used against them (Tschannen-Moran & Hoy, 2000). Openness in influence allowed others to initiate change, lead committees, share plans, implement changes, and work towards goals supported by confidence and trust that initiatives and tasks can be accomplished.

Guarded information has provoked mistrust because people often become suspicious of a person’s intentions for withholding information (Brewster & Railsback, 2003). They believed that the person was using the unknown information for personal gain or that it could have been used to exploit an individual when the opportunity arose. People may have also suspected that the person with guarded information may manipulate the facts in order to make their views and biases a reality, which can become accepted standards in an organization (Tschannen-Moran & Hoy, 2000).

**Reliability**

According to Tschannen-Moran (2004), reliability refers to “the extent in which one can depend on another to follow through on commitments and behave consistently in
alignment with their beliefs and their vision” (p. 29). Reliability is coupled with predictability and benevolence that a person will act in one’s best interest in a variety of situations throughout time. This creates a sense of confidence that a person’s needs will be met from the person they rely upon. Without predictability and benevolence, a person can be deemed reliable to exhibit behaviors that are detrimental and self-serving when they see the need (Tshannen-Moran & Hoy, 2000). When these behaviors are absent, people tend to invest energy into worrying about whether a person will come through or not and make mental provisions on how to handle the situation if they do not (Tschannen-Moran, 2004).

**Competence**

Similar to reliability, competence is having the necessary skills and ability to perform tasks that are required by his/her position (Brewster & Railsback, 2003). Even if a person is benevolent, it is not enough to foster trust if they do not have the necessary skills to handle situations with the appropriate standards of competency (Tschannen-Moran, 2004). Parents depend on the competency and ethics of school staff for their children’s welfare and learning. Teachers depend on a principal’s competency to effectively, fairly, and efficiently manage basic school operations. School administrators must pursue good community relations with the support of a competent school staff that will support their endeavors (Sebring-Bender & Bryk, 2000). Incompetency undermines trust between individuals because they cannot depend on the person to perform their job effectively or offer the support that is needed for success of an organization. A person can
display the other four facets of trust; however, if they lack competency, there will be an absence of trust.

The results from research studies of trust support the causal relationship between trust in schools and an increase in academic achievement. The indicators of trust and the degree to which they are present depend on the context of the situation and the amount of trust needed. Some studies have affirmed that the presence of trust in schools has increased achievement, while other studies have focused on types of leadership that increase trust among major stakeholders.

**Trust Research**

The following studies have assessed levels of student achievement based on trust relationships within schools regardless of demographic factors that may have affected student achievement.

**Study I**

Bryk and Schneider (2002) conducted a three-year study in the early 1990s that studied the reform of three different elementary school communities. They observed key school meetings and events and spent time visiting classrooms and interviewing teachers about how the Chicago School Reform effort was affecting the schools. This information was used to develop a theory of relational trust by analyzing school operations and their overall academic achievement. The research was conducted during The Chicago School Reform Act of 1988 – a school-restructuring act that was implemented to improve student achievement. This act involved the decentralization of schools and called for more parent and community involvement. The Reform Act mandated the formation of
Local School Councils (LSC) that consisted of six parents, two teachers, one principal, and two community members for each school. LSC members were replaced every two years by a school community election.

Bryk and Schneider (2002) used information from interviews and surveys of school staff, parents, and community leaders, and the test score databases of three of Chicago’s 481 elementary schools: Ridgeway, Holiday and Thomas Elementary (p. 68). They used the information from the interviews and surveys and examined trust and its relationship to improvements in student achievement. Bryk and Schneider (2002) developed a “school academic productivity profile” that enabled them to measure students’ academic gains each year based on three pieces of information:

- input status – students’ background knowledge and skills they bring to the next grade;
- learning gain – how much the end of the year results improved over the input status for the same group of students; and
- output status – the knowledge and skill levels of students as they ended another year of instruction.

Once they obtained the students’ achievement status, Bryk and Schneider (2002) analyzed the information between the “school academic productivity file” trend indicator and the periodic survey reports completed by staff from 1991, 1994, and 1997 through a composite trust measure (The Consortium of Chicago School Research administered the 1991 surveys prior to this to study; p. 108). The results from the 1991 surveys revealed that the base quality of relational trust of improving schools was identified as being slightly higher than in non-improving schools. However, this modest increase was
attributed to replacements of current administrators and teachers (Bryk & Schneider, 2002).

The results indicated much higher levels of trust in schools categorized with increased achievement. Bryk and Schneider (2002) applied the theoretical principles about relational trust and the data from the surveys from the three schools in their analysis. This analysis indicated heightened levels of trust in schools categorized with increased academic achievement. By 1997 academically improving schools were in the top 25% of schools with higher relational trust. The researchers used the Hierarchal Linear Model (HLM) to analyze factors such as racial composition, enrollment stability, school size, low-income students, and the concentration of poverty in low-income neighborhoods. Even after controlling for these differences among schools related to these factors, there were still significant effects relating relational trust to academic productivity. The Chicago School study documented a strong statistical link between improvements in trust and gains in academic productivity (Bryk & Schneider, 2002). The next study was conducted to assess the trust levels of stakeholders after the use of a Participatory School Administration Leadership and Management Team Program (PSALM in an Advisory School Council (ASC) (Diosado & Gamage, 2007).

**Study II**

The PSALM program was based on the premise that participatory decision making in management and in leading the schools resulted in higher school performance and increased trust levels among its stakeholders (Yukl, 2002). For participatory decision-making to be effective, a high level of trust was necessary among its
stakeholders on the ASC who collaboratively made decisions and carried out leadership
duties and responsibilities. This study was based on the two major tenets: people were
able to work harmoniously when dealing with problems and produce better outcomes
when trust exists; opportunities for participation of stakeholders was one of the important
characteristics of high performing schools (Diosado & Gamage, 2007).

According to Diosado and Gamage (2007), the specific research objectives were
to compare the stakeholders from the experimental and control groups in terms of
academic achievement and trust before and after the experiment after implementing
PSALM in the public secondary schools in the Philippines (p. 17). Thirty-eight schools
were randomly assigned to the experimental and control groups. Seven hundred thirty-
five participants completed a questionnaire to measure trust in regards to school
administrators and teachers. The 735 participants who volunteered for the study were
parents, administrators, teachers, community leaders, and alumni.

After one year of implementing PSALM in the schools the participants completed
a second questionnaire containing the same type of questions from the first survey. The
second survey for the experimental group also contained a questionnaire about the
effectiveness of the ASC. Results revealed that the stakeholders’ trust levels increased
after one year of using participatory decision-making in their schools. There was also a
modest increase in student achievement. This study reinforced the concept that
participatory working relationships that embrace the facets of trust increased the levels of
trust. Although student achievement did not significantly increase the first year, the
results of increased trust after the implementation of the PSALM program were an
indicator of its effectiveness on trust relationships (Diosado & Gamage, 2007).
Study III

Goddard et al. (2001) conducted a study that investigated trust as a critical element of the relational networks that facilitate success in 47 urban elementary schools. An urban district was chosen based on the premise that trust was important in confronting the challenges in this district. Only one district was chosen to avoid between-district effects, and elementary schools were used because of their similar organizational structure.

The first part of the study was to measure teachers’ perceptions of trust within their schools. Four hundred fifty-two teachers were administered a 6-point Likert scale survey from “strongly disagree” to “strongly agree.” The scale contained 15 different questions regarding the five facets of trust: openness, benevolence, competence, honesty, and reliability. The results revealed that trust was negatively related to alienation and conflict, and positively related to teacher efficacy. Next, they used a multi-level analysis with teacher trust as a dependent variable. The results revealed that teacher trust varied considerably more between schools than within schools. The next step was to assess teachers’ levels of trust at each school in relation to student achievement (Goddard et al., 2001).

State achievement test scores were obtained for the 2,536 students who completed the third and fourth grade mathematics and reading tests consecutively over a two-year period in the school district. A Hierarchal Linear Model (HLM) analysis was used to determine if factors such as gender, socioeconomic status, and race/ethnicity affected levels of trust and student achievement on the tests over two consecutive years. Even after accounting for student characteristics, trust was a positive predictor of the variance
of student achievement between schools. The amount of trust teachers have in their school and students far outweighed the effects of poverty, gender, race/ethnicity, past student achievement, and socioeconomic status. The study provided a foundation for future research into the effects of trust on student achievement. It also identified the degree to which trust affects student achievement regardless of demographics, student characteristics, and prior achievement (Goddard et al., 2001).

As schools have sought to improve academic achievement using methods to increase student achievement with the use of data driven research, these studies have offered invaluable information about the effects of trust in school relationships. Each of these studies have investigated whether the creation and presence of trust in schools among stakeholders resulted in increased academic student achievement. The research took into account other factors such as leadership style, race, ethnicity, school size, socioeconomic class, enrollment stability, and geographical location of school to determine if these factors were strong enough to negate trust relationships within a school. The results of these studies revealed that, regardless of these existing factors, strong trust relationships among stakeholders increased overall academic productivity in schools. Schools must be cognizant of how the interactions and relationships affect the overall learning climate of the school and be willing to recognize the changes that must be made to meet the educational needs of their students. Schools need to be aware of the detriments of mistrust and the benefits of trust if they are going to create relationships that foster trust and a shared vision for improvement that will ultimately increase student achievement.
Self-Efficacy and Trust

The presence of trust, teacher self-efficacy, and an emphasis on academic success have been identified as a synergistic relationship that can ultimately increases student achievement. Self-efficacy is an individual's beliefs about his or her capacity to organize and execute the actions required to produce a given level of attainment (Hoy et al., 2006). Teacher-efficacy is defined as a teacher’s belief that they have the capacity to affect student performance and can influence how well students learn regardless of difficult behavior or lack of motivation to learn (Tschannen-Moran et al., 1998). Wood and Bandura (1989) emphasized the relationship between a sense of self-efficacy and student achievement. This self-efficacy can be increased when trust relationships in schools result in school norms that support academic achievement and a collective efficacy among teachers and students (Hoy et al., 2006).

Bandura’s Social Cognitive Theory emphasized self-efficacy in understanding human learning and motivation. A person’s perceived self-efficacy affects their beliefs in their capabilities to accomplish desired goals. Although people can possess the skills to perform a job effectively, their beliefs will determine whether they will perform poorly, adequately, or extraordinarily based on the expectations of their profession (Wood & Bandura, 1989). The Social Cognitive Theory can be applied to school settings in relation to teachers’ self-efficacy and students’ academic achievement levels. Bandura (1997) defined teacher self-efficacy as “a cognitive process in which people construct their own beliefs about their capacity to perform, their level of persistence, and their resilience when coping with stress in demanding situations” (p. 196). Teacher self-efficacy has been
related directly to specific tasks and centers around a teacher’s beliefs to perform tasks at an expected level of competence (Tschannen-Moran & Woolfolk-Hoy, 2007).

According to Bandura (1997), there are four sources of self-efficacious expectations. The mastery experience is the perception that a performance has been a success or a failure and increases the belief that the performance will be duplicated in the future. To gain a sense of efficacy, it is necessary to experience overcoming obstacles through sustained effort. Easy successes produce a perception of self-efficacy that can be diminished when difficult situations arise (Wood & Bandura, 1989). Self-referent thought is a form of self-reflection that individuals use to evaluate these experiences, and their beliefs influence how they alter their environments and self-beliefs. This self-referent thought is then used to alter subsequent performances based on an individual’s evaluation (Pajares, 1996).

