REFERENTS OF FACULTY TRUST AND SCHOOL ACHIEVEMENT

BY

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A dissertation submitted to

The Graduate School of Education

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree

Doctor of Education

Graduate Program in Educational Administration and Supervision

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New Brunswick, New Jersey

May 2014

ABSTRACT OF THE DISSERTATION

Referents of Faculty Trust and School Achievement

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Researchers have identified faculty trust as a school level characteristic that has demonstrated a strong, significant influence on achievement even when controlling for SES (Bryk & Schneider, 2002; Goddard, Salloum, & Berebitsky, 2009; Tschannen-Moran & Hoy, 2001; Hoy, 2002). The purpose of this study was to further examine the relationships among SES, prior school achievement, the referents of faculty trust, and school achievement, and to identify whether the referents of faculty trust can positively influence school achievement.

Six research questions were developed to examine relationships among SES, prior school achievement, the referents of faculty trust, and school achievement. A hypothesized path model of school achievement was also tested. The unit of analysis for this correlational study was a New Jersey elementary school. Teachers provided data for measures of faculty trust by responding to items on the Omnibus Trust Scale (OTS, Hoy & Tschannen-Moran, 2003). Two archived data sources provided data for a school level measure of SES, four measures of prior school achievement, and four measures of school achievement. Hierarchical Linear Modeling (HLM, Raudenbush & Bryk, 2002) was used to calculate the intra-class correlation coefficient (ICC) and partition the variance within and between sampled schools for each referent of faculty trust. Pearson product-moment correlation coefficients and path coefficients were computed to identify any evidence of relationships among variables and determine direct and indirect influences of SES, prior school achievement, and faculty trust on school achievement.

SES, prior school achievement, and faculty trust in clients were all positively associated with school achievement. Relationships between faculty trust in the principal and faculty trust in colleagues as well as between faculty trust in colleagues and faculty trust in clients were found; however faculty trust in the principal and faculty trust in clients did not demonstrate any connection. Prior school achievement and faculty trust in clients were strong predictors of school achievement. SES indirectly influenced school achievement through faculty trust in clients. The mitigating influence of faculty trust in clients on school achievement and the relationships among the three referents of faculty trust warrant further investigation.

ACKNOWLEDGEMENTS

I am most thankful for the love and sacrifices of my family. They have taught me more about trust than any research I have seen. I share this accomplishment with them.

My wife, Cindy, worked tirelessly to provide me with the time and resources to meet the demands of the program. Throughout this journey she supported me, managed our household, and provided me with the two greatest reminders of what is important: our children, Joseph and Juliana. I appreciate her more than I can express.

I am grateful for the endless support given by my parents, Joe and Jody. They truly embraced this endeavor and offered assistance in many forms and at every crossroad. I am humbled by their loyalty and commitment to our family. I thank my brother, Jason, who not only provided me with much needed moments of levity, but was a pivotal and influential figure during the recruitment process of this study.

I extend thanks to each dissertation committee member for agreeing to assist in the completion of this study. My committee chair, Dr. William A. Firestone, challenged me to successfully meet the demands of the dissertation process. Dr. Catherine A. Lugg was a consistent, guiding force throughout the program and has made invaluable contributions to my understanding of research. Dr. Samuel F. Fancera afforded me countless hours to discuss and debate my work and the knowledge he shared, as both a practitioner and a researcher, was more influential than he will ever know.

I sincerely thank my friend and mentor in education, Ms. Rita Saylor, who believed in me and encouraged me to grow from the very beginning.

Finally, I thank all of the superintendents, administrators, and teachers who graciously participated and helped make this research possible.

TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The pressures on today's educators are as great as ever before. As federal and state legislatures continue to enact measures that will demand accountability from all stakeholders, the rewards and sanctions associated with this accountability continue to evolve. Regardless of the incentives or potential consequences, schools and researchers continue working to identify variables that will improve achievement. Unfortunately, variables such as socioeconomic status (SES) have historically proven daunting to overcome when its influence on academic achievement is assessed (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966; Gamoran & Long, 2007). Since Coleman and colleagues (1966) published the Equality of Educational Opportunity report, educators have searched for variables to mitigate the exceedingly strong influence of SES on achievement. In searching for school level variables that can mitigate the power of SES, several researchers using various qualitative and quantitative techniques have identified faculty trust as an important organizational characteristic that positively influences achievement (Bryk & Schneider, 2002; Goddard, Salloum, & Berebitsky, 2009; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002). The purpose of this investigation is to examine the relationships among SES, prior school achievement, the three referents of faculty trust, and school achievement.

The No Child Left Behind Act of 2001 (NCLB) brought with it several measures that changed the accountability of schools across the country. NCLB set forth academic

benchmarks and new annual testing requirement for all students in grades three through eight, established adequate yearly progress targets which would be reported in annual state reports cards, and established new criteria for teacher qualifications, school funding, and academic programs (NCLB, 2002).

Nearly a decade later, United States Secretary of Education Arne Duncan was pushing to have NCLB rewritten in light of the struggles schools and state governments nationally were realizing with the strict accountability standards and academic mandates (Koretz, 2008; Koyama, 2012; Nichols & Berliner, 2007). In February of 2012, President Obama announced that 10 states would receive waivers from the NCLB mandates in exchange for implementing significant reforms regarding standards and accountability.

The focus of the United States Department of Education has not changed; rather the framework and requirements have shifted and given more autonomy to individual states. Specifically, high stakes testing has led to schools narrowing their curricula (Au, 2007), teaching to the test (Hursh, 2008), and even cheating (Koretz, 2008; Nichols & Berliner, 2007). This is what Koyama (2012) referred to as "work arounds" (p. 874) with regards to how schools have reacted to the pressures of increased demands and intensified accountability. The new increased flexibility does not mean an exemption from academic accountability, because schools would still need to address problems such as closing the achievement gap and increasing achievement of low income students. The pressure to find pathways around such obstacles persists and there is a need to better understand school level variables that positively influence student outcomes.

In searching for administratively mutable variables that can help offset the historically powerful influence of SES, there have been several that have demonstrated to be successful. Academic emphasis, also referred to academic press, (Goddard, Sweetland, & Hoy, 2000; Hoy &

Hannum, 1997; Hoy, Tarter, & Bliss, 1990) and collective teacher efficacy (Bandura, 1993;

Goddard, Hoy, & Woolfolk-Hoy, 2000; Goddard, LoGerfo, & Hoy, 2004; Hoy, Sweetland, &

Smith, 2002) have demonstrated to be two such variables. A third, faculty trust, has also emerged

as a powerful organizational characteristic and will be the variable examined in this study (Bryk

& Schneider, 2002; Goddard, Salloum, & Berebitsky, 2009; Goddard, Tschannen-Moran, &

Hoy, 2001; Hoy, 2002).

There have been two different paths of inquiry with regards to faculty trust and its

influences on schools. One has been led by Hoy, Tschannen-Moran, and colleagues as they

sought to explore the role of faculty trust in schools, assign a comprehensive definition, and

pinpoint its referents (Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, Gage, & Tarter, 2006;

Hoy & Kupersmith, 1985; Hoy, Sabo, & Barnes, 1996; Hoy, Smith & Sweetland, 2002; Hoy &

Tarter, 2004; Hoy, Tarter, & Wiskowskie, 1992; Hoy & Tschannen-Moran, 1999; Smith, Hoy, &

Sweetland, 2001; Tarter, Bliss, & Hoy, 1989; Tarter, Sabo, & Hoy, 1995; Tschannen-Moran

2001, 2004; Tschannen-Moran & Hoy, 1998). The other has been led by Bryk and Schneider

(1996, 2002, 2003) whose longitudinal, mixed methodology research in the Chicago school

system established one of the largest backdrops to examine the influence of trust, specifically

referred to as relational trust, in schools. While each line of inquiry investigated different types

of schools using different measures and analyses, there is agreement on the importance of faculty

trust, its referents, and the continued need to explore its influence.

Barbara Schneider, in the foreword of Forsythe, Adams, and Hoy's (2011) book

*Collective Trust* captured the essence of this research overlap by noting "what is especially

interesting about this work is that whether one is defining trust as a relational or collective

property of school organizations, researchers agree that social relationships in communities are

what make trust a key element in promoting school effectiveness" (Forsyth, Adams, & Hoy, 2011, p. xii). The definitions of faculty trust from the different research groups also seem to complement one another. Bryk and Schneider (2002) described trust as a "dynamic interplay among four considerations: respect, competence, personal regard for others, and integrity" (p. 23). Hoy and Tschannen-Moran (1999), in their review of interdisciplinary literature, identified five common facets of trust to be prevalent: benevolence, reliability, competence, honesty, and openness. Their work resulted in faculty trust being defined as "trust is one party's willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open" (Tschannen-Moran & Hoy, 2000, p. 556).

Similarly, Bryk and Schneider (2002) as well as Hoy and colleagues (Hoy & Tschannen-Moran, 2003; Smith, Hoy, & Sweetland,, 2001; Tschannen-Moran & Hoy, 1998) recognize three distinct referents of faculty trust: trust in the principal, trust in colleagues, and trust in clients (students and parents). It is important to note that in the last decade, most of the research on faculty trust and student achievement has focused on the referent of faculty trust in clients (Bryk & Schneider, 2002; Goddard, Salloum, & Berebitsky, 2009; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002).

In light of the findings on faculty trust and student achievement coupled with the new flexibility and accountability measures established by the federal government, the influences of administratively mutable school level variables are worthy of further inquiry. The need exists to better understand the variables that have demonstrated success in mitigating the influences of SES on achievement. As educational guidelines and stakeholder mandates change, there must be inquiries to assess if the influences of school level variables have changed as well.

Problem Statement

As our country moves away from the original framework of NCLB (2002) and states are given more autonomy in setting benchmarks and assessing its schools, the demand for accountability has not diminished. While schools have historically been categorized based on how their students perform, the need to more accurately link student learning with teacher instruction has led to a change in how teachers are evaluated. Researchers examining how teachers are evaluated, in part based on their students' achievement levels, have pointed out numerous inaccuracies and inconsistencies within these models (Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012). The pressure of student achievement does not rest solely with the students taking the assessments; principals and teachers who will be subsequently evaluated based on student results also have an increased stake, even if the evaluation is flawed.

This pressure is coupled with the realization that there are social and demographic factors, such as SES, which have historically put students at a disadvantage before they step into a classroom. As a result, there is a strong demand for educational leaders, practitioners, and researchers alike to identify those variables that positively influence achievement despite uncontrollable social and demographic factors. Faculty trust has shown to be a school level characteristic that positively influences achievement even when controlling for SES (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001). Other researchers have identified faculty trust as being stronger than SES in predicting student achievement (Goddard, Salloum, & Berebitsky, 2009; Hoy, 2002). In each of these studies it was the referent of faculty trust in clients that demonstrated a significant relationship to achievement.

When considering the new accountability measures that are now attached to all educational stakeholders and their school's achievement, it is worthwhile to reexamine the

influence of each referent of faculty trust on achievement as well as the relationships that may

exist among the three referents.

<div align="center">Conceptual Framework</div>

Figure 1 shows the conceptualized model of school achievement for this dissertation.

