THE EFFECTS OF TEACHER COLLABORATION AND SCHOOL TRUST ON COLLECTIVE EFFICACY

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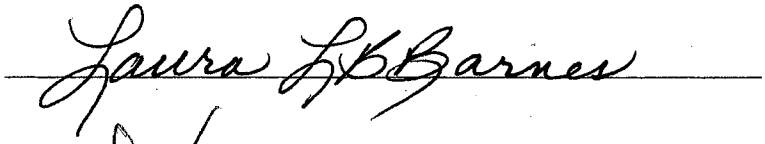

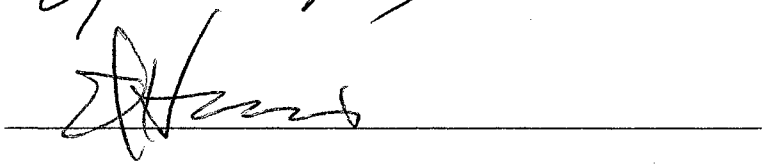

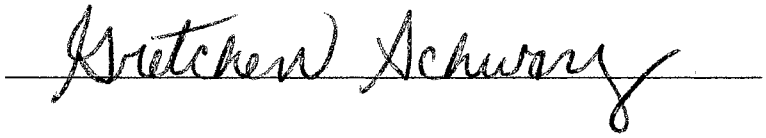

DEAN OF THE GRADUATE COLLEGE

PREFACE

This study springs from my own experiences early in my career as an educator. My first employment as an educator was in a small rural town in northern Oklahoma where I was the only music teacher for grades 6-12. For five years I struggled in isolation, trying to impart the value of arts education to energetic young children, feeling frustrated and wondering if I had followed the right path. In my sixth year as a teacher, I had the opportunity to move to a larger town where I became a member of a team of instructors that worked collaboratively both in teaching and planning. At this time, I also had the opportunity to observe a school in transition from a traditional junior high setting to a collaborative middle school model that incorporated team teaching and team planning periods. What I both witnessed and experienced during this transformation brought new life, not only to my teaching, but to teachers who had decades of experience. I observed a collective change in the school environment and in the attitudes of a whole community of educators. What I witnessed during these early years in my educational career was the impact that trusting, collaborative, and interdependent relationships had on the attitudes of educators and the way that these changes in attitudes ultimately affected students and their achievement.

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CHAPTER I

Introduction

Schools in American society today face unprecedented mandates for accountability regarding student achievement. The latest, and by some accounts most sweeping, call for school reform is the *No Child Left Behind Act* of 2001 (NCLBA). The focus of NCLBA is to raise the accepted level of student achievement through both rewards and punishments while constantly monitoring student and institutional progress through standardized testing. To improve test scores, many schools have focused reform efforts on curricular issues and teacher methods. Other schools have focused on curriculum content, technology, and resource issues to improve student achievement. However, these reforms have taken aim at the periphery of the learning cycle and often fail to take into account that it is teachers who teach. Teachers, not politicians, curriculum, methods, or technology, have the greatest affect on student achievement. School reform efforts are further complicated by the fact that traditionally teachers have had great latitude in deciding what they teach as well as the methodologies used in the delivery of the curriculum.

Teachers and teacher decisions are influenced by the milieu in which they work. Many variables affect both how teachers teach and how they feel about their work. Previous efforts at reforming schools have failed to take into account the many normative and contextual environmental variables of teaching. One such environmental variable

found to affect student achievement is collective teacher efficacy (Adams, 2003; Goddard, Hoy, & LoGerfo, 2003; Goddard, Hoy, & Woolfolk Hoy, 2001). Although collective teacher efficacy can be identified as an environmental variable and has both normative and contextual properties, very little is known what in the normative and contextual environment might increase collective teacher efficacy.