Modeling is a method used to strengthen self-efficacy by building one’s belief of their capabilities through a social comparison process. A person can observe others through vicarious experiences and either identify with their skills or determine that they do not possess the skills to complete a task (Tschannen-Moran et al., 1998). People who compare themselves to others and succeed through sustained effort can raise a person’s beliefs about their own capabilities. This creates a self-efficacious belief that they can improve their skills, and as a result, will more likely use sustained effort to complete increasingly difficult tasks (Wood & Bandura, 1989). However, if they compare themselves to others who fail regardless of effort, it can undermine one’s ability to judge their own capabilities. This can cause a person to seek out easy tasks that create quick
results and an inconsistent application of skill when difficult situations arise (Wood & Bandura, 1989).

Self-efficacy beliefs also have been influenced by thought patterns and emotional reactions. The physiological and emotional states were based on either the anxiety or excitement associated to a task and can add to the feeling of mastery or incompetence. If a teacher attributed the successful experiences to luck, then self-efficacy was reduced. However, if it was attributed to skill and competence, self-efficacy was enhanced (Bandura, 1997). People who had low self-efficacy perceived that things were more difficult than they really were, and these feelings could lead to depression, illness, increased stress, and reduced performance on a task; whereas, those with high self-efficacy believed they were capable of handling difficult tasks and activities (Pajares, 1996).

Another source of self-efficacy has been through social persuasion. This social persuasion was generated through specific feedback on one’s performance based on a specific task. Social persuasion has produced setbacks if a person is placed in the situation where they do not have the skills to complete a task, or if they had self doubts about their abilities (Pajares, 1996). This resulted in negative appraisals from others or from oneself, which increased self doubts about their capabilities and reduces perceptions of self-efficacy. Subsequently, when this has occurred, teachers were more hesitant or unwilling to initiate tasks, try new strategies, or persevere on more difficult tasks (Tschannen-Moran et al., 1998). If a person perceived realistic encouragements and positive appraisals, they were more likely to exert greater effort, experience more success and would have believed in their capabilities. A positive appraisal of their abilities from
others produced increased perceptions of self-efficacy and motivated teachers to master more challenging tasks (Wood & Bandura, 1989). However, the potency of the social persuasion has been dependent upon the appraiser’s trustworthiness, expertise, and credibility (Bandura, 1982).

Self-efficacy, when coupled with trust, has been the catalyst for providing an atmosphere that is conducive to teaching and learning and result in an overall increase in student achievement. When faculty trust is present, it has encouraged a sense of collective efficacy which has reinforced and enhanced trust (Hoy et al., 2009). According to Ross and Gray (2006), “when teachers perceive that they have self-efficacy, there is an increased commitment to the values of the organization” (p. 798). These perceptions about their self-efficacy has caused teachers to be more willing to adopt instructional practices, assist colleagues, and work harder to achieve the organizational goals of the school (Ross & Gray, 2006). Teachers with a high level of self-efficacy also believed that they can strongly influence student achievement and motivation regardless of factors such as socioeconomic class, race, gender, or the physiological, cognitive, and emotional needs of a child that can make learning difficult (Tschannen-Moran et al, 1998). This self-efficacy has also been related to faculty trust that students, parents, and teachers who have worked collaboratively to improve student learning; the teachers believes that students are capable of learning at higher levels, and academic emphasis on student success is enacted by these beliefs. This is a reciprocal causal relationship where teachers believe they can make a difference, students can learn, and academic performance can be achieved (Hoy et al., 2009). Since this is a reciprocal relationship, the lack of trust can
affect teachers’ self-efficacy which can ultimately have an adverse impact on student learning.

The Condition of Mistrust

Lewicki, McAllister, and Bies (1998) have defined mistrust in terms of “confident negative expectations regarding another’s conduct. These negative expectations are based on the belief that a person has the propensity to cause harm to others through their words or actions” (p. 439). When mistrust is present, there are perceptions that others will potentially engage in detrimental behavior and not act in the best interests of others (Useem, Christman, Gold, & Simon, 1997). Once a person is in a situation of mistrust, they start to devise ways to protect themselves from injurious actions and decisions of others (Lewicki et al., 1998). Environments of mistrust have been expressed through behaviors such as negativity, defensiveness, wariness, skepticism, and vigilance about others’ actions. These behaviors have stifled any initiative of groups working interdependently because people must engage in actions to protect themselves from opportunistic behavior (Tschannen-Moran & Hoy, 2000). Conditions of mistrust have been exacerbated by control mechanisms such as contractual agreements and a proliferation of rules in an attempt to protect themselves from possible harm. These further reinforce an environment that has been counterproductive and dysfunctional predicated on formal sanctions to control others.

Brewster and Railsback (2003) identified several factors that can lead to mistrust in school settings. Top-down decision making that has been viewed as arbitrary or not in the best interests of the school has created hostile environments characterized by uncertainty and forced compliance. When decisions have been made that are viewed as
unreasonable or unethical, conflicts have occurred between individuals and groups. These conflicts were a result of capricious decisions that were interpreted as favoritism, discrimination, exclusion of certain people, and abuse of authority used for revenge or personal gain. This type of decision making has compromised the emotional integrity of an organization and has created communicative restraints that erodes or prevents the formation of trust (Beatty & Brew, 2004; Useem et al., 1997).

Ineffective communication between administrators, teachers, parents, and students has impeded the process of conflict resolution, the communication of important information, and teamwork on a shared vision for student success. As schools have been met with new challenges, this lack of communication caused confusion about expectations and roles and was interpreted as a lack of caring, respect, and support on school improvement plans and projects. This has resulted in teacher isolation, retreatism, decreases morale, and raises suspicion about others intentions. Poor communication culminated in unstable networks characterized by culture of mistrust that ultimately affects the academic success of a school (Beatty & Brew, 2004).

Betrayal has also been identified as a major contributor to mistrust within schools. According to Elangovan and Shapiro (1998), “betrayal is a violation of trust expectations on which relationships are based” (p. 549). These violations may be between an employee and senior management, colleagues, or associates. It may occur due to an opportunistic act based on one’s self-interest to satisfy their needs, and the belief that they will gain more by violating trust, rather than maintaining it (Lewicki et al., 1998). In other cases, betrayal may be necessary when the outcomes of a situation from a person’s behavior and lack of work ethics will be detrimental to another person or members of the
school community. Regardless of the type of betrayal, it has been considered a violation of personal expectations that are important in a trust relationship (Elongovan & Shapiro, 1998).

Tschannen-Moran (2004) stated that betrayal in schools is classified according to two broad categories: “damage to civic order or damage to one’s sense of identity” (p. 68). Damage to civic order can be the result of an exercise of abusive authority, coercion, prejudice, personal biases, sexual harassment, threats, improper dismissal, failure to remove ineffective teachers, withholding of promised support, lying, stealing of ideas, or favoritism (Tschannen-Moran, 2004). Damage to one’s self-identity has been a result of public criticism, unfounded accusations, insults, being personally blamed for mistakes, or disclosure of personal information (Elongovan & Shapiro, 1998; Tschannen-Moran, 2004).

Although betrayal has been construed as a violation of personal trust, it does not imply that the betrayal is always unethical, antisocial, or immoral. A person may be in a position to betray a colleague if they are violating protocols of an organization or are causing harm to others (Elongovan & Shapiro, 1998; Lewicki et al., 1998). Disclosing information to the administration would constitute betrayal of a co-worker but could be based on the ethical and moral principles of the informant or the organization (Elongovan & Shapiro, 1998). For example, a teacher may have to report indiscretions between a student and another teacher or inappropriate use of school funds. Sometimes co-workers may ostracize or sabotage the betrayer, regardless of the fact that they breached another’s trust to expose an immoral, unethical situation, or antisocial situation (Tschannen-Moran & Hoy, 2000). Although betrayal has often been perceived as a negative, it is sometimes
necessary to purge an organization of behaviors or management practices that can become an institutionalized poison which can ultimately infect the overall climate of the school. According to Tschannen-Moran (2004) “once betrayal takes place between individuals or groups, it can perpetuate a cycle of mistrust that can continue decades even after the incident has occurred” (p. 67).

It is essential to rebuild trust within the school, or the cycle of mistrust and suspicion will continue and negatively affect the overall school environment resulting in low morale and decreased student achievement. Regardless of the reasons mistrust may be present in a school, it is imperative that a trusting environment be created where students have the opportunity to reach higher levels of achievement. It is crucial to identify the causes and effects of mistrust within an organization. Once these are identified, the necessary steps must be taken to implement reforms that will remedy situations and actions that continue to exacerbate mistrust. Although it is a challenge to regain individuals’ confidence to restore trust, rebuilding relationships creates effective organizations where individuals empower one another to success. There are different methods that can be used to rebuild and sustain trust within an organization. Although it can be a long and arduous process, these methods can ultimately improve the overall climate of the school creating trust relationships that are imperative for increasing academic achievement and trust among stakeholders (Hoy & Woolfolk-Hoy, 2003).

**Conclusion**

Trust is a multifaceted concept in relationships that involve risk, vulnerability, reliability, and expectation. Trust has different bases and degrees depending on the
context of each trust relationship. It is determined by the amount of interdependence between parties, where the interests of one party cannot be achieved without reliance upon another. The degree of interdependence may alter the form that trust takes; and where there is no interdependence, there is no need for trust (Tschannen-Moran & Hoy, 2001). It is also possible to both trust and distrust one another, depending on different experience and various facets of complex interpersonal relationships (Lewicki et al., 1998).

Research on levels of trust has been measured in various school settings to determine if there is a positive correlation between strong trust relationships and student achievement. Recent studies have proven that student achievement can be improved where trust is present, and where students are given access to various forms of social supports that facilitate success in school (Goddard, 2003). Trust by itself is not the sole determining factor for student achievement, although it does play a major role in creating the conditions for student success.

Entrenched policies and practices that affect an organization’s operations, interactions, and communication, as well as limitations imposed by union contracts can limit a school’s ability to fully implement the components needed in programs that foster trust relationships. Stakeholders also may be unwilling to commit to, or fully engage in initiatives and relationships. Although contrived force can be used to demand participation, the lack of commitment can restrict the development of trust in schools (Useem et al., 1997).

Bryk and Schneider (2003) stated that “in the absence of prior contact with a person or institution, participants may rely on commonalities such as race, gender, SES,
ethnicity, or age to assess the trustworthiness of a person or organization” (p. 42).

Emotions or past experiences may also interfere with the ability to objectively view a situation from a trust standpoint, and can result in misperceptions about the intentions of the other party involved. Trust is a very abstract concept that is difficult to measure and is contingent upon other extenuating factors that affect the outcomes of trust relationships based on what one expects to achieve or obtain from a situation or person’s actions. It is hopeful that the willingness to trust one another is contingent on interactions over an extended period of time, instead of being clouded by personal biases, past experiences, or perceived social injustices.
CHAPTER III

METHODOLOGY

Introduction

This study was designed to examine the interrelationships between teachers’ perceptions of self-efficacy, teachers’ perceptions of trust, and school academic performance. The chapter discusses the research design, the participants and the sampling procedures. The chapter also presents the hypotheses and research questions, the variables, and specific areas of inquiry that are answered by the data that are collected and analyzed through quantitative correlational research. The chapter focuses on the review of the evidence of reliability and validity of the two instruments used to measure teacher self-efficacy and teacher trust. The chapter concludes by identifying and discussing methodological limitations of the study.