This framework represents a modified model where faculty trust will serve as both a predicting

and mediating variable (Goddard, Salloum, & Berebitsky, 2009). All relationships depicted in

this framework will be measured to answer the study's research questions.
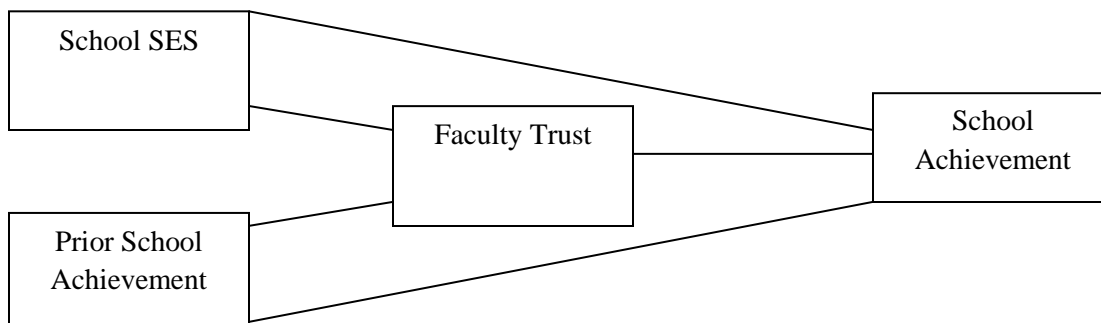


Figure 1: Conceptual framework of research

<div align="center">Research Questions</div>

The relationships of SES, prior school achievement, faculty trust, and school achievement

were examined in a sample of New Jersey (NJ) elementary schools. Six research questions

guided this study:

1. Is there a relationship between a NJ elementary school's SES and the referents of faculty trust?

2. Is there a relationship between a NJ elementary school's SES and school achievement?

3. Is there a relationship between prior school achievement and the referents of faculty trust?

4. Is there a relationship between prior school achievement and school achievement?

5. Is there a relationship among the three referents of faculty trust?

6. Is there a relationship between the referents of faculty trust and school achievement?

Path Model of School Achievement

Figure 2 represents the hypothesized path model that was examined in this study. It suggested that SES, prior school achievement, and faculty trust influence school achievement. It also suggested that SES and prior school achievement influence faculty trust.
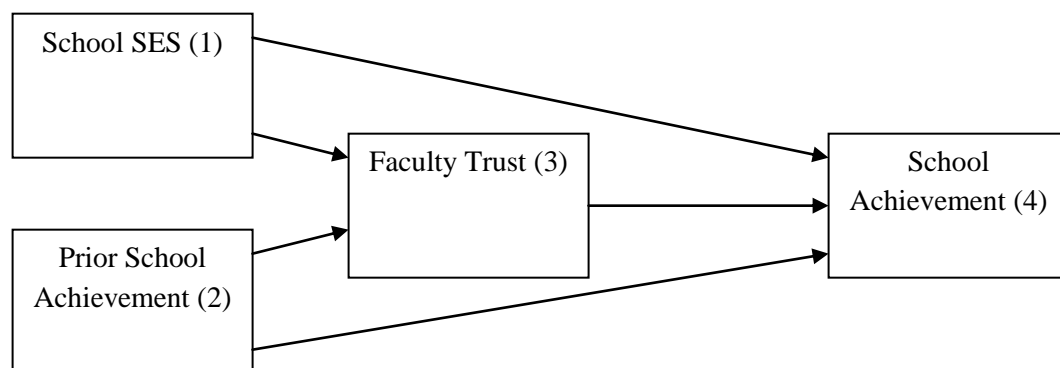
Figure 2: Hypothesized path model of school achievement

CHAPTER II

LITERATURE REVIEW

This chapter provides a closer look at the variables which guided this study. It begins with a general review of research that focused on the influence of socioeconomic status (SES) on student achievement. The chapter continues with an overview of faculty trust which will include early research, the development of a comprehensive definition, and insight into each of the three subsections of faculty trust. Because each referent has displayed different tendencies and influences, it is important to distinguish the research accordingly to better understand the individual components. This is especially true when considering the research regarding faculty trust started to shift after researchers had consistently revealed that of the three referents of faculty trust, faculty trust in clients demonstrated the strongest relationship to student achievement when controlling for SES (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002). The chapter will conclude with a presentation of research questions and hypotheses that will guide this inquiry in determining the direct and indirect influences of SES, prior school achievement, and faculty trust on school achievement.

Socioeconomic Status

The significant influence of SES on school achievement was presented nearly five decades ago when Coleman and colleagues released the findings of the Equality of Educational Opportunity study (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966). Researchers have continued to examine this relationship and expanded the scope in search of deeper explanations. Lee and Burkham (2002) demonstrated how low SES students' cognitive

abilities are significantly lower than their higher SES classmates when they start school. Once disadvantaged students have started school, Herbers and colleagues (2012) showed how strong SES negatively predicted their academic achievement trajectories (Herbers, Cutuli, Supkoff, Heistad, Chan, Hinz, & Masten, 2012). Even having a school population with peers of low SES backgrounds has "a significant and substantive independent effect on individual academic achievement, only slightly less than an individual's own family social status" (Caldas & Bankston, 1997, p. 269). Such consistent findings have led researchers and practitioners to examine the educational landscape in hopes of finding variables that could overcome the strong influence of SES on achievement.

Several researchers have since identified school and teacher level variables that positively influence student outcomes in spite of students' low SES such as academic emphasis or press (Hoy & Hannum, 1997; Hoy & Sabo, 1998; Hoy, Tarter, & Bliss, 1990) and teacher efficacy (Bandura, 1993, 1997; Hoy, Sweetland, & Smith, 2002; Nye, Konstantopoulos, & Hedges, 2004). The focus of this study, faculty trust, has also demonstrated to be powerful in predicting school achievement (Bryk & Schneider, 2002; Goddard, Salloum, & Berebitsky, 2009; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002).

Faculty Trust

The concept of trust and its different roles within public education has evolved greatly over the last three decades, although the importance of trust had been recognized in research for contributing to successful organizational change (Ouchi, 1981) and building teamwork (Paul, 1982). Such research examined trust in general terms and from an organizational perspective, but did not discuss the role of trust in terms of different stakeholders and the subsequent relationships they develop. Building on Hoy and Henderson's (1983) work on elements of

authentic behavior, Hoy and Kupersmith (1984) then embarked on one of the first empirical

studies that revealed the broad reach and different relationships encapsulated by the term faculty

trust.

Hoy and Kupersmith (1984) examined the relationship between principal authenticity and

faculty trust in New Jersey elementary schools and found that faculty trust in the principal was

strongly related to the authenticity of the principal's behavior. The principal's behavior was also

strongly linked to faculty trust in colleagues, as well as faculty trust in the organization. Studies

on the middle school level have reinforced these findings (Hoffman, Sabo, Bliss, & Hoy, 1994)

and expanded them. Hoy, Hoffman, Sabo, and Bliss (1996) found the same to be true when

examining faculty trust and the authenticity of teachers' behaviors in middle schools as authentic

behavior by teachers was strongly related to the faculty trust in colleagues and to the faculty trust

in the principal.

Based on their findings regarding the influence of trust, Hoy and Kupersmith (1985) then

organized faculty trust into three referents: faculty trust in the principal, faculty trust in

colleagues, and faculty trust in the school organization. They then created three faculty trust

scales to measure each of the aforementioned referents and found that they were moderately

correlated with one another (Hoy & Kupersmith, 1985). Hoy and Kupersmith (1985) had not

only created a framework that would outline how faculty trust was perceived, but had provided a

measurement tool to explore its relationship with other school level variables.

Several studies followed that served to measure the relationship between faculty trust and

other school properties. Elementary (Hoy, Tarter, Kottkamp, 1991), middle (Hoffman, Sabo,

Bliss, & Hoy, 1994), and high schools (Tarter & Hoy, 1988) were all used to assess the

relationship between faculty trust and the openness and health of school climates. The studies

showed that regardless of school level, open and healthy school climates promote faculty trust; in turn, faculty trust reinforced open and healthy school climates. Researchers started to find divergent results among the school levels when they examined faculty trust and its relationship with school effectiveness (Hoy & Sabo, 1998; Hoy, Tarter, & Kottkamp, 1991; Hoy, Tarter, & Wiskowskie, 1992. Tarter, Sabo, & Hoy, 1995).

Hoy, Tarter, and Wiskowskie (1992) found in their study of New Jersey elementary schools that only faculty trust in colleagues was directly related to school effectiveness. However, when Tarter, Sabo, and Hoy (1995) studied New Jersey middle schools to examine the same dynamic, both faculty trust in colleagues and faculty trust in the principal were directly related to school effectiveness. The use of path analysis was utilized in these two studies which facilitated more insight into the networks of relationships among the variables. The research base surrounding faculty trust had grown, and through the implementation of more sophisticated statistical analyses, enabled researchers to reach new conclusions regarding its influence.

Hoy and Sabo (1998) then sought to investigate the relationship between faculty trust and school achievement. They argued that school achievement, as measured by standardized test scores, was the crucial litmus test for assessing school effectiveness. At first, the results were concurrent with those of earlier research (Hoy, Tarter, & Kottkamp, 1991) in that faculty trust was positively related to the student outcome variables. The results changed, however, when SES was factored into the conceptual model and completely overwhelmed any influence faculty trust displayed. Thus, while faculty trust was still viewed as an important and influential school level characteristic, its disappearance in the presence of SES led researchers to rethink its framework. Tschannen-Moran and Hoy (2000) conducted a multidisciplinary review of existing literature that served to streamline the traditional definitions of trust as well as examine its relationship

with other organizational processes. Their work positioned trust as a concept with the following seven components, accompanied by explanations.

1. Willingness to risk vulnerability deals with the reality that in any situation involving trust, there must be some form of dependence between the involved parties. "The degree of interdependence may alter the form trust takes" because inevitably, "interdependence brings with it vulnerability" (Tschannen-Moran & Hoy, 2000, p. 556). For example, teachers may ask parents for support in reinforcing a specific action to change a child's behavior. The teacher, in hopes to build a trusting relationship with the parent, is also vulnerable because the outcome is partially dependent on parental cooperation. Thus, there must be a willingness to be vulnerable if trust is ever to exist between two parties.

2. Confidence refers to an individual's ability to find comfort when they have put themselves in a position to be vulnerable. The teacher used in the previous example will only trust in the parent if the teacher is confident the parents will follow through as suggested. "Confidence extends across a gap of time" according to Tschannen-Moran & Hoy (2000), and "there is a lag between when a commitment is made and when the recipient knows that it has been fulfilled" (p. 557). Confidence is then a crucial determinant in measuring how much a person can trust.

3. Benevolence, or the belief that one's interests will be protected, can be considered "the most common facet of trust" (Tschannen-Moran & Hoy, 2000, p. 557). In addition to being confident that the entrusted party will fulfill their responsibilities, one must also believe their interests will not be harmed. "One learns to count on the good intentions of another to act in one's best interest" because "in an ongoing relationship, future actions or deeds may not be specified; rather, there is a mutual attitude of goodwill" (p. 557).

4. Reliability works within creating a foundation for positive and consistent trusting relationships. "Reliability or dependability combines a sense of predictability with benevolence" and "there is a sense of confidence that one's needs will be met" (Tschannen-Moran & Hoy, 2000, p. 557). It is important to not consider someone's reliability as being synonymous with being predictable. The reason is that negative behaviors, such as tardiness, absenteeism, and dishonesty, can also be viewed as predictable. In combining predictability with benevolent behavior, a person is left with a feeling that their concerns will be reliably and responsibly handled, a key element of trust.