Examining the literature, we find two variables that affect the normative and contextual environment within a school and might have a direct affect on collective teacher efficacy. These variables are trust and collaboration (Meichtry, 1990; Tarter et al, 1989; Tschannen-Moran, 2001; Tschannen-Moran & Hoy, 1999). Trust has been empirically associated with collective teacher efficacy (Adams, 2003), collaboration (Tschannen-Moran, 2001) student achievement (Goddard, Tschannen-Moran, & Hoy, 2001) and school climate (Smith, Hoy, & Sweetland, 2001). Collaboration has been empirically associated with teacher efficacy, teacher morale, job satisfaction, and student achievement (Tschannen-Moran, 2001; Ashton, 1983). In the research cited above, we observe evidence that a school's environment can be affected by both trust and collaboration. We also see that collective efficacy is associated with increased student achievement.

This study builds upon research examining the environmental and relational variables within schools. A myriad of environmental variables can affect teacher work, their efficacy, and student academic achievement. One of the more recently examined variables is collective teacher efficacy. Collective teacher efficacy is a unique environmental variable, in that it can have both an effect on other environmental variables and be affected by environmental variables. What type of environmental and

relational variables have an effect on collective teacher efficacy? In this study I will examine two environmental variables that are theorized to have a direct positive effect on collective teacher efficacy.

Definition of Terms

Bandura defined collective efficacy as "...the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments (Bandura, 1997, p. 477). The Collective Teacher Efficacy Scale (Goddard et al, summer 2000) will be used to measure this variable. Personal teacher efficacy and collective teacher efficacy are different but closely-related concepts. Personal teacher efficacy is defined as the level of influence an individual teacher feels over classroom and management decisions. Of special interest to this research are the "vicarious experience" and "social persuasion" elements of personal-efficacy and their association to both collective teacher efficacy and collaboration. Vicarious experience speaks to the way efficacy is affected by learning through listening to and watching others. Social persuasion speaks to the many ways faculties are convinced that they are capable of achieving what they seek. Talks, workshops, professional development and feedback on achievement are examples of social persuasion activities.

Trust in this study involves the level of trust between teachers and between teachers and administrators. Trust is defined as "...one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (Hoy & Tschannen-Moran, 1999, pp. 7-8). Trust in this study was operationalized using the Trust Scale (Hoy and Tschannen-Moran, 1999).

Collaboration is defined as the extant to which teachers perceive themselves to be both involved and influential in school and classroom level decision making. The Tschannen-Moran Collaboration survey will be used to measure this variable. This scale measures the amount of perceived influence a teacher feels they have over instructional decisions (teacher-teacher collaboration) and management decisions (teacher-principal collaboration). Collaboration was operationalized in this study using the Tschannen-Moran Collaboration Survey (Tschannen-Moran, 2001).

Problem Statement

Teachers work in an environment unlike many other professional arena. Their work is protected from outside scrutiny and interference by four classroom walls and a century old culture of teacher autonomy and isolation. Reform movements have failed to penetrate the classroom fortress. One of the predominant forces limiting reform and change within the educational establishment is the isolation of classroom teachers (Costello, 1987). Reform and student achievement are stifled by the encapsulated environment in which teachers work (Green et al, 1999; Costello, 1987; Weasmer et al, 1998). Even so, there is a general lack of knowledge about the consequences of the professional environment in which teachers function (Hoy and Woolfolk, 1993). What are the affects of trusting, collaborative work environments? If we were to change the interpersonal environment in which teachers work, what would be the consequences for teachers, schools and ultimately student achievement?

One variable found to affect school environments, teachers, and academic achievement is collective teacher efficacy. Personal teacher efficacy has been found to

have a positive effect on student achievement (Armor et al., 1976), student motivation (Midgley et al., 1989), teachers' adoption of innovations (Smylie, 1988), superintendents' ratings of teachers' competence (Trentham et al., 1985), and teachers' classroom management strategies (Ashton and Webb, 1986). Goddard et al also found the level of collective teacher efficacy to be a significant predictor of student achievement and an important way to explain the differences in achievement among school sites (Summer, 2000). However, little is known about the cause of this variable. How do administrators and teachers promote and sustain high levels of collective teacher efficacy? Emerging from the research and identified as possibly affecting collective teacher efficacy are two variables: teacher collaboration and teacher trust. This study will examine the causal relationships among collective teacher efficacy, collaboration and trust.