Purpose of the Study

The study sought to determine if there was a correlation between teachers’ perceptions of trust and school academic performance, and teachers’ perceptions of self-efficacy and school academic performance. This study also investigated if there was a correlation between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy.
School academic performance was measured by the number of academic indicators met based upon the results of the Ohio Achievement Tests for the 2009-10 school year. The Ohio Department of Education assigned a percentage to each indicator based upon how students scored in each grade level as a whole group on each specific indicator. Each grade level indicator and percentage of passage is listed on the Ohio school report cards that are available on the Ohio Department of Education website (ODE, 2009). The researcher obtained the number of indicators that were met for each school building for the 2009-10 school year from the Ohio school report cards. Teacher self-efficacy was measured by the results of the Teacher Self-Efficacy Scale (Tschannen-Moran & Woolfolk-Hoy, 2001) and teacher trust was measured by the results of the Faculty Trust Survey (Tschannen-Moran, 2004). Both of these surveys were completed by the participants of the study.

**Research Questions**

There were three research questions that guided this study:

- Is there a significant relationship between teachers’ perceptions of trust and school academic performance?
- Is there a significant relationship between teachers’ perceptions of self-efficacy and school academic performance?
- Is there a significant relationship between teachers’ perceptions of trust and self-efficacy?
Research Hypotheses

Research Hypothesis 1: There is a statistically significant relationship between teachers’ perceptions of trust and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Research Hypothesis 2: There is a statistically significant relationship between teachers’ perceptions of self-efficacy and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Research Hypothesis 3: There is a statistically significant relationship between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy (including the overall score and subscale scores).

Null Hypotheses

Null Hypothesis 1: There is not a statistically significant relationship between teachers' perceptions of trust and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Null Hypothesis 2: There is not a statistically significant relationship between teachers’ perceptions of self-efficacy and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Null Hypothesis 3: There is not a statistically significant relationship between teachers’ perception of trust and teachers’ perceptions of self-efficacy (including the overall score and subscale scores).

Research Design

The purpose of correlational research was to determine the degree of a relationship between variables through the use of statistical data. The relationship could be either negative or positive between the variables. Correlation coefficients were used to measure the degree and direction of these relationships and to show whether there was a causality or if a prediction was accurate in research. The two types of correlational research are causal relationship studies and prediction studies. Data for both types of correlational research can be collected through various methods such as surveys,
interviews, questionnaires, standardized tests, and observational techniques (Gall et al., 2007). Causal studies can be used to explore causal relationships between variables, and prediction studies to predict scores on one variable to research participants’ scores on other variables (Gall et al., 2007).

Causal relationship studies seek to identify the causes and effects in educational research using specific variables through a correlational analysis. The data are analyzed by correlating the samples’ scores on the independent variable with the scores on the dependent variable. Correlation coefficient is used to determine a cause and effect relationship. The results can also describe whether the extent of the relationship is low, moderate, or high (Gall et al., 2007).

The prediction correlational study is used to identify variables that are believed to predict certain outcomes through predictor variables and a criterion (Gall et al., 2007). These studies provide three types of information: the extent to which patterns can be predicted, the use of data to develop or reinforce existing theories, and to provide evidence about predictive validity of test that are correlated with the criterion in a study (Gall et al., 2007). Correlation coefficient is used to make predictions about particular criterion. Prediction studies are more accurate when they are aimed at short term predictions about a criterion because less time lapses for new factors to emerge that may cause the criterion to change (Gall et al., 2007).

The advantage of using correlational research is that relationships can be analyzed between a large number of variables. The researcher can either analyze variables in combination or singly depending on their research objectives. Correlational research also
provides information about the degree of relationships among variables (Gall et al., 2007).

**Description of Measurements**

The three major measures used in this study were the School Academic Performance Index, the Faculty Trust Survey, and the Ohio State Teacher Efficacy Scale.

School Academic Performance Index was measured by the number of academic indicators assigned to each school based on grade level. In order to meet each indicator, students were required to score at least 75% or higher. The School Academic Performance Index was used to determine the academic designations of “Excellence with Distinction, Excellent, Effective, Continuous Improvement, Academic Watch, or Academic Emergency” (ODE, 2009). This academic designation was collected from each school’s Ohio School Report Card which is available on the Ohio Department of Education website.

The Faculty Trust Survey was designed to measure teachers’ perceptions of trust within their schools. After an extensive review of the literature regarding the concept of trust, an operational definition was created using the different facets that were discussed throughout the research literature. According to Hoy and Tschannen-Moran (1999), trust is defined as “a group or individual’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open” (p. 70). These five facets of trust are represented in three subscales of the Faculty Trust Survey.
Demographic data were collected through the administration of a demographic questionnaire to the participants. The items on the questionnaire were gender, racial identity, number of years teaching, current grade level taught, and geographic location of school (urban, suburban, or rural). The school academic performance was measured by the number of indicators that each school earned based on the results of the Ohio Achievement Assessments.

The Ohio State Teacher Efficacy Scale was designed to measure teachers’ perceptions of their self-efficacy. Self-efficacy has been defined as a teacher’s belief about their ability to achieve desired outcomes in student engagement regardless of the type of students they are working with and has been related to student achievement (Bandura, 1977; Tschannen-Moran & Woolfolk-Hoy, 2001). Teacher self-efficacy is represented in the three subscales of the Teacher Efficacy Scale.

School Academic Performance Index

In this study, school academic performance was measured by school performance in academic subjects at each grade level on Ohio Achievement Assessments for the 2009-10 school year. These academic subjects are called indicators and are assigned for each grade level by the Ohio Department of Education. According to the Ohio Department of Education (2009), the indicators vary from year to year but are generally based on the number of state assessments given over all tested grades within a district. Each student has earned a score of advanced, accelerated, proficient, basic, or limited as result of their performance on each state indicator they take at their grade level (ODE, 2008). To earn an indicator, a school must have a certain percentage (75% or more) of students reach
proficient or above on a state assessment. The academic designations for each school have been assigned by the Ohio Department of Education.

The academic designations are “Excellent with Distinction, Excellent, Continuous Improvement, Academic Watch, and Academic Emergency.” These academic designations are determined by an accountability system that includes four measures: 30 State Indicators, Performance Index Score, Adequate Yearly Progress (AYP), and Value-Added data (ODE, 2008).

The Performance Index Score is a weighted average of all tested and untested students in grades 3-8 and grade 10. The greatest score starts at the advanced level and decreases for each performance level. It is calculated by the percentage of students in each passage category (limited – advanced) multiplied by a weighted score for a total of points that is the performance index score. A weight of zero is given to any untested students. The state uses these weighted values combined with the performance indicators, adequate yearly progress, and value-added data when determining a school’s academic designation. These performance indexes can also be used to study achievement trends over a period of years (ODE, 2008).

**Adequate Yearly Progress**

Adequate Yearly Progress (AYP) is a term that originated from the No Child Left Behind Act of 2001 and the Elementary and Secondary Education Act of 1975. Under NCLB (2008) AYP is defined as “a school meeting the goals of closing the achievement gap and ensuring every child has achieved proficiency in reading and mathematics by 2014” (p. 3). The subgroups for AYP are the Economically Disadvantaged, Racial/Ethnic
groups (African American, Hispanic, Asian, Multi-racial, Native American, White, Students with Disabilities, and English Language Learners). AYP for a school is determined by the percentage of students who reach proficient or higher on the indicators at their grade level in each of these subgroups (ODE, 2008).

Value-added Data

The value-added data are used to reflect how much progress a student has made over two consecutive years on the reading and math tests in grades 4-8 only. If a school has shown “above expected growth” for two consecutive years, the state may increase its, rating by one academic designation (ODE, 2008). For example, a school that has been rated effective on their indicators, performance index score, and adequate yearly progress may be raised to excellent based on their value added data. Conversely, if a school shows a smaller than expected gain over a three-year period, they can have their rating reduced by one designation (ODE, 2008).

Also included in the indicators that each school must meet is an 85% or higher student attendance rate for the school year. There must be an 85% or higher passage rate on the 11th grade Ohio graduation test, and a graduation rate of 90% or higher in the 12th grade. The data from the four measures of Ohio’s accountability system at each grade level are used by the state to calculate the overall academic designation for each school in the state of Ohio (ODE, 2008).

The indicators are the academic subjects designated by the Ohio Department of Education (ODE) for each grade level. All students in Ohio were required to complete standardized tests in the following indicators for the 2009-10 school year. These
indicators are used to assess a student’s performance level in each subject area by using cut-off scores (ODE, 2010). These cut-off scores denoted by point values are as follows: Advanced: 452-568; Accelerated: 432-451; Proficient: 400-431; Basic: 377-399; and Limited: 233-376 (ODE, 2010). Indicators with point values are used instead of categories so point values can be assigned to determine a student’s level of performance. Each year the indicators of attendance rate data and graduation rate data are also reported (see Table 1).

Table 1
State of Ohio Academic Indicators for 2009-10 School Year

<table>
<thead>
<tr>
<th>Grade level</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd grade achievement</td>
<td>• Reading</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
</tr>
<tr>
<td>4th grade achievement</td>
<td>• Reading</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
</tr>
<tr>
<td>5th grade achievement</td>
<td>• Reading</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
</tr>
<tr>
<td></td>
<td>• Science</td>
</tr>
<tr>
<td>6th grade achievement</td>
<td>• Reading</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
</tr>
<tr>
<td>7th grade achievement</td>
<td>• Reading</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
</tr>
<tr>
<td>8th grade achievement</td>
<td>• Reading</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
</tr>
<tr>
<td></td>
<td>• Science</td>
</tr>
</tbody>
</table>
### Table 1

State of Ohio Academic Indicators for 2009-10 School Year (continued)

<table>
<thead>
<tr>
<th>Grade level</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| 10th grade achievement Ohio Graduation Test (OGT) | • Reading  
• Mathematics  
• Writing  
• Science  
• Social Studies |
| Attendance rate | • All grades |
| 2008-09 Graduation rate | • School |

Note. ODE, 2009.

**Faculty Trust Survey**

Dr. Tschannen-Moran and Dr. Woolfolk-Hoy (1999) developed a measure to assess teachers’ trust in regards to the principal, colleagues, students, and parents (Hoy & Tschannen-Moran, 2003). According to Tschannen-Moran and Hoy (2000), trust is defined as “the extent to which people are willing to rely upon others and make themselves vulnerable without the fear of betrayal or harm based on the confidence that others are benevolent, honest, open, reliable, and competent”(p. 70). Dirks and Ferrin (2001) stated that trust is also a psychological state, such as a belief or attitude towards another individual or group, where a person is willing to accept being vulnerable based on positive expectations from the behavior of others (p. 455).

Forty-eight items for the Faculty Trust Survey were developed by Tschannen-Moran and Hoy. The items are based upon the five facets of trust: benevolence,
reliability, competency, honesty, and openness. After several years of factor analyses of the instrument, the result is a 26-item Likert scale that ranges from (1) Strongly Disagree to (5) Strongly Agree. The five factors of trust are embedded in the three subscales. There are eight items each in the first two subscales of Trust in the Principal and Trust in Colleagues. In the third subscale there are 10 items for Trust in Clients. Five of the 26 items on the survey are reverse coded, and the total possible maximum score on the survey is 130 points. Trust in Principal subscale contains items such as reliance on the principal, concern for and open communication with staff, and principal competency and integrity (Tschannen-Moran & Woolfolk-Hoy, 1999). Trust in Clients subscale contains items such as trusting parents and students, parent involvement, and students caring about one another and their schoolwork (Tschannen-Moran & Woolfolk-Hoy, 1999). Trust in Colleagues subscale contains items such as teachers working together, doing their jobs well, and looking out for each other (Tschannen-Moran & Woolfolk-Hoy, 1999). The following sections describe the reliability and validity of this instrument.