5. Competence goes to the heart of people being capable and having the necessary abilities to carry out an action. While the previous components of trust have dealt with emotional and psychological behaviors, competence speaks about a person's skillfulness regardless of the good intentions he or she may have. In the educational setting "if a person's or team's project depends on others, principals and teachers may or may not feel an 'assured confidence' that deadlines will be met or that the work be of adequate quality to enhance the teacher and learning goals of the school" (Tschannen-Moran & Hoy, 2000, p. 558). The trust of such principals and teachers is tied directly to the abilities of those carrying out the project.

6. Honesty is tied to trust by calling upon the character and integrity of people to be truthful. Honesty is a crucial component because it can mean sharing bad news as well as good news; in any relationship based on trust, the truthful reporting of information far exceeds the benefits of lying to protect feelings. As Tschannen-Moran and Hoy (2000) found, the "correspondence between a person's statements and deed characterizes integrity" and "accepting responsibility for one's actions and avoiding distorting the truth in order to shift blame to another characterizes authenticity" (p. 558). In understanding the role of honesty in

trusting relationships, it is then equally important to understand the character, integrity, and authenticity of the participants.

7. Openness refers to the degree in which information is shared amongst stakeholders. Sharing, in almost any situation, entails with it vulnerability. Students are excellent examples when they are in a situation where they are confused by or reluctant to ask the teacher for assistance. If this student trusts the teacher to not only answer the questions, but do so in a manner as to not embarrass the student, then the question will be asked. "Such openness signals a kind of reciprocal trust, a confidence that neither the information nor the individual will be exploited, and recipients can feel the same confidence in return" (Tschannen-Moran & Hoy, 2000, p. 558)

In reviewing the extant literature, Tschannen-Moran and Hoy (2000) reiterated a multidimensional definition of trust whereas "trust is one party's willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open" (p. 556). This definition is consistent in research on the elementary level (Hoy & Tschannen-Moran, 1999, 2003) as well as the secondary level (Smith, Hoy, & Sweetland, 2003).

## Faculty Trust in Clients

Goddard, Tschannen-Moran, and Hoy (2001) were among the earliest researchers to examine the relationship between faculty trust in parents and students with achievement in urban elementary schools. The results supported their initial theory that faculty trust had a direct and significant influence in positively predicting student achievement, even when controlling for SES. Additionally, the researchers found faculty trust to be another organizational characteristic capable of influencing achievement in spite of low SES. It is also important to note that in their

study, Goddard and colleagues reaffirmed early findings of Hoy and Tschannen-Moran (1999)

that faculty trust in parents and students are not separate concepts and form a unitary factor

referred to as trust in clients. Using factor analysis on these two referents of trust, the researchers

found that only one factor emerged resulting in the term faculty trust in clients to refer to both

parents and students.

Hoy (2002) again tested the hypothesis of faculty trust in clients and student achievement

in high schools. He found that faculty trust in parents and students positively influenced student

achievement while controlling for SES. Hoy theorized that trust was such an integral part of

learning because the latter is a cooperative process and trust is a vital element in cooperation.

Bryk and Schneider (2002) reinforced the previous findings on faculty trust, cooperation,

and student achievement when they conducted a three year longitudinal study of urban

elementary schools. The schools served as an excellent backdrop for the study as they were in

the process of reorganizing to facilitate more parental and community involvement. The results

indicated that not only was faculty trust, or relational trust as they commonly refer to it, a

significant agent of school improvement, but trust and cooperation among the stakeholders also

positively influenced student attendance, persistent learning practices among students, and

faculty experimentation with new teaching strategies. The researchers also found schools

demonstrating low levels of faculty trust showed virtually no improvement in achievement

scores. Finally, Bryk and Schneider (2002) found that trust in parents and students appeared to

be one entity, similar to the findings in previous research (Goddard, Tschannen-Moran, & Hoy,

2001; Hoy & Tschannen-Moran, 1999). In finding that schools with greater degrees of faculty

trust, specifically with clients, were likely to show more improvements, the component of faculty

trust was again seen as highly influential.

In building on the prior research identifying faculty trust in clients as having a stronger relationship with achievement than either faculty trust in the principal or faculty trust in colleagues, Goddard, Salloum, and Berebitsky (2009) examined the role of faculty trust in clients in mediating SES, racial composition, and achievement. They found a strong, positive relationship between trust and achievement in mathematics and reading among elementary students. SES, however, was not directly related to achievement even after controlling for prior achievement and trust; rather SES was indirectly related to achievement through trust. These findings suggested that "trust relations appear to mediate the relationship between school disadvantage and academic achievement" (Goddard, Salloum, & Berebitsky, 2009, p. 293).

## Faculty Trust in Colleagues

Cosner (2009) examined the role of trust among colleagues by examining how principals, who were recognized for their expertise in building organizational capacity, focused on collegial trust as the centerpiece of their capacity building work. Principals could foster this trust by increasing interaction time, initiating new forums that would facilitate interaction time, and insuring that the contexts of interaction were likely to foster the desired trust.

In an investigation into how teacher professionalism is fostered in middle schools, Tschannen-Moran (2009) found that faculty trust in colleagues and a professional orientation by the principal made independent contributions in explaining teacher professionalism. This research also suggested that trust in the principal was strongly related to faculty perceptions of their colleagues' professionalism. This reinforces how the referents of trust complement one another in influencing other building-level characteristics. Geist (2002) referred to this as "trust spillover" (p. 93) to explain the tendency for referents of trust to overlap and support one another.

Firestone and Fisler (2006) explored the role of social trust amongst colleagues in their study on how teachers learn in a school-university partnership. They found that teachers who collaborated, felt supported by the administration, and challenged norms of isolation experienced more success in the classroom and had increased efficacy beliefs. "These two attributes may establish a positively reinforcing cycle in which teachers are rewarded for higher and higher levels of trust when they encounter higher and higher levels of teaching success" (Firestone & Fisler, 2006, p.1182).

Such reinforcement was also evident in Addi-Raccah's (2012) study on teacher trust in role partners that revealed each referent played a significant role in influencing teachers' decisions to remain in the profession. This study confirmed Goddard, Salloum, and Berebitsky's (2009) findings on the relationship between SES and faculty trust. In schools with lower SES composition, teachers were more inclined to trust colleagues; schools with higher SES composition were more inclined to trust clients (Addi-Raccah, 2012).

<div align="center">Faculty Trust in the Principal</div>

The research on faculty trust in the principal has taken several forms. In a mixed methods comparative study examining faculty trust in the principal and faculty trust in clients, Tschannen-Moran (2004) found the latter to have a stronger relationship with student achievement on the Virginia Standards of Learning tests. This researcher also found that faculty trust in the principal may be linked to the principal's ability to support the growth of trust among colleagues. Tschannen-Moran concluded that by shaping a cooperative culture, facilitating collaboration, implementing norms of interaction, and establishing conflict resolution practices, principals could support increased levels of trust between teachers.

Kochanek (2005) found that in terms of trust and the principal, they may be dependent on the principal's ability to support collegial trust in ways that differed from Tschannen-Moran's (2004) findings. Specifically, principals must structure opportunities for interaction where trust can be cultivated and remove trust forming barriers such as "divisive personalities and incompetent teachers" (Kochanek, 2005, p. 81).

The concept of faculty trust and the use of it as a general term has developed and changed over time. Each referent can be viewed as part of the comprehensive entity referred to as faculty trust, however this must be done cautiously. Researchers have demonstrated how the referents can overlap, reinforce one another, and influence school level characteristics differently (Addi-Raccah, 2012; Cosner, 2009; Geist, 2002; Kochanek, 2005; Tschannen-Moran, 2004). Understanding these relationships, especially in terms of improving student outcomes, is important for educators as social barriers continue to present themselves.

## Student Achievement

Few educators would disagree that "accountability has become singularly synonymous with standardized testing" (Koyama, 2012, p. 872). With every piece of legislation that solely links school effectiveness with student outcomes, the pressure on school leaders and teachers increases. In light of the research magnifying the predictive strength of SES on student outcomes combined with the unrelenting demand for school accountability, educational stakeholders must assess and reassess how schools can best serve students. Scholars and educators alike must "continue to search for variables that practitioners may control to modify student achievement under ordinary school conditions" (Fancera & Bliss, 2011, p. 349).

Research Questions and Hypotheses

The following research questions were explored and the associated hypotheses were tested in this study to examine the interrelations among SES, prior school achievement, faculty trust, and school achievement.

1.  Is there a relationship between a New Jersey (NJ) elementary school's SES and each of the following referents of faculty trust: faculty trust in the principal, faculty trust in colleagues, and faculty trust in clients?

    $H_0$: There is no relationship between a NJ elementary school's SES and each referent of faculty trust.

    $H_1$: There is a relationship between a NJ elementary school's SES and each referent of faculty trust.

2.  Is there a relationship between a NJ elementary school's SES and the following indicators of school achievement: 2012 NJ Assessment of Skills and Knowledge Grade 4 Language Arts (NJASK-4LA2), 2012 NJ Assessment of Skills and Knowledge Grade 4 Mathematics (NJASK-4MA2), 2012 NJ Assessment of Skills and Knowledge Grade 5 Language Arts (NJASK-5LA2), and 2012 NJ Assessment of Skills and Knowledge Grade 5 Math (NJASK-5MA2)?

    $H_0$: There is no relationship between a NJ elementary school's SES and each indicator of school achievement.

    $H_1$: There is a relationship between a NJ elementary school's SES and each indicator of school achievement.

3.  Is there a relationship between a NJ elementary school's prior achievement, which includes the 2011 NJ Assessment of Skills and Knowledge Grade 3 Language Arts (NJASK-3LA1),

2011 NJ Assessment of Skills and Knowledge Grade 3 Mathematics (NJASK-3MA1), 2011 NJ Assessment of Skills and Knowledge Grade 4 Language Arts (NJASK-4LA1), and 2011 NJ Assessment of Skills and Knowledge Grade 4 Math (NJASK-4MA1) and the referents of faculty trust which include faculty trust in the principal, faculty trust in colleagues, and faculty trust in clients?

$H_0$: There is no relationship between a NJ elementary school's indicators of prior achievement and each referent of faculty trust.

$H_1$: There is a relationship between a NJ elementary school's indicators of prior achievement and each referent of faculty trust.

4. Is there a relationship between a NJ elementary school's prior achievement, which includes NJASK-3LA1, NJASK-3MA1, NJASK-4LA1, and NJASK-4MA1 and school achievement, which includes NJASK-4LA2, NJASK-4MA2, NJASK-5LA2, and NJASK-5MA2?

$H_0$: There is no relationship between a NJ elementary school's indicators of prior achievement and the indicators of school achievement.

$H_1$: There is a relationship between a NJ elementary school's indicators of prior achievement and the indicators of school achievement.

5. Is there a relationship between each NJ elementary school's referents of faculty trust, which include faculty trust in the principal, faculty trust in colleagues, and faculty trust in clients, with the other referents?

$H_0$: There is no relationship between each NJ elementary school's referents of faculty trust with the other referents.