Purpose of the Study

The possible causes of teacher efficacy and varied levels of interpersonal and organizational trust in schools are diverse and involve personal, attitudinal, and organizational factors. A review of the literature provides the basis for a hypothesis that collaboration among educators can foster trust, which in turn positively affects professional efficacy. In a theoretical sense this study is designed to verify, build upon, and integrate research on collaboration, efficacy and school trust. A better understanding of how the task of teaching and the educational environment affects teachers, their professional growth, and teacher efficacy is desirable.

We know that educational reform and student achievement are stifled by the encapsulated environment in which teachers work (Green, 1999; Costello, 1987; Weasmer et al, 1998). We know that this environment affects both teacher efficacy

(Tarter et al, 1989) and teachers' ability to trust peers (Tschannen-Moran and Hoy, 1999). In view of our knowledge about teacher efficacy and trust, are there interdependent relationships among trust, efficacy, and collaboration? The purpose of this study is to investigate the effects of collaboration and interpersonal trust on collective teacher efficacy.

CHAPTER II

REVIEW OF LITERATURE

Over the last decade three organizational and interpersonal factors have emerged as key factors affecting the relationships and organizational health of schools. These factors include trust (at both organizational and personal levels), collaboration, and teacher efficacy. The purpose of this study is to investigate the effects of varied levels of collaboration and interpersonal trust upon collective teacher efficacy. These literatures will be reviewed in turn.

Trust in Schools

The concept of trust, as it is explored in the school and organizational research, is relatively new. Hoy & Tschannen-Moran state, "...the systematic study of trust by social scientists is of relatively recent vintage" (1999, p. 2). Only since the 1990's have researchers begun to look at how trust affects teachers, students, and parents (Hoy & Tschannen-Moran, 1999). The definition of trust has been highly debated over the last decade. The lack of consensus on the definition of trust has impeded the investigation into the causes of trust for individuals and organizations. As Hosmer writes, "There appears to be widespread agreement on the importance of trust in human conduct, but unfortunately there also appears to be an equally widespread lack of agreement on a suitable definition of the construct" (1995, p. 380). This lack of a well-defined

operational and conceptual definition of trust has made early trust research problematic. Because of this lack of consensus on how trust is defined and the predominance of a simplistic, one-dimensional conceptualization, many early trust studies are not comparable. (Barber, 1983; Mishra, 1996). Mishra describes previous research on trust as being "...definitionally and conceptually vague" (1996, p. 264) and concluded that, "Most extant research on trust...suffers from unidimensional conceptualizations and operationalizations and fails to discriminate it from related constructs such as cooperation or familiarity" (p. 264-265). This vagueness has served to blur the lines between research variables, and in turn, to blur the findings of cause and effect related to trust in schools.

In the last two decades several researchers have called for a multidimensional concept of trust (Barber, 1983; Swan et al, 1988; Bromiley & Cummings, 1996). Using the work of Mishra (1996), Hoy & Tschannen-Moran introduced a multidimensional definition and incorporated into it the human interactions of "benevolence, reliability, competence, honesty, and openness" (1999, pp. 7-8). This multidimensional concept of trust has been supported empirically in research by Swan et al (1988), Bromiley & Cummings (1996), and Hoy & Tschannen-Moran, (1999), just to mention a few. This and other related research has led us to a definition of trust that is multidimensional and multi-level.

One of the primary constructs of trust emerging from research is an individual's willingness to be vulnerable (Coleman, 1990; Mishra, 1971). Webster's dictionary defines vulnerability as "capable of being physically wounded...open to attack or damage" (Mish,1998, p. 1326). Interestingly, according to Rousseau, Sitkin, and Camerer, trust is "...a willingness to be vulnerable under conditions of risk and

interdependence" (1998, p. 394). Thus, the important aspects in the definition of vulnerability, as it applies to trust, include interdependence and risk taking (Rousseau, Sitlkin, Burt, & Camerer, 1998). Hoy & Tschannen-Moran state that interdependence is a necessary condition for trust between individuals, "Where there is no interdependence, there is no need for trust" (1999, p. 8). In order for one person to be vulnerable to another, he must be dependent on that person to perform a certain task or behave in a certain way, cognizant of the level of risk (Hoy & Tschannen-Moran, 1999, p. 8). Risk taking and interdependence work in a cyclical manner to further trust. When a risk is taken and the expectation is met, trust and interdependence is deepened. Conversely, when risks are taken and the expectation is not met, interdependence and trust are withdrawn (Tschannen-Moran, 2001).