**Reliability**

Reliability refers to the consistency of the instrument and demonstrates that items on an instrument are consistent in representing a specific construct (Salkind, 2004). Reliability usually involves two aspects: internal reliability and reliability among the subscales. Reliability in the Faculty Trust Survey is evident because the items on the survey actually measure the construct of trust. To determine the internal reliability of the Faculty Trust Survey, the items were tested through several factor analyses, and items were either eliminated or retained based on the results. A factor analysis measures a large
number of variables and can be used to eliminate items or combine items that are moderately or highly correlated (Gall et al., 2007). A three-factor solution emerged from the scree test done in the factor analysis. The three-factor solution was Trust in the Principal, Trust in Colleagues, and Trust in Clients (students and parents) (Hoy & Miskel, 2003; Hoy & Tschannen-Moran, 1999).

Next, a factor analysis was conducted to determine which items to eliminate, modify, or retain. The result was a 34-item Faculty Trust Survey that reliably measured the three subscales: Trust in the Principal (alpha = .95), Trust in Colleagues (alpha = .94), and Trust in Clients (alpha = .92) (Hoy & Tschannen-Moran, 1999).

**Reliability among subscales.** Since the scales were slightly different, a comparison of the factor loadings was conducted in an effort to create one survey that could be used in both elementary and secondary schools. Items with the lowest factor loadings were eliminated resulting in a 26-item omnibus trust scale with the following alpha coefficients of reliability for both samples: trust in principal (.98), trust in clients (.94), and trust in colleagues (.93) (see Table 2).

Table 2
Factor Analysis of Subscale Reliabilities

<table>
<thead>
<tr>
<th>Trust subscale</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust in the clients</td>
<td>.94</td>
</tr>
<tr>
<td>Trust in colleagues</td>
<td>.93</td>
</tr>
<tr>
<td>Trust in principal</td>
<td>.98</td>
</tr>
</tbody>
</table>
The factor analysis also revealed a moderate correlation between the three subscales: faculty trust in the principal was related to 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 & Miskel, 2003). The subscales are separate entities for measuring the different aspects of trust. They are moderately related which indicates that they are not measuring the same thing.

**Content Validity**

Content validity of an instrument refers to the extent in which the items on an instrument actually measure the construct that it is intended to measure (Gall et al., 2007). To test the content validity of the survey items in relation to the construct of trust, the Faculty Trust Survey was submitted to all the professors at the College of Education and the Fisher Business School which are both located at The Ohio State University (Hoy & Miskel, 2003). There was a strong agreement among the panel for the majority of the items. The few items where the panelists disagreed were analyzed in an empirical test using a factor analysis. The panel of experts reviewed the items and reached a consensus that the items measured the five facets of trust (Hoy & Miskel, 2003). The result of the consensus was a 48-item Faculty Trust Survey.

A content analysis was conducted to determine if the five facets of trust were represented in each of the three subscales. The results showed that the five facets of trust correctly loaded for each subscale of trust, and that there was a pattern of trust evident across the three subscales (Hoy & Miskel, 2003). Upon completion of the analysis, it was
determined that the Faculty Trust Scale contained items that represented the five facets of trust, and that it also distinguished between the types of trust through the three subscales.

**Construct Validity**

According to Salkind (2004), “construct validity examines how well a test reflects an underlying construct” (p. 383). To test the construct validity of the Faculty Trust Survey, teachers were asked to respond to different scales that were predicted by the researchers to be either negatively or positively correlated with each facet of trust (Hoy & Tschannen-Moran, 1999). The scales were a self-estrangement scale (Forsyth & Hoy, 1978), a sense of powerlessness scale (Zielinski & Hoy, 1983), a teacher self-efficacy scale (Hoy & Tschannen-Moran, 1999), and one item used to measure each participant’s perception of conflict in their school (Hoy & Miskel, 2003).

A correlational analysis was conducted to examine if the measures distinguished trust from other related constructs. As previously predicted, the subscales of trust were positively related to teacher self-efficacy and negatively related to powerlessness, conflict, and self-estrangement. The correlational analysis, using these additional measures, reinforced the discriminant validity of the trust subscales. It also reinforced that each subscale measured the construct of trust.

**Evidence of Instrument Use in the Literature**

Since the development of the instrument in 1999, the instrument has been used to measure faculty trust in educational research. The three studies in the table used the Faculty Trust Survey as an instrument to measure trust in correlational research to determine relationships between trust and variables the researchers were interested in.
The first study was a univariate correlational analysis that examined if there was a relationship between teacher professionalism in a school, faculty perceptions of school leaders’ professional orientation, and the level of trust in the principal, colleagues, and clients (Tschannen-Moran, 2001). The second study was a bivariate correlational analysis that examined if there was a relationship between collaboration and trust in schools. Collaboration was measured using three groups and two levels of decision-making—collaboration between the principal and teachers on school level decisions, collaboration with parents on school level decisions, and collaboration with teacher colleagues on classroom-level decisions (Tschannen-Moran, 2001). The third study was a multilevel analysis using a hierarchal linear model to examine the level of teacher trust within and between student achievement in fourth grade reading and math on the Metropolitan Achievement Test. Table 3 provides the name of the journal where each study was published, the date of publication, title of the research articles, and the names of the researchers. The table also includes a description of each of the studies that has used the Faculty Trust Survey, and how the instrument was used in each of these studies:
<table>
<thead>
<tr>
<th>Research Article</th>
<th>Description of Study</th>
<th>Use of Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tschannen-Moran, M. (2009). Fostering teacher professionalism: The role of professional orientation and trust. <em>Educational Administration Quarterly, 45</em>, 217-247.</td>
<td>The focus of the study was to determine if there was a correlation between teacher professionalism, faculty perceptions of the school leaders’ professional orientation and faculty trust in the principal, colleagues and clients.</td>
<td>The instrument was used to survey 2,355 teachers in eighty middle schools about their trust in parents, students, principal and colleagues.</td>
</tr>
<tr>
<td>Tschannen-Moran, (2001). Collaboration and the need for trust. <em>Journal Of Educational Administration, 39</em>, 308-331.</td>
<td>The focus of the study was to determine if there was a correlation between collaboration and trust in the context of the schools.</td>
<td>The instrument was used in forty-five elementary schools to measure teacher trust and compare it to results from a teacher collaboration survey.</td>
</tr>
<tr>
<td>Goddard, R.D., Hoy, W.K. &amp; Tschannen-Moran, M. (2001). A multilevel examination of the distribution and effects of teacher trust in students and parents in urban elementary schools. <em>Elementary School Journal, 102</em>, (1), 3-17.</td>
<td>The focus of the study was to determine if teacher trust has an affect on student achievement in reading and mathematics in urban elementary schools.</td>
<td>The instrument was used to survey 452 teachers in 47 urban elementary schools to assess their level of trust in relation to 2,356 4th grade students’ achievement in reading and mathematics.</td>
</tr>
</tbody>
</table>
After reviewing the reliability, validity, and the studies that have used the Faculty Trust Survey, the evidence supports that this instrument was appropriate for the study. This instrument measured teachers’ perceptions of trust and the results were used to determine if there is a relationship between teacher trust, teacher self-efficacy, and school academic performance. It was also suitable for the sample size of this study. This survey adequately represented the variable of teachers’ perception of trust for the first and third research hypotheses.

**The Ohio State Teacher Efficacy Scale**

Dr. Tschannen-Moran and Dr. Woolfolk-Hoy (2000) created the Ohio State Teacher Self-Efficacy Scale (OSTES) that measures teacher self-efficacy in regards to instructional strategies, student engagement, and classroom management. Self-efficacy is defined as a teacher’s belief about their ability to achieve desired outcomes in student engagement regardless of the type of students they are working with (Bandura, 1977).

After several revisions, the final version of the OTES is a 24-item Likert scale that ranges from (1) Strongly Disagree to (5) Strongly Agree. There are eight items each on the three subscales of Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement. The total maximum points on the scale are 120. Instructional Strategies subscale contains items such as use of assessments, lessons, and differentiated instruction (Tschannen-Moran & Woolfolk-Hoy, 2000). Classroom Management subscale contains items about setting expectations, controlling disruptive behavior, and establishing routines (Tschannen-Moran & Woolfolk-Hoy, 2000). Student Engagement contains items such as helping students think critically and
creatively, and students valuing the learning process (Tschannen-Moran & Woolfolk-Hoy, 2000). The following sections describe the reliability and validity of the instrument.

**Reliability**

There were initially 52 items on the Teacher Efficacy Scale which was reduced to 24 items after three studies were conducted to refine the scale. The internal reliability and reliability among the subscales was determined through three separate studies using several factor loadings that either retained or eliminated items. A three-factor solution emerged from the scree test done in the factor analyses. The three-factor solution was Efficacy for Student Engagement, Efficacy for Instructional Strategies, and Efficacy for Classroom Management (Tschannen-Moran & Woolfolk-Hoy, 2001).

Next, a factor analysis was done to determine which items were to be eliminated, modified, or retained. The result was a 24-item Teacher Efficacy Scale that reliably measured the three subscales: Efficacy for Student Engagement (alpha = .87), Efficacy for Instructional Strategies (alpha = .91), and Efficacy for Classroom Management (alpha = .90).

**Reliability among subscales.** The reliability among the subscales was tested using factor loadings for each of the three item subscales. The reliabilities were 0.91 for instructional strategies, 0.90 for classroom management, and 0.87 for student engagement (Tschannen-Moran & Woolfolk-Hoy, 2001) (see Table 4). Intercorrelations between the subscales were instructional strategies to classroom management (r = .60, p < 0.001), classroom management to student engagement (r = .70, p < 0.001), and student engagement to instructional strategies (r = .58, p < 0.001).
Although the subscales measured the concept of self-efficacy in three different areas to gain specific information, these reliabilities revealed a moderate correlation that indicated they are not measuring the same thing. It also showed that each of the subscales was a separate entity for measuring the different aspects of self-efficacy. Based upon the results of the factor analyses, the OTES is deemed a valid and reliable measure of teacher self-efficacy in the areas of instructional strategies, classroom management, and student engagement.

Table 4
Factor Analysis of Subscale Reliabilities

<table>
<thead>
<tr>
<th>Self-efficacy subscales</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional strategies</td>
<td>.91</td>
</tr>
<tr>
<td>Classroom management</td>
<td>.90</td>
</tr>
<tr>
<td>Student engagement</td>
<td>.87</td>
</tr>
</tbody>
</table>

Content Validity

Fifty-two items were developed by two researchers and eight graduate students in the College of Education at The Ohio State University in 2000 (Tschannen-Moran & Woolfolk-Hoy, 2001). The participants included two researchers and eight graduate students. The graduate students were two teacher educators, two full time doctoral students, and four practicing teachers. The eight participants had teaching experience that ranged from 5-28 years, with a mean of 11.9 years (Tschannen-Moran & Woolfolk-Hoy,
The 52 items were examined in three different studies and items were eliminated or retained based on the consensus of the participants. The result is a 24-item Teacher Self-efficacy Scale with three subscales.

**Construct Validity**

The construct validity was examined by assessing the correlation between the Rand Scale and the Hoy and Woolfolk (1993) 10-item adaptation of the Gibson and Dembo. Items on the OTES were positively related to the Rand items ($r = 0.18$ and $0.53$, $p = 0.01$), and to the two Gibson and Dembo measures: personal teaching efficacy ($r = 0.64$, $p = 0.01$), and general teaching efficacy ($r = 0.16$, $p = 0.01$). The results of the analysis concluded that the OTES measured the construct of teacher self-efficacy as represented in other measures of teacher self-efficacy. Correlations between these measures and the OTES revealed that the OTES is a valid measure for exploring the construct of teacher efficacy (Tschannen-Moran & Woolfolk-Hoy, 2001).