$H_1$: There is a relationship between each NJ elementary school's referent of faculty trust with the other referents.

6.  What is the relationship between a NJ elementary school's referents of faculty trust which include faculty trust in the principal, faculty trust in colleagues, and faculty trust in clients and the indicators of school achievement which include NJASK-4LA2, NJASK-4MA2, NJASK-5LA2, and NJASK-5MA2?

    $H_0$: There is no relationship between a NJ elementary school's referents of faculty trust and the indicators of school achievement.

    $H_1$: There is a relationship between a NJ elementary school's referents of faculty trust and the indicators of school achievement.

CHAPTER III

METHODOLOGY

This chapter begins with a description of the research instrument, the sample, and the methods the researcher utilized to collect the data for this study. The chapter then reviews the data analysis procedures which included two distinct techniques: Hierarchical Linear Modeling (HLM) and path analyses. The use of HLM allowed the researcher to adjust for and model the non-independence that often characterizes units within a given cluster, which in this study refers to teachers within schools (McCoach, 2010). The path analyses consisted of a series of multiple regression analyses that are often utilized in determining relationships in correlational research designs with multiple variables. The chapter concludes with a discussion regarding the limitations of the study.

Research Instruments

The Omnibus T-Scale (OTS, Hoy & Tschannen-Moran, 2003) was used in this study and is included in Appendix A. The OTS (Hoy & Tschannen-Moran, 2003) is a concise operational measure of three dimensions of faculty trust: trust in the principal, trust in colleagues, and trust in the clients (students and parents). Trust in the principal and colleagues contain eight questions each and trust in clients contains 10 items for a total of 26 Likert-type items that are scored on a six point scale ranging from "strongly disagree" to "strongly agree." For each school included in the sample, an average score was computed for every item based on the responses received from the teachers in that school.  The school scores for each subscale were computed by adding the values for the items composing that scale and dividing by the number of items.

Sample

The unit of analysis for this study was a New Jersey (NJ) elementary school, which for

this study was defined as: (1) a public NJ school that included grades three, four, and five, (2)

was included in the 2012 NJ School Report Card (NJSRC), and (3) was classified as one of the

eight socioeconomic categories referred to as district factor groups (DFGs) as determined by the

NJ Department of Education (NJDOE, New Jersey Department of Education, n.d.). Because the

NJSCR identified 1,102 schools that met the criteria statewide, the researcher narrowed the

sample to eight NJ counties to maximize recruitment potential. Essex, Middlesex, Monmouth,

Morris, Ocean, Passaic, Somerset, and Union counties collectively accounted for 484 schools in

131 school districts that met these criteria for inclusion in the sample.

The researcher initiated recruitment by sending a request for participation to each

school's superintendent via electronic mail. A copy of this request is included in Appendix B.

Any school whose superintendent declined to participate was not included in the study sample. If

the superintendent agreed to participate in this study, the researcher sent a request for

participation to the school's principal via electronic mail. A copy of this request is included in

Appendix C. Any school whose principal declined to participate was not included in the study

sample. If the principal agreed to participate in this study, the researcher utilized two strategies in

seeking teacher participation in the study. The researcher first asked permission to attend a

faculty meeting where the researcher explained the purpose of the study, ensured confidentiality,

and asked willing participants to complete a hardcopy of the survey. If attending a faculty

meeting was not possible, the researcher sent the principal an electronic mail message requesting

their assistance in disseminating the teacher recruitment letter to their teaching staffs. A copy of

this request is included in Appendix D. The teacher recruitment letter contained the uniform

resource locator (URL) for the OTS (Hoy & Tschannen-Moran, 2003) and teachers completed the survey via online survey software.

A minimum of five teachers from each participating school were required to complete the research instrument for the school's inclusion in the sample. This criterion was based on the findings of Halpin (1959) and consistent with other researchers who have sought to examine the relationships between school level characteristics and student achievement (Fancera & Bliss, 2011; Goddard, Hoy, & Hoy, 2000; Goddard, LoGerfo, & Hoy, 2004; Tschannen-Moran, 2009).

Data Collection

The researcher collected data using one research instrument and two archived data sources. The OTS (Hoy & Tschannen-Moran, 2003) provided the researcher with a quantitative measure for each of the following referents of faculty trust: trust in the principal, trust in colleagues, and trust in clients.

The researcher used the 2011 and 2012 NJSCR as well as the 2011-2012 NJDOE Enrollment Data (ENROLL) to collect archived data. The 2011 NJSCR provided the following indicators of prior school achievement: NJ Assessment of Skills and Knowledge Grade 3 Language Arts (NJASK-3LA1), NJ Assessment of Skills and Knowledge Grade 3 Mathematics (NJASK-3MA1), NJ Assessment of Skills and Knowledge Grade 4 Language Arts (NJASK-4LA1), and the NJ Assessment of Skills and Knowledge Grade 4 Mathematics (NJASK-4MA1). The researcher utilized prior school achievement in the absence of publicly available student achievement growth data for these school years. The 2012 NJSRC was utilized to measure the following indicators of school achievement: NJ Assessment of Skills and Knowledge Grade 4 Language Arts (NJASK-4LA2), NJ Assessment of Skills and Knowledge Grade 4 Mathematics

(NJASK-4MA2), NJ Assessment of Skills and Knowledge Grade 5 Language Arts (NJASK-5LA2), and the NJ Assessment of Skills and Knowledge Grade 5 Mathematics (NJASK-5MA2).

The researcher used the 2011-2012 ENROLL data source to calculate the percentage of students who receive a full or reduced price lunch (Full and Reduced Price Lunch, FRPL) as the school level measure of SES. The researcher used the percentage of FRPL students rather than free lunch students to avoid negation correlations and path coefficients when conducting the analyses.

<div align="center">Data Analysis</div>

The researcher used two statistical software programs to perform the necessary analyses with the collected data. Utilizing hierarchical linear modeling (HLM), the researcher assessed: (1) the measures being used to represent school-level variables were viable and (2) the sampled schools, based on those measures, differed from one another with enough significance to warrant further analyses into those measures. The secondary analysis used correlational and regression analyses to assess the relationships of the study's variables as well as their direct and indirect effects on the dependent variable.

HLM was an appropriate statistical analysis since this research is based on data being clustered or nested within contexts. Specifically, responses and test scores nested within students and teachers, students and teachers nested in schools, and schools nested within districts. HLM was necessary "to understand and explain between- and within-cluster variability of an outcome variable of interest" (McCoach, 2010, p. 252). The resulting hierarchical linear models assist in facilitating a breakdown on any observed relationship between variables into separate analyses, specifically level-1 and level-2 components (Raudenbush & Bryk, 2002). For this study, the level-1 component was the assessment of the within-school variance. Because the researcher

collectively clustered teachers' survey responses to achieve school-level scores, it was necessary

to account for potential dependence bias in a particular school. As Raudenbush and Bryk (2002)

explained:

> …errors occur with multilevel data when we fail to take into account the
>
> dependence among individual responses within the same organization. This
>
> dependence may arise because of shared experiences within the organization or
>
> because of the ways in which individuals were initially drawn into the
>
> organization. Hierarchical linear models resolve this problem by incorporating
>
> into the statistical model a unique random effect for each organizational unit (p.
>
> 100).

For the level-2 component, calculating the proportion of variance between-schools

assisted the researcher in determining the degree to which trust varied by school membership.

These initial analyses provided justification for the selected measures of each variable as reliable

and their subsequent use in comparing schools as valid.

Upon completion of the initial HLM analyses, Pearson product-moment correlation

coefficients (r) were computed to determine relationships between each of the study constructs.

Path coefficients were also computed to determine the direct and indirect effects of SES, prior

school achievement, and faculty trust on school achievement. The influence of the three

components of faculty trust on the four measures of school achievement resulted in 12 path

diagrams. The researcher used SPSS AMOS software to conduct the path analyses through a

series of multiple regression analyses consistent with the hypothesized path model presented in

Figure 2. The use of statistical software enabled the construct's variables to be simultaneously

analyzed which provided immediate results regarding the direct and indirect relationships nested in the 12 path diagrams.

## Limitations of the Study

The methodology of this study imposed several limitations, specifically with regards to the sampling, data collection, and data analysis. The convenience sample of schools included represented a small percentage of schools meeting the criteria in New Jersey. Results from the study were not generalizable to the entire population of elementary schools meeting the selected criteria; rather the results were limited to the schools included in the sample.

The data acquired from the archived data sources, NJSCR and ENROLL, were considered to have been accurately reported to and recorded by designated, responsible parties. Similarly, the researcher assumed that all teachers who responded to the OTS (Hoy & Tschannen-Moran, 2003) as members of participating schools completed each survey item honestly and accurately.

The analyses were performed suffered inherent limitations if the constructs chosen to represent each of the variables were not accurate and reliable measures of the variables.

CHAPTER IV

RESULTS

The first part of this chapter presents initial analyses conducted to determine the viability of the measures used to represent school levels of faculty trust as well as the variability of those measures between schools. The Omnibus T-Scale (OTS, Hoy & Tschannen-Moran, 2003) was completed by 638 teachers nested in 58 schools and was examined using Hierarchical Linear Modeling (HLM, Raudenbush & Bryk, 2002).

The second part of this chapter presents a description of the sample of New Jersey (NJ) elementary schools that participated in this research. Descriptive statistics for each variable, which includes socioeconomic status (SES), prior school achievement, faculty trust in principal, colleagues, and clients, and school achievement are also presented in this section. Full and Reduced Price Lunch (FRPL), which represented the percentage of students who receive a full or reduced price lunch, was used as the measure of school SES. Prior achievement was calculated using a school's third and fourth grade average scores from the 2011 New Jersey Assessment of Skills and Knowledge (NJASK). The three referents of faculty trust were measured via teacher responses to items on the OTS (Hoy & Tschannen-Moran, 2003). School achievement was calculated using a school's fourth and fifth grade average scores from the 2012 NJASK.

The third part of this chapter presents inferential statistics regarding specific hypotheses. Pearson product-moment correlation coefficients and multiple regression coefficients were determined to provide evidence of relationships among SES, prior school achievement, faculty

trust, and school achievement, and to answer the five research questions developed for this inquiry.

The final part of this chapter presents two specific path models of school achievement that are most consistent with the conceptual framework offered in Chapter 1. Path coefficients as well as direct, indirect, and total influences of one variable on another were estimated using SPSS AMOS software. Prior achievement and faculty trust in clients were found to have statistically significant pathways to school achievement, however, not all path coefficients calculated in these models were statistically significant. A summary of the study's findings conclude this chapter.

<div align="center">Unit of Analysis</div>

Initial analyses were performed to determine: (1) that the measures used to represent the school-level variables were viable and (2) the sampled schools, based on those measures, differed significantly from one another to warrant further analyses into those measures. These analyses focused on each referent of faculty trust, which was represented by data collected from teachers within schools, and were conducted utilizing Hierarchical Linear Modeling (HLM, Raudenbush & Bryk, 2002).

"As a first step, a one-way analysis of variance is performed to confirm that the variability in the outcome variable, by level-2 group, is significantly different than zero. This tests whether there are any differences at the group level on the outcome variable" (Woltman, Feldstain, MacKay, & Rocchi, 2012, p. 62). This analysis was completed for each referent of faculty trust and all resulting chi-square tests ($x^2$) were statistically significant ($p < .001$). "If this result is statistically significant, it indicates that there is variance in the outcome variable by the level-2 groupings, and that there is statistical justification for running HLM analyses" (p. 62).

The next step was to partition the within- and between-group variance, which was determined by calculating the intra-class correlation (ICC). "The ICC can be calculated using the $\sigma^2$ (level-1) and $\tau$ (level-2) terms" (p. 62). The following formula was utilized to calculate the ICC for each referent of trust:

ICC= $\tau_{00} / \tau_{00} + \sigma^2$

"HLM tests for significance of the between-group variance ($\tau_{00}$) but does not test the significance of the within-group variance ($\sigma^2$). This allows for the calculation of the ratio of the between-group variance to the total variance, termed the intra-class correlation (ICC)" (p. 59). The resulting ICC facilitated the partitioning of the variance within- and between groups for each subscale of faculty trust.

The findings in Table 1 present the chi-square value, p-value, intra-class correlation (ICC), and variances at the group and individual level for each referent of faculty trust. Table 1 indicates that the values for each chi square test were statistically significant and the percentage of the variance attributable to school membership ranged from 19% to 29%, which is consistent with previous research (Tschannen-Moran, 2009). Based on these findings the use of the measures selected as school level variables were considered viable and the sample schools displayed the desired variability.

Table 1: *Summary of HLM Analyses for Faculty Trust Referents*

| | | | | | % of Variance | |
| | | | | | School | Teacher |
| Variable | Teachers (n) | $x^2$ | $p$ | ICC | Level | Level |
| --- | --- | --- | --- | --- | --- | --- |
| Trust in Principal | 638 | 245.93 | $< .001$ | .247 | 25 | 75 |
| Trust in Colleagues | 638 | 202.48 | $< .001$ | .191 | 19 | 81 |
| Trust in Clients | 638 | 323.91 | $< .001$ | .288 | 29 | 71 |

Note: n = 58 schools

## Sample

The sample included 58 representative elementary schools from eight of NJ's 21 counties. The population of NJ elementary schools for this study was 1,102, which represented schools included in the 2012 NJ School Report Card (NJSRC) with grades three, four, and five that are categorized into one of the eight DFGs determined by the NJ Department of Education (NJDOE, New Jersey Department of Education, n.d.).  Socioeconomic status (SES) for each school was determined by the percentage of students receiving Full and Reduced Price Lunch (FRPL). Table 2 presents the sampled counties, the county FRPL averages, and number of schools included in the sample from each county, and the FRPL averages for the schools located in each county. Table 2 reveals that over 80% of all sampled schools were from four of the eight counties: Middlesex, Monmouth, Ocean, and Union. Table 2 also reveals the sample mean at the school level shows a higher percentage of students receiving FRPL than the state average. Thus,

the sample schools for this study demonstrated less poverty than the population based on this

measure.

Table 2: *Full and Reduced Price Lunch by New Jersey County (N=58)*

| County | % of Students Receiving FRPL | Number of Schools in Sample | % FRPL of Sample Schools |
|---|---|---|---|
| Essex | 57.1 | 4 | 70.4 |
| Middlesex | 74.7 | 19 | 78.4 |
| Monmouth | 83.5 | 6 | 86.9 |
| Morris | 91 | 2 | 92.1 |
| Ocean | 77.6 | 7 | 81.4 |
| Passaic | 48.7 | 2 | 87.3 |
| Somerset | 86.7 | 3 | 99.1 |
| Union | 62.3 | 15 | 82.9 |
| Total | 72.7 | 58 | 82.3 |
| State of NJ | 71.3 | - | - |

Descriptive Statistics

Descriptive statistics for data collected from two archived sources, the 2011-2012

NJDOE Enrollment Data (ENROLL) and the 2011 and 2012 New Jersey State Report Card

(NJSRC), are reported in Table 3. ENROLL was used to calculate the variable Full and Reduced

Price Lunch (FRPL), the measure for a school's SES in this study, which estimated the

percentage of students in each elementary school who receive a full or reduced price lunch.

FRPL was calculated by taking each total school's enrollment, or 100% of the school's

population, and subtracting the percentage of students who receive free lunch. The researcher

used the percentage of students receiving a full and reduced priced lunch rather than the

percentage of student receiving free lunch to avoid producing negative correlations and path

coefficients during data analysis. The 2011 NJSRC was used to determine school mean scores

for each of the following measures of prior school achievement: NJ Assessment of Skills and

Knowledge (NJASK) Grade 3 Language Arts (NJASK- 3LA1), Grade 3 Math (NJASK-3MA1),

Grade 4 Language Arts (NJASK-4LA1), and Grade 4 Math (NJASK-4MA1) scores. The 2012

NJSRC was used to determine school mean scores for each of the following measures of school

achievement: NJ Assessment of Skills and Knowledge (NJASK) Grade 4 Language Arts

(NJASK-4LA2), Grade 4 Math (NJASK-4MA2), Grade 5 Language Arts (NJASK-5LA2), and

Grade 5 Math (NJASK-5MA2).

Table 3: *Descriptive Statistics for Data Collected from Archived Sources*

| Variable | *n* | *M* | *Mdn* | *SD* | *Min* | *Max* |
|---|---|---|---|---|---|---|
| 1. SES | | | | | | |
| Full and Reduced Price Lunch | 58 | 82.31 | 84.87 | 14.36 | 41.3 | 100 |
| 2. Prior Student Achievement | | | | | | |
| NJASK-3LA1 | 58 | 74.17 | 77.5 | 13.2 | 35 | 97 |
| NJASK-3MA1 | 58 | 88.81 | 91 | 9.32 | 53 | 100 |
| NJASK-4LA1 | 58 | 74 | 78 | 14.95 | 33 | 97 |
| NJASK-4MA1 | 58 | 89.81 | 92 | 8.49 | 56 | 100 |
| 3. Student Achievement | | | | | | |
| NJASK-4LA2 | 58 | 68.47 | 68.5 | 13.31 | 27 | 93 |
| NJASK-4MA2 | 58 | 87.81 | 91 | 9.17 | 55 | 100 |
| NJASK-5LA2 | 58 | 72.98 | 75.5 | 13.39 | 39 | 96 |
| NJASK-5MA2 | 58 | 91.86 | 94 | 6.5 | 66 | 100 |

The OTS (Hoy & Tschannen-Moran, 2003) was completed by 638 teachers in the 58 schools included in the sample. The responses were then aggregated to the school level. OTS scores, which ranged from one to six, represented three referents of faculty trust: trust in the principal, trust in colleagues, and trust in clients (parents and students). Descriptive statistics for OTS (Hoy & Tschannen-Moran, 2003) data are provided in Table 4.

Table 4: *Descriptive Statistics for Omnibus Trust Scale (OTS) Variables, (N=58)*

| Variable | *M* | *Mdn* | *SD* | Min. | Max. |
|---|---|---|---|---|---|
| Faculty Trust | | | | | |
| Principal | 5.04 | 5.06 | 0.48 | 3.91 | 5.92 |
| Colleagues | 4.94 | 4.99 | 0.39 | 3.87 | 5.70 |
| Clients | 4.45 | 4.50 | 0.40 | 3.35 | 5.18 |

Correlates of School SES

Pearson product-moment correlation coefficients ($r$) for all pair-wise combinations of active variables were determined and are reported in Table 5. The relationships between school SES and the referents of faculty trust as well as school achievement were examined to answer the following research questions: Is there relationship between school SES and faculty trust? Is there a relationship between school SES and school achievement?

Table 5: *School SES, Prior School Achievement, Faculty Trust, and School Achievement: Correlations*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Full and Reduced Price Lunch | - | | | | | | | | | | | |
| 2. NJASK-3LA1 | .56** | - | | | | | | | | | | |
| 3. NJASK-3MA1 | .56** | .72** | - | | | | | | | | | |
| 4. NJASK-4LA1 | .70** | .72** | .60** | - | | | | | | | | |
| 5. NJASK-4MA1 | .58** | .73** | .75** | .73** | - | | | | | | | |
| 6. Faculty Trust in Principal | -.27* | -.04 | -.27* | -.13 | -.06 | - | | | | | | |
| 7. Faculty Trust in Colleagues | .05 | .19 | .06 | .12 | .13 | .42** | - | | | | | |
| 8. Faculty Trust in Clients | .61** | .45** | .42** | .50** | .40** | -.07 | .39** | - | | | | |
| 9. NJASK-4LA2 | .66** | .76** | .63** | .71** | .58** | -.19 | .28* | .70** | - | | | |
| 10. NJASK-4MA2 | .53** | .63** | .70** | .57** | .59** | -.32* | .08 | .59** | .78** | - | | |
| 11. NJASK-5LA2 | .67** | .63** | .53** | .81** | .61** | -.11 | .08 | .52** | .71** | .58** | - | |
| 12. NJASK-5MA2 | .54** | .54** | .62** | .70** | .78** | -.12 | .11 | .36** | .49** | .50** | .69** | - |

*Note: * p < .05. ** p < .01.*

The correlations between school SES and the referents of faculty trust were mixed. School SES and faculty trust in the principal were negatively related ($r = -.27$, $p < .05$). Lower concentrations of student poverty were associated with lower levels of faculty trust in the principal. The correlation coefficient for school SES and faculty trust in colleagues was small ($r =.05$) and did not differ significantly from zero. School SES and faculty trust in clients were positively and strongly correlated ($r = .61$, $p < .01$). Unlike trust in the principal, lower concentrations of student poverty were accompanied with higher degrees of faculty trust in the clients. As a result of the different relationships found, it was neither possible to reject nor fail to reject the following null hypothesis inclusive of the three referents of faculty trust: There is no relationship between school SES and faculty trust.

School SES was positively related with each measure of school achievement. The correlation coefficients were strong and significant. The relationships exhibited between SES and NJASK-4LA2 ($r = .66$, $p < .01$) as well as SES and NJASK-5LA2 ($r = .67$, $p < .01$) were the most robust.  As a result of the relationships between SES and all indicators of school achievement, the following null hypothesis was rejected: There is no relationship between SES and school achievement.

<p align="center">Correlates of Prior School Achievement</p>

Relationships between prior school achievement and the referents of faculty trust, as well as between prior school achievement and school achievement, were examined to answer the following research questions: Is there a relationship between prior school achievement and faculty trust? Is there relationship between prior school achievement and school achievement?

The correlations between prior school achievement and the referents of faculty trust were mixed. The relationship between all four measures of prior school achievement and faculty trust

in the principal were negative, however only prior achievement in NJASK-3MA1 was significant ($r = -.27$, $p < .05$). Higher prior achievement scores in NJASK-3MA1 were met with lower faculty trust levels in the principals. The correlation coefficients for the measures of prior school achievement and faculty trust in colleagues were small and did not differ significantly from zero. Each measure of prior school achievement was positively correlated with faculty trust in clients and all relationships were statistically significant. The prior achievement measures for NJASK-3LA1 ($r = .45$, $p < .01$) and NJASK-4LA1 ($r = .50$, $p < .01$) demonstrated the strongest relationships with faculty trust in clients. Higher prior achievement scores for each measure accompanied higher levels faculty trust in clients. As a result of these relationships, it was neither possible to reject nor fail to reject the following null hypothesis inclusive of the three referents of faculty trust: There is no relationship between prior school achievement and faculty trust.