**Evidence of Instrument Use in the Literature**

The Teacher Efficacy Scale has been used in other studies since its development in 2000. This instrument is relatively new so it has only been used in two studies that the researcher was able to locate. The first study was a correlational prediction study that predicted a positive relationship between collective teacher self-efficacy and academic achievement of middle school students even when controlling for the socioeconomic status (SES) of the school (Tschannen-Moran & Barr, 2004). The second study was a multivariate correlational analysis that was used to examine the antecedents of teachers’ self-efficacy beliefs. Then the impact of various sources of self-efficacy on novice and
experienced teachers was also explored using a multiple regression analysis (Tschannen-Moran & Woolfolk-Hoy, 2007). Table 5 provides the name of the journal where each study was published, the date of publication, the title of the research article, and the names of the researchers. The table also includes a description of each the studies, and how the instrument was used in each study.

Table 5
Research Using the Ohio State Teacher Efficacy Scale

<table>
<thead>
<tr>
<th>Research Article</th>
<th>Description of study</th>
<th>Instrument use</th>
</tr>
</thead>
</table>

The reliability and validity of the Teacher Self-Efficacy Scale has been determined by the results of the factor analyses. The scale represents self-efficacy through subscales with a moderate correlation. Based on these results, evidence supports that the Self-Efficacy Scale accurately measures teachers’ perceptions of self-efficacy
through the subscales of Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management.

**Data Collection**

Predictive correlational research was appropriate for this study because the study was focused on predicting if there was an interrelationship between teachers’ self-efficacy, teachers’ perceptions of trust and school academic performance in the research hypotheses. The data were collected through the distribution of the faculty trust survey, self efficacy scale and the demographic questionnaire to the teachers at the schools where they worked. The academic rating for each school was obtained through the Ohio Department of Education website based on the number of academic indicators passed on the 2009-10 Ohio Achievement Assessments. Once the data were collected, a Statistical Package for Social Sciences (SPSS) software was used for data entry and analysis to test the null hypotheses and research hypotheses of this study. These statistical analyses enabled the researcher to determine if the predictor variables of teachers’ perception of trust and teachers’ perception of self-efficacy actually did affect school academic performance, and if teacher trust and teacher self efficacy were related.

**Participants**

This study took place in eight Midwest public schools. The participants for the study were teachers in grades kindergarten to 12. There were 244 participants who answered the Faculty Trust Survey, the Teacher Self-Efficacy Scale, and the demographic questionnaire. The participants in the study were not randomly selected or randomly assigned.
The items for the demographic questionnaire were self-reported by the participants of the study. These items were gender, ethnicity, number of years teaching, current grade level taught, geographic location of school (urban, suburban, or rural). A copy of the Demographic Questionnaire is attached in Appendix B. The Faculty Trust Survey is attached in Appendix C, and the Teacher Self-efficacy Scale is attached in Appendix D.

**Sampling Representativeness**

The power of a study is critical in order to gain meaningful information from a statistical analysis. The smaller the sample size, the more difficult it is to detect the effect size. When a smaller sample is used in a study, the alpha level must be set higher to increase the overall power of the study. Then the researcher can control for Type 1 and Type 2 errors. A Type 1 error is rejecting the null hypothesis when it is true, and a Type 2 error is rejecting the null hypothesis when it is false. Either of these errors can occur when the alpha level is set too low, when working with a small sample size, or when the sample is not homogeneous (Leech, Barrett, & Morgan, 2007).

This study had a sample size of 244 participants. The alpha level was set at .05 to determine the effect size (reject the null). The sample was considered homogeneous because all of the participants were teachers in a Midwestern public school who taught grades kindergarten to 12. When conducting quantitative analysis, a sample size of at least 100 participants is considered ideal because the researcher can use a smaller alpha level of .01. The larger sample size and the smaller alpha level make it almost certain in detecting the effect, and rejecting the null hypothesis (Leech et al., 2007).
Population Validity

Population validity refers to the method in which participants are selected and the population that they represent in a study (Gall et al., 2007). According to Gall et al. (2007), “population validity is the extent to which the results of an experiment can be generalized from the sample that participated in it to a larger group of individuals, that is, the population from which the sample is drawn” (169). To establish the population validity of my sample, a sample of participants was chosen who were all teachers in suburban kindergarten-grade 12 public schools. This sample was chosen so the results of my study could be generalizable to a larger population of teachers in the kindergarten-grade 12 public schools.

Hypothesis One

In order to test hypothesis one, the first variable was teachers’ perceptions of trust relationships within their schools. This variable was measured using the 26-item Faculty Trust Survey with three subscales: Trust in the Principal (8 items), Trust in Colleagues (8 items), and Trust in Clients-students and parents (10 items) (Hoy & Miskel, 2003). The second variable was school academic performance measured by the number of academic indicators met for the 2009-10 school year. The number of indicators was obtained through information on the Ohio school report cards. The relationship between school academic performance and teacher trust in overall scale and subscales was examined.

Hypothesis Two

In order to test hypothesis two, teachers’ perceptions of their self-efficacy was measured by the Likert-type 24-item Ohio State Teacher Efficacy Scale with three 8-item
subcales: *Efficacy for Instructional strategies, Efficacy for Classroom Management*, and *Efficacy for Student Engagement* (Tschannen-Moran & Woolfolk-Hoy, 2007). The second variable is school academic performance measured by the number of academic indicators met for the 2009-10 school year. The number of indicators was obtained through information on the Ohio school report cards. The relationship between school academic performance and teachers’ self-efficacy in overall scale and subscales was examined.

**Hypothesis Three**

In order to test hypothesis three, the relationship between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy was examined. Composite score and scores from the three subscales for trust and self-efficacy was used to determine if there was a relationship between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy. Table 6 lists the research hypotheses and variables included in this study.

Table 6

**Research Hypotheses and Variables**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Variable 1</th>
<th>Variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Hypothesis 1</td>
<td>Teachers’ perceptions of trust. Composite score</td>
<td>Student academic performance measured by the</td>
</tr>
<tr>
<td></td>
<td>and three subscales</td>
<td>number of academic indicators met in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reading and math for the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009-10 school year</td>
</tr>
<tr>
<td>Research Hypothesis 2</td>
<td>Teachers’ perceptions of self-efficacy. Composite</td>
<td>Student academic performance measured by the</td>
</tr>
<tr>
<td></td>
<td>score and three subscales</td>
<td>number of academic indicators met in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reading and math for the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009-10 school year</td>
</tr>
</tbody>
</table>
Table 6

Research Hypotheses and Variables (continued)

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Variable 1</th>
<th>Variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Hypothesis 3</td>
<td>Teachers’ perceptions of trust. Composite score and three subscales</td>
<td>Teachers’ perceptions of self-efficacy. Composite score and three subscales</td>
</tr>
</tbody>
</table>

**Data Analysis**

Multiple regression analyses were used in hypothesis one and hypothesis two because there were several independent variables for the composite and subscale scores of trust and self-efficacy. There was one dependent variable of school academic performance. This technique was used to predict the value of the dependent variable from the weighted linear combination of the independent variables. The coefficient of determination $R^2$ explained the variance between the dependent variable and the independent variables (Mertler & Vanetta, 2005).

In the third hypothesis, a canonical correlation was used to determine if there was a relationship between teachers’ perception of trust and teachers’ perception of self-efficacy. Canonical correlation analysis is an advanced technique of multiple regression analysis. The purpose is to predict multiple outcomes based on multiple factors. It examined the relationships between two sets of variables. One set includes multiple independent variables, and one set includes multiple dependent variables (Abu-Bader, 2010). Descriptive statistics were used to screen the data and fulfill the assumption requirement before conducting the multiple regression and canonical correlation analysis.
**Limitations**

The limitations of correlational research is that other factors may not be taken into consideration that may affect the cause and effect relationships in causal studies, and the criterion variable in prediction studies. For example, in the current study, teacher self-efficacy and teacher trust were used as predictor variables to determine if they were related to school academic performance. The study only measured academic achievement by overall school performance. It did not take into account student differences that may have affected individual or prior academic achievement, or different school environments that may have affected the outcomes of the study. Other factors that can impact academic performance such as different instructional techniques by different teachers, classroom size, socioeconomic status, ethnicity, and race were not considered in this research. This type of relationship study only examined the relationship between variables and did not test causation of teacher self-efficacy and teacher trust.

The instruments in the study were highly structured and were standardized formats in order to provide the researcher with numerical data. Although these types of instruments are common in quantitative research, these formats may not take into account the differences in various school environments that may affect responses to surveys or other factors that affect student achievement.

**Summary of Methodology**

This study sought to determine if there was a correlation between teachers’ perceptions of trust and school academic performance, and teachers’ perceptions of self-efficacy and school academic performance. This study also investigated if there was a
correlation between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy. Participants were teachers employed in eight Midwestern public schools who completed the Teacher Trust Survey, Ohio State Teacher Efficacy Scale, and demographic questionnaire. Two multiple regression analyses, a canonical correlation, and a univariate analysis were conducted to determine the magnitude of the relationship between the variables in the hypotheses. A Statistical Package for Social Sciences (SPSS) software was used to enter and analyze data and determine if there were relationships between the predictor variables and the criterion of this study.
CHAPTER IV
RESULTS

Introduction

In this chapter the major statistical analysis results are presented. The descriptive statistics, demographic information of participants and schools, and assumption tests are also reported. Four major statistical analyses were conducted to test the three hypotheses. Multiple regressions were used to test hypotheses one and two. A canonical correlation and a univariate regression analysis were used to test hypothesis three.

Research Questions

• Is there a significant relationship between teachers’ perceptions of trust and school academic performance?

• Is there a significant relationship between teachers’ perceptions of self-efficacy and school academic performance?

• Is there a significant relationship between teachers’ perceptions of trust and self-efficacy?

Research Hypotheses

Research Hypothesis 1: There is a statistically significant relationship between teachers’ perceptions of trust and school academic performance measured by the number of academic indicators met for the 2009-10 school year.
Research Hypothesis 2: There is a statistically significant relationship between teachers’ perceptions of self-efficacy and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Research Hypothesis 3: There is a statistically significant relationship between teachers’ perceptions of trust and teachers’ perceptions of self-efficacy (including the overall score and subscale scores).

Null Hypotheses

Null Hypothesis 1: There is not a statistically significant relationship between teachers' perceptions of trust and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Null Hypothesis 2: There is not a statistically significant relationship between teachers’ perceptions of self-efficacy and school academic performance measured by the number of academic indicators met for the 2009-10 school year.

Null Hypothesis 3: There is not a statistically significant relationship between teachers’ perception of trust and teachers’ perceptions of self-efficacy (including the overall score and subscale scores).