Each measure of prior school achievement was positively correlated with each measure of school achievement and all of these relationships were significant ($p < .01$). An examination of Table 6 also revealed that measures of prior school achievement were strongly correlated with their school achievement counterparts. For example, prior school achievement in third grade Language Arts (NJASK-3LA1) had a strong relationship ($r = .76$) to school achievement in fourth grade Language Arts (NJASK-4LA2). The strongest of such relationships existed between NJASK-4LA1 and NJASK-5LA2 ($r = .81$, $p < .01$).

Prior school achievement measures were positively related with each measure of school achievement. The correlation coefficients were significant and ranged from moderately strong to strong. As a result of the relationships between the measures of prior school achievement and all

indicators of school achievement, the following null hypothesis was rejected: There is no

relationship between prior school achievement and school achievement.

## Correlates among Faculty Trust

Relationships among each of the referents of faculty trust were examined to answer the

following research question: Is there a relationship between each referent of faculty trust with the

other referents?

Faculty trust in the principal and faculty trust in colleagues were positively and

significantly related to each other ($r = .42$, $p < .01$). Faculty trust in colleagues and faculty trust

in clients were also positively and significantly correlated ($r = .39$, $p < .01$). There was no

relationship, however, between faculty trust in the principal and faculty trust in clients. As a

result, it is neither possible to reject nor fail to reject the following null hypothesis: There is no

relationship between each referent of faculty trust with the other referents.

## Correlates of Faculty Trust

Relationships between the referents of faculty trust and each measure of school

achievement were examined to answer the following research question: Is there a relationship

between faculty trust and school achievement?

Faculty trust in the principal was negatively correlated with each indicator of school

achievement, however only the correlation coefficient for NJASK-4MA2 ($r = -.32$, $p < .05$) was

statistically significant. Faculty trust in colleagues was positively correlated with each indicator

of school achievement, however only the correlation coefficient for NJASK-4LA2 ($r = .28$, $p <$

$.05$) was statistically significant. Faculty trust in clients was positively correlated to each

measure of school achievement and all relationships were statistically significant at the $p < .01$

level. The most robust of the relationships existed between faculty trust in clients and NJASK-

4LA2 ($r = .70$, $p < .01$). As a result of these relationships, it is neither possible to reject nor fail to reject the following null hypothesis: There is no relationship between faculty trust and school achievement.

<div align="center">Path Models of School Achievement</div>

A path analysis was conducted to determine the influence of school SES, the measures of prior school achievement, and the referents of faculty trust on the four measures of school achievement presented in this study. Using SPSS AMOS, regression analyses were computed to find the path coefficients between the variables identified in the hypothesized path model of school achievement found in Figure 2. The software also facilitated the decomposition of the path models to determine the direct, indirect, and total effects of school SES, prior school achievement, and faculty trust on school achievement.

As presented in Figure 2, no path analyses were conducted between SES and prior school achievement measures. Both SES and prior school achievement were included as control variables. With the historic influence of SES on achievement well documented (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966; Gamoran & Long, 2007) and especially relevant this research, inclusion in the model was warranted. Because of the unavailability of publicly accessible growth data, prior school achievement was also used as a control variable to reflect previous levels of achievement in the sampled schools. The inclusion of both statistical controls helped reduce the possibility that any relationships between the referents of faculty trust and school achievement were a result of prior status.

In all 12 path models of school achievement, prior school achievement had the greatest total influence on school achievement. Neither school SES nor any of the referents of faculty trust demonstrated an influence on school achievement greater than prior school achievement. In

all 12 path models, prior school achievement predicted school achievement. School SES

predicted school achievement in two models, and in both models the school achievement

variable was NJASK-4LA1. School SES also predicted faculty trust in clients in all four models

where faculty trust in clients served as the mediating variable. In two of those models, faculty

trust in clients predicted school achievement, specifically NJASK-4LA2 and NJASK-4MA2.

These data indicated little evidence of a relationship between faculty trust in the principal or

faculty trust in colleagues and school achievement.

It was concluded that of the 12 path models considered, the two path models with

statistically significant path coefficients between faculty trust in clients and school achievement

were best supported by the data. These two models included the most powerful combinations of

statistically significant path coefficients consistent with the conceptual framework and

hypothesized path model of school achievement presented in Chapter 1. In both models, path

coefficients that were not statistically significant were not included in the models.

Figure 3 presents one of the two best path models of school achievement as determined

by the study's data, which includes the variables FRPL, prior school achievement measure of

NJASK-3LA1, faculty trust in clients, and the school achievement measure of NJASK-4LA2.

FRPL ($\beta = .55$, $p < .001$) positively influenced faculty trust in clients. Prior school achievement

in NJASK-3LA1 ($\beta = .57$, $p < .001$) and faculty trust in clients ($\beta = .40$, $p < .001$) each positively

influenced school achievement in NJASK-4LA2. FRPL and prior achievement in NJASK-3LA1

combined to explain 33% of the variance in faculty trust in clients and together, FRPL, prior

achievement in NJASK-3LA1, and faculty trust in clients combined to explain 67% of the

variance in school achievement in NJASK-4LA2.
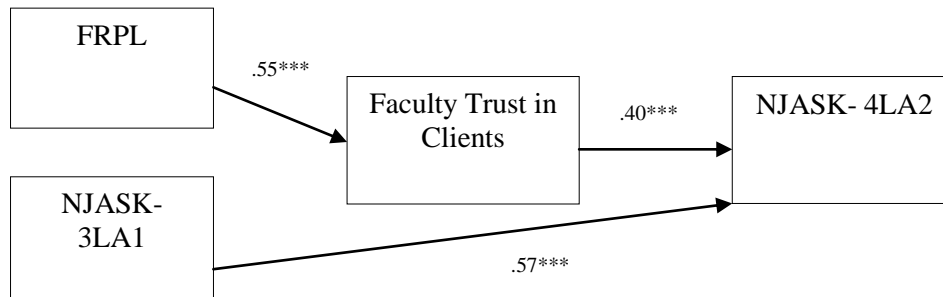
Figure 3: Path model of school achievement in NJASK-4LA2

Note: ***$p < .001$

Table 6 presents a summary of the regression analysis for the path model of school achievement in NJASK-4LA2. The summary includes the path coefficients (β), or regression weights, that were not included in Figure 3 because they were not statistically significant. The path coefficients were simultaneously computed using SPSS AMOS, but the table organizes the data as a two-step process for clarification purposes. Step 1 provides data from Faculty Trust in Clients being regressed on Full and Reduced Priced Lunch (FRPL) and NJASK-3LA1. Step 2 provides data from NJASK-4LA2 being regressed on FRPL, NJASK-3LA1, and Faculty Trust in Clients.

Table 6: *Summary of Path Analysis for Figure 3 Variables, (N=58)*

| Variable | β | *p* |
|---|---|---|
| Step 1 | | |
| Full and Reduced Priced Lunch (FRPL) | .55 | < .001 |
| NJASK-3LA1 | .17 | .12 |
| Step 2 | | |
| Full and Reduced Priced Lunch (FRPL) | .18 | .06 |
| NJASK-3LA1 | .57 | < .001 |
| Faculty Trust in Clients | .40 | < .001 |

Table 7 presents the direct, indirect, and totals effects of the variables included in Figure 3. Table 7 indicates that prior achievement in NJASK-3LA1 had a stronger direct and total effect on school achievement in NJASK-4LA2 than either FRPL or faculty trust in clients. FRPL had a stronger direct and total effect on faculty trust in clients than prior school achievement in NJASK-3LA1.

The direct effect of one variable on another is equal to the path coefficient between those variables in the path model. The path coefficients are given in Table 6. The indirect effects "occur when the relationship between two variables is mediated by one or more variables" (Lleras, 2005, p. 28). The indirect effect "is determined by taking the product of path coefficients along the pathway between the two causally related variables" (p. 28). The indirect effects were

calculated using SPSS AMOS, however, the indirect effects can also be calculated using the following equations:

Indirect Effect of FRPL on NJASK-4LA2

$$= p_{31} \, p_{43} = (.55) \, (.40) = .21$$

Indirect Effect of NJASK-3LA1 on NJASK-4LA2

$$= p_{32} \, p_{43} = (.17) \, (.40) = .07$$

The total effects are calculated by summing the direct effects and indirect effects. The direct, indirect, and total effects were produced by the analysis completed using SPSS AMOS. In Table 7, each row contains the direct, indirect, and total effects for the corresponding variables. The variables involved in the path decomposition are represented as follows in Table 7:

$r_{13} =$ The effects of FRPL on Faculty Trust in Clients

$r_{23} =$ The effects of NJASK-3LA1 on Faculty Trust in Clients

$r_{14} =$ The effects of FRPL on NJASK-4LA2

$r_{24} =$ The effects of NJASK-3LA1 on NJASK-4LA2

$r_{34} =$ The effects of Faculty Trust in Clients on NJASK-4LA2

Table 7: *Path Decomposition for the Influence of Full and Reduced Price Lunch (1), NJASK-3LA1 (2), and Faculty Trust in Clients (3) on NJASK-4LA2 (4)*

| | Effect | | |
| --- | --- | --- | --- |
| Reproduced *r* | Direct | Indirect | Total |
| $r_{13} = .55$ | .55 | 0 | .55 |
| $r_{23} = .17$ | .17 | 0 | .17 |
| $r_{14} = .39$ | .18 | .21 | .39 |
| $r_{24} = .64$ | .57 | .07 | .64 |
| $r_{34} = .40$ | .40 | 0 | .40 |

Figure 4 presents the second of the two best path models of school achievement as determined by the study's data, which includes the variables FRPL, prior school achievement measure of NJASK-3MA1, faculty trust in clients, and the school achievement measure of NJASK-4MA2. FRPL ($\beta = .57$, $p < .001$) positively influenced faculty trust in clients. Prior school achievement in NJASK-3MA1 ($\beta = .59$, $p < .001$) and faculty trust in clients ($\beta = .37$, $p < .001$) each positively influenced school achievement in NJASK-4MA2. FRPL and prior achievement in NJASK-3MA1 combined to explain 34% of the variance in faculty trust in clients and together, FRPL, prior achievement in NJASK-3MA1, and faculty trust in clients combined to explain 53% of the variance in school achievement in NJASK-4MA2.
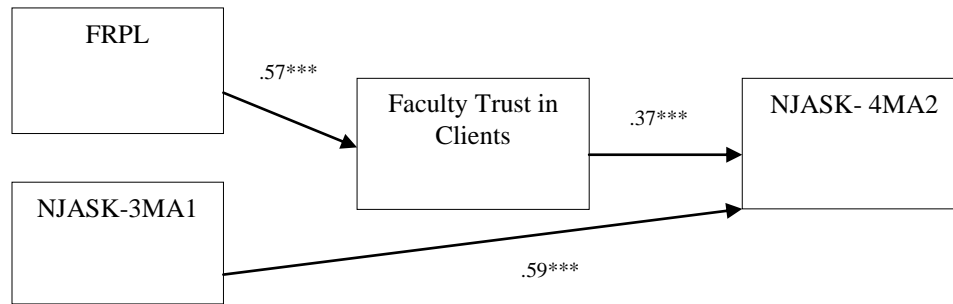
Figure 4: Path model of school achievement in NJASK-4MA2

Note: ***$p < .001$

Table 8: *Summary of Path Analysis for Figure 4 Variables, (N=58)*

| Variable | β | *p* |
|---|---|---|
| Step 1 | | |
| Full and Reduced Priced Lunch (FRPL) | .57 | $< .001$ |
| NJASK-3MA1 | .12 | .28 |
| Step 2 | | |
| Full and Reduced Priced Lunch (FRPL) | .00 | .99 |
| NJASK-3MA1 | .59 | $< .001$ |
| Faculty Trust in Clients | .37 | $< .001$ |

Table 8 presents a summary of the regression analysis for the path model of school achievement in NJASK-4MA2. The summary includes the path coefficients (β) that were not

included in Figure 4 because they were not statistically significant. Because path coefficients were simultaneously computed using SPSS AMOS, the table organizes the data as a two-step process for clarification purposes. Step 1 provides data from Faculty Trust in Clients being regressed on Full and Reduced Priced Lunch (FRPL) and NJASK-3MA1. Step 2 provides data from NJASK-4MA2 being regressed on FRPL, NJASK-3MA1, and Faculty Trust in Clients.

Table 9 presents the direct, indirect, and totals effects of the variables included in Figure 4. Table 9 indicates that prior achievement in NJASK-3MA1 had a stronger direct and total effect on school achievement in NJASK-4MA2 than either FRPL or faculty trust in clients. FRPL had a stronger direct and total effect on faculty trust in clients than prior school achievement in NJASK-3MA1.

The direct, indirect, and total effects were produced by the analysis completed using SPSS AMOS. In Table 7, each row contains the direct, indirect, and total effects for the corresponding variables. The variables involved in the path decomposition are represented as follows in Table 7:

$r_{13}$ = The effects of FRPL on Faculty Trust in Clients

$r_{23}$ = The effects of NJASK-3MA1 on Faculty Trust in Clients

$r_{14}$ = The effects of FRPL on NJASK-4MA2

$r_{24}$ = The effects of NJASK-3MA1 on NJASK-4MA2

$r_{34}$ = The effects of Faculty Trust in Clients on NJASK-4MA2

Table 9: *Path Decomposition for the Influence of Full and Reduced Price Lunch (1), NJASK-3MA1 (2), and Faculty Trust in Clients (3) on NJASK-4MA2 (4)*

|  | Effect | | |
|---|---|---|---|
| Reproduced $r$ | Direct | Indirect | Total |
| $r_{13} = .57$ | .57 | 0 | .57 |
| $r_{23} = .12$ | .12 | 0 | .12 |
| $r_{14} = .21$ | 0 | .21 | .21 |
| $r_{24} = .63$ | .59 | .04 | .63 |
| $r_{34} = .37$ | .37 | 0 | .37 |

Summary

The results of this study indicated that there was a negative relationship between school SES and faculty trust in the principal. School SES was unrelated to faculty trust in colleagues but was positively related to faculty trust in clients. School SES was also positively related to all measures of school achievement.

Prior school achievement was negatively related to faculty trust in the principal but positively related to faculty trust in clients. No relationship was identified between prior school achievement and faculty trust in colleagues. Prior school achievement had a positive relationship with each indicator of school achievement.

Faculty trust in the principal had a negative relationship with one indicator of school achievement, NJASK-4MA2, while faculty trust in colleagues had a positive relationship with

one indicator of school achievement, NJASK-4LA2. Faculty trust in clients was positively

related with all measures of school achievement.

The hypothesized path model of school achievement presented in Figure 2 suggested that

school SES, as measured by the percentage of students receiving full or reduced price lunch, had

a stronger total influence on faculty trust in clients than prior achievement in NJASK-3LA1.

Prior achievement in NJASK-3LA1, however, had a stronger total influence on school

achievement in NJASK-4LA2 than faculty trust in clients or FRPL. The direct influence of prior

school achievement on school achievement was stronger than the influence of school SES or any

subscale of faculty trust in all 12 path models.

CHAPTER V

DISCUSSION

The purpose of this research was to identify and examine the relationships among school socioeconomic status (SES), prior school achievement, the three referents of faculty trust, and school achievement. This inquiry also served to test the influence of each variable in a hypothesized path model of school achievement. Researchers have suggested that faculty trust in clients, which includes students and parents, is a strong predictor of school achievement even when controlling for SES (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002). Some have also suggested that faculty trust in clients serves to mediate the relationship between SES and school achievement (Goddard, Salloum, & Berebitsky, 2009).

In light of the current educational climate and the changes to how schools, educators, and students are evaluated, it was important to assess the influence of the referents of faculty trust on school achievement. This chapter begins with a discussion of the study's implications for theory and practice and is followed by recommendations for future research. The chapter closes with the study's conclusion.

Implications for Theory and Practice

Early researchers studying faculty trust and its relationships to school level variables and achievement realized the need to clarify the term faculty trust (Hoy & Kupersmith, 1984). The same researchers offered one of the first categorical breakdowns of faculty trust: faculty trust in the principal, faculty trust in colleagues, and faculty trust in the school organization (Hoy & Kupersmith, 1985). The final referent, faculty trust in the school organization, has evolved into

faculty trust in clients. Researchers have demonstrated faculty trust in students and parents is a single, unified concept that is referred to as faculty trust in clients (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy & Tschannen-Moran, 1999).

The referent of faculty trust that has consistently demonstrated a relationship with school achievement has been faculty trust in clients (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002) and recent research has begun to use this referent as the only measure of faculty trust when examining other school level variables (Goddard, Salloum, & Berebitsky, 2009). This study sought to re-examine these findings by including all three referents in the conceptual framework and subsequent analyses.

The findings of this study support prior assertions that faculty trust in clients is the strongest, most consistent predictor of school achievement when examining all three referents of faculty trust with achievement (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002; Hoy & Tschannen-Moran, 1999). Neither faculty trust in the principal nor faculty trust in colleagues demonstrated a positive, significant influence on school achievement in this study. These findings imply that faculty trust in clients is an important and powerful school level variable influencing student outcomes and the only referent of faculty trust to directly influence achievement. Practitioners and educational leaders, in their quest to find ways of raising achievement levels, must consider the degree to which school faculties can strengthen the relationship with the families that attend their school and maximize the opportunities to foster trust.

These finding also raise several questions regarding the roles and influences of faculty trust in the principal and colleagues on achievement. If neither faculty trust in the principal nor faculty trust in colleagues has a direct influence on student achievement in light of SES and prior

school achievement, what role do they play in schools? Demands for principals to be

instructional leaders who set the vision and goals for achievement are plentiful. Similarly, the

demands for teachers to collaborate with colleagues have now become mandated with

Professional Learning Communities (PLCs) serving as a prime example. With the stakes raised

for both principals and teachers, what is the importance of making trust a priority if neither

faculty trust in the principal nor faculty trust in colleagues directly influences achievement?

One area of consideration for practitioners and policy makers would be to examine the

relationships that exist among the three referents of faculty trust. In this study, faculty trust in the

principal and faculty trust in colleagues were positively related ($r = .42$, $p < .01$). Faculty trust in

colleagues and faculty trust in clients were also positively related ($r = .39$, $p < .01$). Faculty trust

in the principal and faculty trust in clients, however, did not demonstrate any positive

relationship. In order to determine the meaning of these relationships found in this study, it is

necessary to revisit the literature that exists on these interrelations.

Scholars have demonstrated that faculty trust in the principal and faculty trust in

colleagues is tied to the principal's ability to support growth and trust as well as the

professionalism of the teaching staff (Cosner, 2009; Kochanek, 2005; Tschannen-Moran, 2004).

Likewise, researchers have also shown faculty trust in colleagues and faculty trust in clients to be

correlated, especially with clients from lower socioeconomic backgrounds (Addi-Raccah, 2012;

Goddard, Salloum, & Berebitsky, 2009). Considering this research, the importance and benefits

of faculty trust in the principal and colleagues may depend on the desired outcome which may

not necessarily be achievement. This study demonstrated that neither referent had a direct,

positive influence on achievement. But this does not mean faculty trust in the principal and

faculty trust in colleagues do not serve an important function in schools.

If trust in the principal and trust in colleagues demonstrate a direct relationship to one another, then principals' efforts to be instructional leaders and teachers' efforts to collaborate in PLCs can be viewed as complimentary. Both the principal and the faculty are working in their own capacities to make the school better. Trust in each other may be a byproduct if these efforts are aligned. This relationship may filter down through teachers and positively influence the relationship and trust levels between teachers and students. As Geist (2002) noted, "trust spillover" (p. 93) is when the different referents of trust overlap and support one another. The potential benefits validate the need to explore and understand the indirect contributions that faculty trust in the principal and colleagues make to their clients.

The results from this research also indicated faculty trust in clients, when modeled with SES and prior school achievement, served to mediate the influence of SES on school achievement. The path model presented in Figure 3 demonstrates how SES influenced faculty trust in clients, which in turn influenced NJASK-4LA2. Prior school achievement, NJASK-3LA1, was also included in the model and directly influenced school achievement as predicted. In this model, the three variables of SES, prior school achievement, and faculty trust in clients combined to explain 67% of the variance in school achievement. The path model presented in Figure 4 also demonstrates the indirect influence of SES on school achievement, NJASK-4MA2, through faculty trust in clients. Prior school achievement, NJASK3MA1, was also included and directly influenced school achievement as predicted in this model. SES, prior school achievement, and faculty trust in clients combined to explain 53% of the variance in school achievement in this model.

The ability of faculty trust in clients to mitigate the influence of SES in this study is important. For the last half century, researchers have demonstrated student SES to have a strong,

often overwhelming, influence on student achievement (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966; Gamoran & Long, 2007; Herbers, Cutuli, Supkoff, Heistad, Chan, Hinz, & Masten, 2012; Lee & Burkham, 2002). The mediating properties exhibited by faculty trust in clients in this study are encouraging when considering trust is an administratively mutable school level variable that can be fostered and nurtured. The data suggest that in schools with less poverty, teachers appear to have higher degrees of trust in clients. The higher levels of faculty trust are associated with higher levels of achievement, specifically NJASK-4LA2 and NJASK-4MA2 in this inquiry.

The inverse may also be true, however. In schools with higher levels of poverty, teachers may have less trust in the clients which negatively influences student achievement. As earlier researchers have suggested, "achievement may be lower in schools characterized by high levels of disadvantage because trust relations tend to be strained in such schools" (Goddard, Salloum, & Berebitsky, 2009, p. 308).

## Implications for Future Research

In this study, all three referents of faculty trust were measured and examined to determine potential influences on school achievement while controlling for SES and prior school achievement. Faculty trust in clients was the only referent of faculty trust to have a positive, significant influence on school achievement. Although this study demonstrated: (1) a correlation between faculty trust in the principal and faculty trust in colleagues and (2) a correlation between faculty trust in colleagues and faculty trust in clients, this study did not identify any causal relationships among the aforementioned referents. Further research is warranted to explore the influence of each referent on the others and have a deeper understanding of how these relationships can improve schools.