Participant Demographic Information

The participants were 168 female teachers and 76 male teachers. This sample is representative of teacher populations because there are more female teachers than male teachers overall in K-12 schools. Ethnicity of the participants were 215 white, 25 African American, 1 American Indian or Alaskan Native, 1 Hispanic or Latino/a, and 2 Other. The 244 participants teach in eight suburban school districts. This sample was representative of the teachers and location of schools in the area where the surveys were administered. Table 7 shows the demographic information of the participants. The category of “Other” under the heading of current grade level taught were responses from participants who taught different combinations of grade levels that were not represented by a specific category on the demographic questionnaire.
### Table 7

Participant Demographic Information

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>76</td>
<td>31.00</td>
</tr>
<tr>
<td>Female</td>
<td>168</td>
<td>69.00</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>1</td>
<td>0.40</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Black or African American</td>
<td>25</td>
<td>10.20</td>
</tr>
<tr>
<td>Hispanic/Latino/a</td>
<td>1</td>
<td>0.40</td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>215</td>
<td>88.11</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.80</td>
</tr>
<tr>
<td><strong>No. of years teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>57</td>
<td>23.00</td>
</tr>
<tr>
<td>6-10</td>
<td>75</td>
<td>31.00</td>
</tr>
<tr>
<td>11-15</td>
<td>44</td>
<td>18.00</td>
</tr>
<tr>
<td>16-20</td>
<td>29</td>
<td>12.00</td>
</tr>
<tr>
<td>21-25</td>
<td>25</td>
<td>10.00</td>
</tr>
<tr>
<td>26+</td>
<td>14</td>
<td>6.00</td>
</tr>
<tr>
<td><strong>Current grade level taught</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K-2</td>
<td>42</td>
<td>17.00</td>
</tr>
<tr>
<td>3-4</td>
<td>44</td>
<td>18.00</td>
</tr>
<tr>
<td>5-6</td>
<td>46</td>
<td>19.00</td>
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<tr>
<td>7-9</td>
<td>39</td>
<td>16.00</td>
</tr>
<tr>
<td>10-12</td>
<td>49</td>
<td>20.00</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>10.00</td>
</tr>
</tbody>
</table>

**School Demographic Information**

Annual Yearly Progress (AYP) for each school was entered onto the SPSS spreadsheet according to the percentage listed on each school report card. The percentage
for AYP is calculated by the Ohio Department of Education (ODE) based on the number of academic indicators met by each grade on the Ohio Achievement Test for the 2009-10 school year. These percentages were the academic rating assigned by the ODE. The school ratings are divided into six categories: “Excellent with Distinction, Excellent, Effective, Continuous Improvement, Academic Watch, and Academic Emergency” (see Table 8).

Table 8

School Demographic Information

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Suburban</td>
<td>8</td>
<td>100.00</td>
</tr>
<tr>
<td>Rural</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Performance of school (AYP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent with Distinction</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Excellent</td>
<td>1</td>
<td>87.73</td>
</tr>
<tr>
<td>Effective</td>
<td>4</td>
<td>84.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>81.53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>73.51</td>
</tr>
<tr>
<td>Continuous Improvement</td>
<td>1</td>
<td>69.12</td>
</tr>
<tr>
<td>Academic Watch</td>
<td>1</td>
<td>37.99</td>
</tr>
<tr>
<td>Academic Emergency</td>
<td>1</td>
<td>20.50</td>
</tr>
</tbody>
</table>

Data Input

The responses from the Teacher Trust Survey, Teacher Self-Efficacy Scale, and the Demographic Questionnaire were entered onto a Statistical Package for Social
Sciences (SPSS) spreadsheet according to the following numerical responses. The Teacher Trust Survey responses ranged from 1 for “Strongly Disagree” to 6 for “Strongly Agree.” The Teacher Self-Efficacy Scale responses ranged from 1 for “Not At All” to 9 for “A Great Deal.”

First the responses for each question were entered for both measures. The faculty trust responses were labeled (fs), and the self-efficacy responses were labeled (tb). Each label was followed by the question number. Then the responses from the questions for each subscale were combined to represent the subscale scores on the Teacher Trust Survey and the Teacher Self-Efficacy Scale. Trust in the Principal (TP), Trust in Colleagues (TCL), and Trust in Clients (TC) were the three subscales for the Trust Survey. Student Engagement (SE), Instructional Strategies (IS), and Classroom Management (CM) were the three subscales for the Self-Efficacy Scale. The responses for questions pertaining to each subscale were added together to obtain overall subscale scores.

Assumptions

Three assumptions were satisfied before conducting the multiple regression and canonical analysis. The skewness (s) and kurtosis (k) did not exceed the threshold of +1.2. Therefore, the first assumption of normality was satisfied. The Kolmogorov-Smirnov Test of Normality revealed that all of the variables were below the 0.05 significance level.

The second assumption of multicollinearity was satisfied because the VIF values for the variables did not exceed 10. The variance inflation factor (VIF) is an indicator of
whether there exists a strong linear relationship between a predictor and all remaining predictors. If the VIF is greater than 10, there is a concern (Mertler & Vanetta, 2005). The VIF for each variable is as follows: trust in the principal (1.207), trust in colleagues (1.624), trust in clients (1.654), student engagement (6.341), instructional strategies (6.337), and classroom management (6.487).

The third assumption of linearity was satisfied through a Pearson correlation. A linear relationship was significant among the variables at the 0.05 level. The mean, variance, range, standard deviation, skewness, and kurtosis of the variables are represented in Table 9.

Table 9

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Variance</th>
<th>Min.-Max.</th>
<th>SD</th>
<th>s</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>AYP</td>
<td>66.365</td>
<td>567.188</td>
<td>0.00-97.67</td>
<td>23.816</td>
<td>-1.049</td>
<td>-.232</td>
</tr>
<tr>
<td>SE</td>
<td>48.484</td>
<td>207.749</td>
<td>15.00-72.00</td>
<td>14.413</td>
<td>-.641</td>
<td>-.512</td>
</tr>
<tr>
<td>IS</td>
<td>54.041</td>
<td>205.982</td>
<td>18.00-72.00</td>
<td>14.352</td>
<td>-1.003</td>
<td>-.114</td>
</tr>
<tr>
<td>CM</td>
<td>52.750</td>
<td>231.744</td>
<td>16.00-72.00</td>
<td>15.223</td>
<td>-0.904</td>
<td>-.410</td>
</tr>
<tr>
<td>TP</td>
<td>31.594</td>
<td>94.925</td>
<td>8.00-48.00</td>
<td>9.743</td>
<td>-.380</td>
<td>-.430</td>
</tr>
<tr>
<td>TC</td>
<td>34.816</td>
<td>62.958</td>
<td>13.00-48.00</td>
<td>7.935</td>
<td>-.338</td>
<td>-.847</td>
</tr>
<tr>
<td>TCL</td>
<td>34.135</td>
<td>77.558</td>
<td>16.00-55.00</td>
<td>8.807</td>
<td>.111</td>
<td>-.791</td>
</tr>
</tbody>
</table>
Results of Multiple Regression

A standard multiple regression was conducted to test hypotheses one and two. The standard model was used because the researcher wanted to examine the significance of each predictor variable individually on school academic performance without any variable being deleted if they were not significant. In standard regression the researcher can enter the variables in random order and interpret the results of each predictor variable on the dependent variable (Mertler & Vanetta, 2005).

The model summary for hypothesis one indicated that 41.6% of the factors significantly predict school performance. The ANOVA summary table and regression results indicate that the overall model significantly predicts school academic performance. \(R^2 = .416, R_{adj} = .409, F = 57.005, p = (.000)\). The results of the multiple regression for hypothesis one showed the value of the three subscales as predictors of school academic performance: Trust in the principal \((- .146), p = (.008)\), trust in colleagues \(.284), p = (.000)\), and trust in clients \(.481), p = (.000)\). In other words, trust in the principal was negatively related to school academic performance by 14.6%. Trust in colleagues was significantly related to school academic performance by 28.4%, and trust in clients was also significantly related to school academic performance by 48.1%.

The model summary for hypothesis two indicated that 55.9% of the factors significantly predict academic performance. The ANOVA summary table and regression results indicate that the overall model significantly predicts school academic performance, \(R^2 = .559, R_{adj} = .554, F = 101.608, p = (.000)\). The results of the multiple regression for hypothesis two showed the value of the three subscales as predictors of school academic performance: student engagement \((- .197), p = (.068)\), instructional
strategies (.525), \( p < (.000) \), and classroom management (.425), \( p < (.000) \). Instructional strategies were significantly related to school academic performance by 52.5%, and classroom management was also significantly related to school academic performance by 42.5%.

**Canonical Correlation**

A canonical correlation analysis was conducted to determine if there is a relationship between teacher self-efficacy (student engagement, instructional strategies, and classroom management) and teacher trust (trust in principal, trust in colleagues, and trust in clients). The proportion of variance in self-efficacy was accounted for by the dependent canonical variate of trust by 92.229%. The proportion of variance in teacher trust was accounted for by the dependent canonical variate of self-efficacy by 51.388%. The results showed a significant correlation between the teacher self-efficacy variate and the teacher trust variate (Wilks lambda = .414, \( F = 28.133, p < (.001) \)). The results of the Wilks lambda reduction analysis test revealed that the first canonical variates pair was significant (Wilks lambda = .414, \( F = 28.133, df = 9,579.380, p < (.001) \), and that the second canonical variates pair was significant (Wilks lambda = .934, \( F = 4.121, df = 9,447.8, p = (.003) \)). Overall, the correlation between the teacher self-efficacy and teacher trust subscales was .747. The teacher self-efficacy canonical variate accounted for 55.7% of the variance in the teacher trust canonical variate (\( R^2 = .557 \)). The teacher self-efficacy canonical variate had a high loading on student engagement (-.983), instructional techniques (-.947), and classroom management (-.951). In addition, the teacher trust canonical variate had a high loading on trust in the principal (-.350), trust in colleagues
(-.900), and trust in clients (.892). In other words, the three subscales of self-efficacy accounted for the variance in self-efficacy, and the three subscales of trust accounted for the variance in trust. The results of the canonical correlation analysis are presented in Table 10, and in Figure 1.

**First canonical variates pair.** The results of canonical correlation for the first canonical variates pair showed that 57.300% of the proportion of variance of trust was accounted for by the canonical correlation of the trust subscales of trust in the principal, trust in colleagues, and trust in clients. The first canonical variates pair also showed that 31.926% of the proportion of variance of trust was accounted for by the self-efficacy subscales of student engagement, instructional strategies, and classroom management. The results of the canonical correlation for the first canonical variates pair is presented in Figure 1.

**Second canonical variates pair.** The results of the canonical correlation for the second canonical variates pair showed that 15.591% of the proportion of variance of self-efficacy was accounted for by the canonical correlation of the self-efficacy subscales of student engagement, instructional strategies, and classroom management. The second canonical variates pair also showed that 1.015% of the proportion of variance of self-efficacy was accounted for by the trust subscales of trust in the principal, trust in colleagues, and trust in clients.
Table 10

Results of Canonical Correlation Analysis Between Teacher Trust and Teacher Self-Efficacy

<table>
<thead>
<tr>
<th>Set</th>
<th>Canonical Variates Pair</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>First Pair</td>
<td>Second Pair</td>
</tr>
<tr>
<td>Teacher Trust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust in Principal</td>
<td>-.350</td>
<td>.341</td>
<td></td>
</tr>
<tr>
<td>Trust in Colleagues</td>
<td>-.900</td>
<td>-.395</td>
<td></td>
</tr>
<tr>
<td>Trust in Clients</td>
<td>-.892</td>
<td>.443</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>57.300</td>
<td>15.595</td>
<td></td>
</tr>
<tr>
<td>Redundancy</td>
<td>31.926</td>
<td>1.015</td>
<td></td>
</tr>
<tr>
<td>Teacher Self-Efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Engagement</td>
<td>-.983</td>
<td>.148</td>
<td></td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>-.947</td>
<td>-.314</td>
<td></td>
</tr>
<tr>
<td>Classroom Management</td>
<td>-.951</td>
<td>-.052</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>51.390</td>
<td>.268</td>
<td></td>
</tr>
<tr>
<td>Redundancy</td>
<td>92.230</td>
<td>4.111</td>
<td></td>
</tr>
<tr>
<td>Coefficients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>.747</td>
<td>.255</td>
<td></td>
</tr>
<tr>
<td>Variance ((R^2))</td>
<td>.557</td>
<td>.065</td>
<td></td>
</tr>
</tbody>
</table>
Univariate Regression Analysis

The results of the univariate regression analysis showed that trust in the principal was a function of student engagement \((B = .236, t = 2.237, p = .026)\). Trust in the principal was not a function of instructional strategies \((B = -.079, t = -.746, p = .456)\) or classroom management \((B = -.019, t = .186, p = .853)\).

Trust in clients was a function of instructional strategies \((B = .211, t = .3.19, p = .002)\). Trust in clients was not a function of student engagement \((B = .098, t = 1.49, p = .137)\) or classroom management \((B = .147, t = 1.13, p = .258)\). Trust in colleagues was a function of student engagement \((B = .365, t = 4.98, p = .000)\). Trust in colleagues was not a function of instructional strategies \((B = -.067, t = -.909, p = .364)\) or classroom management \((B = .110, t = 1.57, p = .119)\). The results of the univariate regression analysis are presented in Table 11.
Summary of Results

This study sought to determine if there was a relationship between trust and school academic performance, and self-efficacy and school academic performance. The study also sought to determine if there was a relationship between teacher trust and teacher self-efficacy. Two hundred forty-four teachers from eight Midwestern public schools completed a teacher trust survey, self-efficacy scale, and a demographic questionnaire.

The data for the study were presented in this chapter and were analyzed according to the three research questions. When considering school academic performance, percentages were calculated by the Ohio Department of Education based on grade level

---

Table 11

Results of Univariate Regression Analysis

<table>
<thead>
<tr>
<th>Set</th>
<th>B</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust in Principal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Engagement</td>
<td>.236</td>
<td>2.37</td>
<td>.026</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>-.079</td>
<td>-.746</td>
<td>.456</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>-.019</td>
<td>.186</td>
<td>.853</td>
</tr>
<tr>
<td>Trust in Clients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Engagement</td>
<td>.098</td>
<td>1.49</td>
<td>.137</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>.211</td>
<td>3.19</td>
<td>.002</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>.147</td>
<td>1.13</td>
<td>.258</td>
</tr>
<tr>
<td>Trust in Colleagues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Engagement</td>
<td>.365</td>
<td>4.98</td>
<td>.000</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>-.067</td>
<td>-.909</td>
<td>.364</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>.110</td>
<td>1.57</td>
<td>.119</td>
</tr>
</tbody>
</table>
indicators that were met on the Ohio Achievement Tests for the 2009-10 school year. When considering teacher trust and self-efficacy, responses from the trust survey and self-efficacy scale were used in the statistical analyses.

Two multiple regression analyses were conducted, and the results indicated that both self-efficacy and teacher trust had statistically significant relationships with school academic performance. More specifically, the results indicated that the trust subscales of trust in clients and trust in colleagues, and the self-efficacy subscales of instructional strategies and classroom management had a statistically significant relationship with school academic performance. Results also indicated that the trust subscale of trust in the principal and the self-efficacy subscale of student engagement were not significantly related to school academic performance.

When considering if there was a relationship between teacher trust and self-efficacy, the responses from the teacher trust survey and self-efficacy scale were used in a canonical correlation. The results indicated that there was a statistically significant relationship between trust and self-efficacy. More specifically, the results showed that the self-efficacy subscales of student engagement, instructional strategies and classroom management contributed to teacher self-efficacy and teacher trust. The results also indicated that the trust subscales of trust in the principal, trust in colleagues, and trust in clients contributed to teacher trust.

A univariate regression analysis was conducted to determine if any of the trust subscales were related to any of the self-efficacy subscales. The results of the univariate regression analysis indicated that trust in the principal was related to student engagement,
and trust in clients was related to instructional strategies. Results also indicated that trust in colleagues was related to student engagement.
CHAPTER V
DISCUSSION

Introduction

This study sought to determine if there was a relationship between teacher trust and school academic performance, and teacher self-efficacy and school academic performance. This study also was conducted to find out if there was a relationship between teacher trust and teacher self-efficacy. The instruments used for this study were a 26-item teacher trust survey, and a 24-item teacher self-efficacy scale. The school academic performance rating was obtained from the Ohio Department of Education website. A questionnaire was also used to obtain participant and school demographic information.

Summary of Study

In response to the mandates set forth by No Child Left Behind (NCLB), schools across the country are being held accountable for the academic performance of their students based on the results of yearly State Achievement Tests. Current research on trust has found that when trusting relationships are present among principals, teachers, parents, and students, this creates cooperative work relations that are characterized by the five facets of trust of benevolence, honesty, openness, reliability, and competence (Tschannen-Moran, 2004). This study confirms the findings of research on trust about
why schools must be aware of how interactions and relationships affect the overall learning climate of a school and be willing to recognize changes that need to be made to increase academic achievement (Sebring-Bender & Bryk, 2000).

The results of this study also support current research on teacher self-efficacy about Bandura’s Social Cognitive Theory that emphasizes how a person’s perceived self-efficacy affects their beliefs in their capabilities to accomplish desired goals (Wood & Bandura, 1989). It also confirms research by Tschannen-Moran et al., (1998) that teachers with a high level of self-efficacy believe that they can strongly influence student achievement and motivation regardless of factors such as socioeconomic class, race, gender, or the physiological, cognitive, and emotional needs of a child that can make learning difficult.

When self-efficacy and trust are related, students, parents, and teachers can work collaboratively to improve student learning, and that teachers believe students are capable of learning at higher levels, and an academic emphasis on student success is enacted by these beliefs (Hoy et al., 2009). The results of this study confirm that self-efficacy and trust have a reciprocal causal relationship where teachers believe they can make a difference, students can learn, and academic performance can be achieved (Hoy et al., 2006).

**Research Hypotheses**

There were three research hypotheses that guided this study:

- The first hypothesis predicted that teacher trust and school academic performance were related.
• The second hypothesis predicted that self-efficacy and school academic performance were related.
• The third hypothesis predicted that there was a relationship between teacher trust and self-efficacy.

**Research Questions**

• Is there a significant relationship between teachers’ perceptions of trust and school academic performance?
• Is there a significant relationship between teachers’ perceptions of self-efficacy and school academic performance?
• Is there a significant relationship between teachers’ perceptions of trust and self-efficacy?

**Results of First Research Question**

The multiple regression analysis for hypothesis one answered the first research question by indicating that the overall model of teacher trust was significantly related to school academic performance. More specifically, the results showed that trust in colleagues and trust in clients were significantly related to school academic performance, while the subscale of trust in the principal didn’t have any relationship. These are powerful findings because it shows that trust relationships between teachers and colleagues, and teachers and clients (students and parents) are a vital part of academic achievement of schools. The results of this study generate inquiry into the dynamics of these relationships, and the contributory factors that build trust, and the various degrees of influence it has on academic performance. It provides a pathway for further research
into finding out how different variables and circumstances can either hinder or improve trust that is conducive to increasing or sustaining a desired level of academic achievement.

External variables such as socioeconomic status, race, ethnicity, and school location should be a part of further research to determine the extent to which they impact trust relationships. Variables within the school environment including, but not limited to, communication and collaboration techniques, management styles, classroom size, school curriculum, availability of resources, instructional planning time among teachers, or use of testing data to guide instruction should also be considered when examining the degree of trust between teachers and their colleagues, and teachers and clients. Once any outside influences or variables within the school environment are recognized as either contributory or contrary to creating trust, further research can be conducted to assess the magnitude of their affect on trust, and different approaches and systems can be investigated and implemented within the schools to generate and maintain these trust relationships with the ultimate goal of reaching and sustaining an optimal level of academic performance.

The results also showed that trust in the principal did not have an impact on school academic performance. These results indicate that teachers’ trust in their principal is not a contributing factor in the academic achievement of their students or school. This could be the result of the continual turnover of principals in schools, and teachers may learn not to rely on the principals as a vital contributor to their students’ academic achievement. These results give rise to a topic for further research into the level of importance the principal’s role plays in teaching and learning, and their influence on their
teaching staff within a school. It also indicates that teachers believe that they can competently perform the duties of their profession and produce high levels of achievement whether or not they believe that the principal is trustworthy. These results are an impetus for further research into how teachers view their principal, what the present functions of a principal are within the school environment, and if changes need to be made to the traditional role of principal to better meet the needs of 21st century schools in this age of academic accountability.

**Results of Second Research Question**

The multiple regression analysis for hypothesis two answered the second research question by indicating that the overall model of teacher self-efficacy was significantly related to school academic performance. More specifically, the results showed that instructional strategies and classroom management were significantly related to self-efficacy, while the subscale of student engagement didn’t have any relationship.

The results of this study raise questions about how teachers view their self-efficacy in relation to their perceived abilities to effectively employ instructional strategies that will result in a student’s achieving a mastery level of learning, and in their abilities to create and maintain a classroom environment that is conducive to teaching and learning. These questions give rise to further research in both areas about how teachers’ perceptions of their abilities actually manifest themselves in the instructional process and in their management techniques of their classrooms that are believed to be related to the academic performance of their students. These results provide a foundation for future research on methods that teachers can learn and use to increase their self efficacious
beliefs when working with diverse populations of students. It also provides a basis for further research on teachers’ perceptions of their abilities to perform their jobs competently, and on the external influences or factors in the school environment that either support or diminish self-efficacy.

The results also showed that student engagement did not have a statistically significant relationship with school academic performance. These results indicate that teachers’ perception of student engagement is not a major contributor in the academic achievement of their students or school. This result is a basis for further research into how teachers perceive and define student engagement within the context of learning. Teachers use a variety of teaching and management strategies within their classrooms and may define student engagement differently based on several different variables. These variables could include the learning style and skill level of the students, the physical layout of the classroom, the type of instruction that is being used, or even the subject matter that is being taught. Student engagement is a concept that can be perceived differently based on individual observations, and further research will provide clarity about the elements that identify the construct of student engagement in relation to students’ motivation and active learning in the classroom. Looking at individual student factors such as gender, race, ethnicity, and past academic performance can provide more in-depth results about student engagement and motivation for learning. Taking into consideration overall student populations based on these factors can also provide a clearer picture about levels of student engagement.

The results of hypothesis one and hypothesis two provide new information that the two subscales of trust (trust in clients and trust in colleagues) and the two subscales of
self-efficacy (instructional strategies and classroom management) are important in establishing a relationship between trust, self-efficacy, and school academic performance. This is a new area of research because it establishes that each of these subscales contributes separately to school academic performance. The results also provide implications for future research to determine the different variables and their degree of influence on each subscale that affects the strength of the relationship that each has with school academic performance. Once these significant variables are identified, this new information can be used to create and implement new strategies, educational programs, and management policies that contribute to these specific areas of trust and self-efficacy with the overall goal of improving school academic performance.

**Results of Third Research Question**

The canonical correlation analysis for hypothesis three answered the third question because it indicated that trust and self-efficacy were significantly related to one another. More specifically, the results showed that trust was accounted for by the three subscales of trust (trust in the principal, trust in colleagues, and trust in clients), and by the three subscales of self-efficacy (instructional strategies, student engagement, and classroom management). The results also indicated that self-efficacy was accounted for by the three subscales of self-efficacy but not by the three subscales of trust.