The two school achievement measures directly influenced by faculty trust in clients were the language arts (NJASK-4LA2) and Mathematics (NJASK-4MA2) sections of the 2012 NJASK. In both models, the prior year's results on the language arts (NJASK-3LA1) and Mathematics (NJASK-3MA1) sections of the 2011 NJASK were included as controls. The correlations in Table 6 indicate faculty trust in clients was significantly related to two measures of prior school achievement: NJASK-3LA1 ($r = .45, p < .01$) and NJASK-3MA1 ($r = .42, p < .01$). The correlations between faculty trust in clients and the two subsequent measures of school achievement, NJASK-4LA2 ($r = .70, p < .01$) and NJASK-4MA2 ($r = .59, p < .01$), were even more robust. In fact, these relationships were the strongest between any referent of faculty trust and any measure of school achievement. This suggests that the earlier faculty trust in clients is developed, the more powerful it becomes in its ability to influence achievement. Further inquiries are warranted to identify if the influence of faculty trust in clients is connected to particular grades or levels of schooling. Both quantitative and qualitative works in this area would provide much needed information regarding the formation of trust in schools.

In addition to exploring the properties and inter-relatedness of the referents of faculty trust, future research is required to examine how faculty trust in the principal and colleagues enables school structures that may facilitate student achievement. This study demonstrated faculty trust in the principal and faculty trust in colleagues did not directly or indirectly influence achievement; however, prior research points to their contributions in several important school properties such as building organizational capacity (Cosner, 2009), raising teacher professionalism (Tschannen-Moran, 2009), and establishing school structures (Kochanek, 2005). This suggests that the importance of trust in the principal and colleagues may lie in their contributions for change management. Research is needed to explore if and how trust in the

principal and colleagues facilitate school initiatives, such as utilizing new programs or implementing new curricula, that contribute to the overall efficacy of the school as well as achievement.

In two path models, SES indirectly influenced school achievement with faculty trust in clients serving as the mediating variable. In both models the inclusion of faculty trust in clients, along with SES and prior school achievement, helped explain variance with regards to school achievement. The influence of faculty trust in clients as a predicting and mediating variable is important to researchers, policymakers, and practitioners alike due to the relationship it exhibits with student outcomes. More research is needed, however, to identify the antecedents of faculty trust. This is especially true in schools with higher levels of poverty, where faculty trust in the clients appears to decrease. As Tschannen-Moran (2004) noted, "bridges of trust can be more difficult for teachers to build with low-income families because teachers are less confident that they share the same cultural values and ethical standards" (p. 151).

If the bridges of trust are in part reliant on cultural or ethical identifications, as Tschannen-Moran (2004) asserts, future research is needed: (1) to better understand other social disconnects that may inhibit the formation of trust and (2) examine how principals and teachers may mitigate these social disconnects to establish trust. In exploring how social identities may inhibit trust, knowing the role schools can play is a prerequisite. Jacobson and Cypres (2012) discuss how schools "are mechanisms that sift and sort students in sociological ways that affect the student for the rest of their lives" (p.226). Researchers have demonstrated how the frameworks of identity, and subsequent exclusions within school settings, extend from race and class (Lareau & Horvat, 1999) to gender and sexual orientation (Lugg, 2003), and beyond. This is especially troublesome when considering that public schools in our country "arguably serve a

more heterogeneous population now than ever before" (Riehl, 2000, p. 56). The examination of

the relationship between social identifiers (other than SES) and trust is not only warranted but

necessary.

The need to identify strategies for school personnel to address different social identities

in hopes of establishing trust is also real and deserving of further inquiries. In her examination of

literature focusing on the principal's role in creating inclusive schools, Riehl (2000) identified

three task categories that administrators may utilize to combat these social disconnects: (1) foster

new meanings about diversity, (2) promote inclusive practices, and (3) build connections

between schools and communities. While optimistic and encouraging, there is much that needs to

be done in preparing administrators and teachers to comprehensively address the needs of

students with different social identifiers and ensure they are given the same educational

opportunities to succeed. Now more than ever, there is a "need to reveal the invisible

mechanisms of *fit* and understand how and why the politics of fit can both maintain the status

quo and present schools with an opportunity for change" (Tooms, Lugg, & Bogotch, 2010, p.

122).

Another area for future research is especially relevant given the current changes to our

educational climate. As previously explained, the design for this study included 2011 and 2012

NJASK scores for language arts and mathematics for each school included in the sample. The

purpose of including both was to provide a control for prior school achievement (2011 NJASK

scores) when examining school achievement (2012 NJASK scores) through the lens of faculty

trust. Fundamental changes, especially in New Jersey, have led policymakers to implement

growth measures in order to track students' progress, evaluate teachers, and assess schools.

Future research using available growth data within the conceptual framework of this study would

provide detailed data regarding the relationships between the predicting variables and school achievement.

## Conclusion

Several conclusions can be drawn from the findings of this study. Previous research has found faculty trust in clients is the only referent of faculty trust to positively influence student achievement (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy, 2002; Hoy & Tschannen-Moran, 1999). This study's findings are consistent with these earlier works as seen in the two path models presented in Chapter 4. Faculty trust in clients demonstrated a direct influence on two measures of school achievement, NJASK-4LA2 and NJASK-4MA2. Along with SES and prior school achievement, faculty trust in clients also accounted for a high degree of variance in explaining each outcome variable. The contributions made by faculty trust in clients to influence achievement makes it an important school level characteristic that warrants closer examination by researchers to better understand its predictive abilities.

The importance of faculty trust in clients was not limited to its direct influence on achievement. In the aforementioned path models presented in Chapter 4, faculty trust in clients also served to mitigate the influence of SES on school achievement. The mediating property of faculty trust in clients has appeared in previous research as well (Goddard, Salloum, & Berebitsky, 2009). The identification of a school level variable that can mitigate the traditionally powerful effect of SES is vital for practitioners and school leaders seeking to increase achievement levels for students from all demographics. Further research is needed to explore the mechanisms by which faculty trust in clients mediates the effects of SES.

The findings of this study revealed that neither faculty trust in the principal nor faculty trust in colleagues demonstrated a positive influence on any measure of student achievement.

Both referents, however, were strongly correlated to one another. The contributions of both referents to school structures is well documented (Geist & Hoy, 2004; Hoy, Hannum, & Tschannen-Moran, 1998; Smith, Hoy, & Sweetland, 2001; Sweetland & Hoy, 2000) which suggests that while they may not directly contribute to student achievement, they do make positive contributions to schools. A greater understanding is required to not only understand how the different referents are interrelated, but to identify potential antecedents of trust that can be utilized to establish and foster trust in schools. Knowing how the different referents of trust are connected is important for school level leaders and policymakers, especially when considering how to best allocate time, energy, and resources to improve schools.

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APPENDIX A

OMNIBUS TRUST SCALE (OTS)

# Onmibus T-Scale

**Directions**: Please indicate your level of agreement with each of the following statements about your school from **strongly disagree** to **strongly agree**. Your answers are confidential.

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

APPENDIX B

LETTER TO SUPERINTENDENTS

{Date}
{Superintendent's Contact Info}

Dear Superintendent,

I am a doctoral candidate in the Graduate Program in Educational Administration and Supervision in the Graduate School of Education at Rutgers University. The purpose of this letter is to request your permission to contact {principal's name} and the teaching staff at {name of elementary school} for their participation in my dissertation research.

The purpose of my dissertation is to examine the influence of faculty trust on school achievement in elementary schools. The study's design requires me to collect teacher responses to items on the Omnibus Trust Scale (OTS). Teacher participation is completely voluntary and anonymous, and survey completion should require approximately 5 minutes. There are no foreseeable risks to participation in this study.

With your permission, teacher recruiting will occur one of two ways:
(1) I will contact the building principal, where we can determine if it is possible for me to attend one of his/her faculty meetings.  If permitted, I will attend the faculty meeting where hard copies of the survey can be distributed and collected upon completion.
(2) I will ask the principal to forward the request for participation letter to the teachers.  If a teacher agrees, he or she will complete the OTS via online survey software. I have included a copy of this letter for your review.

As a token of appreciation for your school's participation in this research, I will provide you with a summary of the study's findings upon completion of this project. All teacher responses will remain anonymous meaning that I will not record any information about your teachers that could identify them. If you have any questions about the study procedures, you may contact me at (732) 794-2240 or Dr. William A. Firestone at (732) 932-7496. If your teachers have any questions about their rights as a research subject, they may contact the Sponsored Programs Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 ext. 2104
Email: humansubjects@orsp.rutgers.edu

I look forward to collect these data from your teachers. Please contact me at your earliest convenience, via email or phone, to inform me of your decision.
Sincerely,

Joseph R. Massimino, Ed.D. Candidate
joeymass@eden.rutgers.edu
732-794-2240

APPENDIX C

LETTER TO PRINCIPALS

{Date}
{Principal's Contact Info}

Dear Principal,

I am a doctoral candidate in the Graduate Program in Educational Administration and Supervision in the Graduate School of Education at Rutgers University. The purpose of this letter is to request your permission to contact the teaching staff at {name of elementary school} for their participation in my dissertation research.

The purpose of my dissertation is to examine the influence of faculty trust on school achievement in elementary schools. The study's design requires me to collect teacher responses to items on the Omnibus Trust Scale (OTS). Teacher participation is completely voluntary and anonymous, and survey completion should require approximately 5 minutes. There are no foreseeable risks to participation in this study.

With your permission, teacher recruiting at {name of elementary school} will occur one of two ways:

(1) If permitted, I will attend a faculty meeting where hard copies of the survey can be distributed and collected upon completion.

(2) I will forward a request for participation letter to your teachers.  If a teacher agrees, he or she will complete the OTS via online survey software. I have included a copy of this letter for your review.

As a token of appreciation for your school's participation in this research, I will provide you with a summary of the study's findings upon completion of this project. All teacher responses will remain anonymous meaning that I will not record any information about your teachers that could identify them. If you have any questions about the study procedures, you may contact me at (732) 794-2240 or Dr. William A. Firestone at (732) 932-7496. If your teachers have any questions about their rights as a research subject, they may contact the Sponsored Programs Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 ext. 2104
Email: humansubjects@orsp.rutgers.edu

I look forward to collect these data from your teachers. Please contact me at your earliest convenience, via email or phone, to inform me of your decision.
Sincerely,

Joseph R. Massimino, Ed.D. Candidate
joeymass@eden.rutgers.edu
732-794-2240

APPENDIX D

TEACHER RECRUITMENT LETTER

{Date}

Dear Teacher,

I am a doctoral candidate in the Graduate School of Education at Rutgers University and the purpose of this letter is to request your participation in my dissertation research. I have received approval from your superintendent and principal to contact you for this request.

The purpose of my dissertation is to examine the influence of faculty trust on school achievement in elementary schools. The study's design requires me to collect teacher responses to items on the Omnibus Trust Scale (OTS). Your participation is completely voluntary and anonymous.

The survey should take approximately 5 minutes and there are no foreseeable risks to participation in this study. If you choose to participate, please complete the survey found at:

https://rutgers.qualtrics.com/SE/?SID=SV_5tGLttyRojwZyhT

All teacher responses will remain anonymous meaning that I will not record any information about any teachers that could identify them. If you have any questions about the study procedures, you may contact me at (732) 794-2240 or Dr. William A. Firestone at (732) 932-7496. If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 ext. 2104
Email: humansubjects@orsp.rutgers.edu

I look forward to your participation in my dissertation research.

Sincerely,

Joseph R. Massimino, Ed.D. Candidate
joeymass@eden.rutgers.edu
732-794-2240