The results of the canonical correlation revealed new information regarding the relationship between self-efficacy and trust. This information is based on the results that indicate each of the subscales of self-efficacy has an influence on trust while the subscales of trust do not influence self-efficacy. This provides a basis for further research
in determining how teachers’ self-efficacious beliefs to perform their jobs competently affect their ability to trust others. These perceptions can be based on internal or external attributions that are influenced by the school environment, the demographic location of the school, student characteristics, present academic achievement, and by the types of interactions that take place between teachers and other individuals. More research is needed to identify how the different variables define various stages of teacher self-efficacy and how these stages either contribute or diminish teachers’ perceptions of their self-efficacy.

The univariate regression analysis also showed statistically significant relationships between the following subscales of trust and self-efficacy:

- trust in the principal and student engagement
- trust in clients and instructional practices
- trust in colleagues and student engagement

These results provide a more in-depth analysis of the specific subscales of trust and self-efficacy that are interrelated. It is an area that warrants more research into identifying the different constructs within the subscales, and how they contribute to one another. Once these constructs are identified, along with their degree of influence between the subscales, different strategies can be employed by schools through their educational policies and practices to strengthen these relationships and ultimately increase teachers’ self-efficacy and trust. The benefits of this type of research can provide information that is essential in creating and maintaining trust relationships between principals, teachers, students, and parents that are complementary to increasing teachers’ self-efficacious beliefs.
Implications for Professional Practice

The results from this study can be used to improve educational practices in schools across the country. School leaders can use the information to evaluate school culture and climate, and if these school environments are conducive to teacher trust and self-efficacy. School leaders can also use the results to look at the types of relationships that are in their schools and determine how these present relationships are affecting academic achievement. Once these determinations are made, school leaders can reevaluate the effectiveness of their management practices that may impact school environments and make the necessary changes to increase self-efficacy and trust in their schools. They can also create and implement professional development on increasing and maintaining teacher engagement that will ultimately improve the learning climate of the school, and investigate strategies that will more actively involve parents, faculty, and students in the educational process.

Implications for Further Research

The results from this study expand upon the current research by showing that two trust subscales and two self-efficacy subscales are related to school academic performance. These findings can be used to further investigate the casual factors that contribute to trust in the principal, colleagues, and clients and self-efficacy in classroom management and instructional strategies. Once these factors are identified, a more in-depth analysis can be done to determine how they vary across different school settings that contribute to or are detrimental to school academic performance. The results can be used to address areas that need improvement within the schools to increase the presence
of trust and self-efficacy. The high percentage (55.7%) of the variance of trust in this study provides an indication that trust may be linked to school culture and climate. This is a basis for further research into the link among trust, school culture and climate, and school academic performance. This type of research is meaningful because a lack of trust in the colleagues and clients or the lack of self-efficacy in classroom management or instructional strategies can decrease academic achievement. Since trust and self-efficacy are a reciprocal relationship, the lack of trust can affect teachers’ self-efficacy that can ultimately have an adverse impact on student learning. By identifying how the casual factors of trust and self-efficacy are related, further investigation into what strengthens or weakens this relationship can be vital in creating a school environment that is conducive to reinforcing self-efficacy and trust.

**Limitations**

The limitations of this research are that other factors were not taken into consideration that may affect the cause and effect relationships in causal studies, and the criterion variable in prediction studies. This type of study only determines if there is a relationship between variables and does not test causation of teacher trust and teacher self-efficacy. This study looked at teacher self-efficacy and teacher trust as predictor variables to determine if they are related to school academic performance. The study measured academic achievement by overall school performance based on the number of indicators passed on the Ohio Achievement Test. The study did not take into account variables such as race, ethnicity, gender, socioeconomic status, or past individual performance on the Ohio Achievement Test scores. The study also did not take into
account different school environments such as different demographic location of schools, classroom size, school curriculum, availability of resources, instructional planning time among teachers, or use of testing data to guide instruction.

Another limitation of this study is the small sample of 244 participants from eight suburban schools. This sample only represents a small distribution of teachers and does not capture teachers’ perceptions of trust and self-efficacy who may work in rural or urban settings. This is not a large distribution of teachers from different school settings and only measures the academic performance of the eight schools in relation to teacher trust and teacher self-efficacy. The small sample size, demographic location of suburban schools, and the small numbers of schools do not yield a large variability in school academic performance across different school settings.

The instruments used for this study were a teacher trust survey and the teacher self-efficacy scale. These instruments are highly structured and are standardized formats in order to provide the researcher with numerical data. Although these types of instruments are common in quantitative research, these formats may not take into account the differences in various school environments that may affect responses to surveys or other factors that may affect a school’s academic performance. These factors are school environments, students’ race, ethnicity, gender, socioeconomic status, curriculum, geographic location, parent involvement, and faculty involvement.

A hierarchal linear model analysis using students’ individual characteristics such as gender, race, ethnicity, past student achievement, and socioeconomic status and schools environments such as demographic location, management practices, parent involvement, faculty involvement as level one, and academic performance as level two
would yield more accurate findings on other variables that affect school academic performance. This study only measures academic achievement by overall school performance. It does not take into account student differences that may affect individual or prior academic achievement, or different school environments that may affect the outcomes of the study.

Conclusion

This study is different from other studies about trust and self-efficacy because it uses the actual school academic ratings from the results of the Ohio Achievement Tests and the teacher trust survey and self-efficacy scale to establish if relationships exist between these variables. This study is also different because it looks specifically at the subscales of teacher self-efficacy and trust to see if there are relationships between each subscale and school academic performance. Unlike other research, this study also examines if any of the subscales of trust are related to any of the subscales of self-efficacy and is more explicit in showing whether or not relationships exist between these subscales.
References


APPENDIX A

IRB APPROVAL LETTER

NOTICE OF APPROVAL

April 12, 2016

Sharon Reiter
Assistant to the
Director, Office of Research Services and Sponsored Programs

Dear: [Recipient's Name]

Thank you for submitting your IRB Application for Review of Research Involving Human Subjects for the referenced project. Your application was approved on December 2, 2015. Your proposal represents minimal risk to subjects and meets the following federal criteria for exemption:

- Exception 1 - Research conducted in established or commonly accepted educational settings, involving normal educational procedures.

- Exception 2 - Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior.

- Exception 3 - Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior that is conducted and studied under a university or educational setting, but subjects are elected or appointed public officials or candidates for public office.

- Exception 4 - Research involving the collection of existing data, documents, records, and unlinked health data.

- Exception 5 - Research involving the collection of data through non-invasive procedures conducted by or subject to the approval of Department of Human Services, and which are designed to study, evaluate, or otherwise improve the health, program, or service.

- Exception 6 - Tests and health quality evaluation and consumer acceptance studies.

Any additional applications are but required for exempt projects. If you wish to change the study design or procedures, please take the following steps:

1. Contact the IRB Administrator at [Office of Research Services and Sponsored Programs]

Please refer to this letter for your files. If the research is being conducted for a student's thesis or dissertation, the student must file a copy of this letter with the thesis/dissertation.
APPENDIX B

DEMOGRAPHIC QUESTIONNAIRE

DIRECTIONS: Please complete the survey instrument by marking your responses with an X to the following demographic information.

1. What is your gender?
   ___ Female
   ___ Male

2. What is your ethnicity?
   ___ American Indian or Alaska Native
   ___ Asian or Pacific Islander
   ___ Black/African American
   ___ Hispanic/Latino/a
   ___ White-Non-Hispanic
   ___ Other (please specify)
   If you selected other, please specify
   ______________________________

3. How many years have you been teaching?
   ______________________________

4. What grade level do you currently teach?
   ___ Primary (K-2)
   ___ Elementary (3-4 )
   ___ Intermediate( 5-6 )
   ___ Secondary (7-9)
   ___ Secondary (10-12 )
   ___ Other (please Specify)
   If you selected other, please specify:
   ______________________________
# Appendix C

## Faculty Trust Survey

**Directions:** This questionnaire is designed to help us gain a better understanding of the quality of relationships in schools. Your answers are confidential. Please indicate the extent to which you agree or disagree with each of the statements about your school, ranking them in the columns on the right, ranging from (1) Strongly Disagree to (6) Strongly Agree, filling in the blank column.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Students in this school care about each other.</td>
<td></td>
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<tr>
<td>2. Teachers in this school typically look out for each other.</td>
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<tr>
<td>3. The teachers in this school have faith in the integrity of the principal.</td>
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<td>4. Even in difficult situations, teachers in this school can depend on each other.</td>
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<td>5. The principal in this school typically acts in the best interests of the teachers.</td>
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<tr>
<td>6. Teachers in this school can rely on the principal.</td>
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<tr>
<td>7. Teachers in this school trust each other.</td>
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<td>8. Teachers can count on parental support.</td>
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<tr>
<td>9. Teachers think that most of the parents do a good job.</td>
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<tr>
<td>10. Teachers in this school trust the principal.</td>
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<tr>
<td>11. Teachers in this school are open with each other.</td>
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<tr>
<td>12. Students in this school can be counted on to do their work.</td>
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<tr>
<td>13. Parents in this school are reliable in their commitments.</td>
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<tr>
<td>14. The principal doesn't tell teachers what is really going on.</td>
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<tr>
<td>15. The principal of this school does not show concern for teachers.</td>
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<tr>
<td>16. Teachers in this school have faith in the integrity of their colleagues.</td>
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<tr>
<td>17. Teachers in this school trust the parents.</td>
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<tr>
<td>18. Teachers in this school are suspicious of each other.</td>
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<tr>
<td>19. Students here are secretive.</td>
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<tr>
<td>20. When teachers in this school tell you something you can believe it.</td>
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<td></td>
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</tr>
<tr>
<td>21. Teachers in this school do their jobs well.</td>
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<tr>
<td>22. Teachers here believe that students are competent learners.</td>
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</tr>
<tr>
<td>23. The teachers in this school are suspicious of most of the principal's actions.</td>
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</tr>
<tr>
<td>24. Teachers in this school believe what parents tell them.</td>
<td></td>
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</tr>
<tr>
<td>25. The principal in this school is competent in doing his or her job.</td>
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</tr>
<tr>
<td>26. Teachers in this school trust their students.</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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## APPENDIX D

### TEACHER SELF-EFFICACY SCALE

<table>
<thead>
<tr>
<th>Teacher Beliefs - TSES</th>
<th>Very Easy</th>
<th>Some Difficulties</th>
<th>Code &amp; Deliver</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Directions:</strong> Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from 1: &quot;None at all&quot; to 9: &quot;A great deal&quot; as each represents a degree on the continuum. Please respond to each of the questions by considering the combination of your current ability, resources, and opportunities to do each of the following in your present position.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. How much can you do to get through to the most difficult students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. How much can you do to get students to believe they can do well in school work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. How well can you respond to difficult questions from your students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. How much can you do to help your students value learning?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. How much can you gauge student comprehension of what you have taught?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. To what extent can you craft good questions for your students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. How much can you do to foster student creativity?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. How much can you do to get children to follow classroom rules?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. How much can you do to improve the understanding of a student who is failing?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. How much can you do to calm a student who is disruptive or noisy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. How well can you establish a classroom management system with each group of students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. How much can you do to adjust your lessons to the proper level for individual students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. How much can you use a variety of assessment strategies?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. How well can you keep a few problem students from ruining an entire lesson?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. How well can you respond to defiant students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. How well can you implement alternative strategies in your classroom?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>