Another of the most important constructs in a multidimensional definition of trust is benevolence. Benevolence is defined as a confidence that the person being interacted with will perform in one's best interests (Hosmer, 1995; Cummings & Bromiley, 1996; Mishra, 1996; Hoy & Tschannen-Moran, 1999). Hoy & Tschannen-Moran define it as "...the confidence that one's well-being, or something one cares about, will be protected and not harmed by the trusted party" (1999, p. 9). Cummings and Bromiley state that:

> Trust [is] defined as an individual's belief or a common belief among a group of individuals that another individual or group (a) makes good-faith efforts to behave in accordance with any commitments both explicit or implicit, (b) is honest in whatever negotiations preceded such commitments, and (c) does not take excessive advantage of another even when the opportunity is available (1996, p. 303).

Within this definition is the assumption that one party will not take advantage of the other party; that over time a "faith in the altruism of the other" and a "...mutual attitude of good will" will govern behavior (Hoy & Tschannen-Moran, 1999, p. 9). "In situations of interdependence this faith in the altruism of the other is particularly important"(p. 9). This sense of benevolence between individuals and groups is vital to the interdependence and vulnerability essential to trusting relationships.

Trust also depends on predictable behavior over time. Trust, by definition, is a perception of others or groups built over time. If trust is to exist, parties must behave in a consistent and predictable manner in the best interest of other institutional members or groups (Mishra, 1996). One of the key factors inherent in predictability is competence. In order to trust an individual, we must feel that the individual or group has the capacity, skills, and resources to act in a reliable and benevolent manner (Rotter, 1967; Mishra, 1996). Early on in writings about trust, Rotter defined trust as "...the expectancy that the word, promise, verbal or written statement of another individual or group can be relied upon" (1967, p. 651). In simpler terms, Hoy and Tschannen-Moran summarize this concept stating, "One need not invest energy worrying whether the person will come through or making mental provisions in case he or she does not" (1999, p. 9).

Honesty is another key dimension in the development of trust between individuals and groups (Cummings & Bromiley, 1996; Hoy & Tschannen-Moran, 1999). Webster's dictionary defines honesty as "...fairness and straightforwardness of conduct" (Mish, 1998, p. 556). It is this concept of honesty which is a necessary ingredient for the development of trust. Honesty encompasses the ideals of truthfulness, authenticity, and commitment (Rotter, 1967; Hoy and Tschannen-Moran, 1999). Hoy and Tschannen-

Moran describe honesty as a "...pivotal facet of trust" (1999, p. 10). Within the idea and definition of honesty are the concepts of personal responsibility, reliability, reputability, and credibility. Without honesty, a foundation of the qualities of reliability, predictability, and benevolence have no fertile interpersonal soil in which to grow.

The final facet of trust is communication and openness. The degree to which an organizational culture is open for information to flow as needed is vital to the organization's health and has a significant effect on trust among its groups and members. Hoy & Woolfolk state, "It is an atmosphere of openness and professionalism that leads to a trust and cooperation among colleagues" (1993, p. 44). Tschannen-Moran found that "Openness in the climate of a school and healthy interpersonal relationships tend to foster a climate of trust" (October, 2001, p. 9). Hoy & Tschannen-Moran define this element as the "...extant to which relevant information is not withheld" (1999, p. 10). As with the other elements of trust, organizational and interpersonal openness include, and are interdependent on, the other elements of trust. Understood to be included in the definition of openness is an implied vulnerability and a confidence that the other party or group will behave in a benevolent, predictable, and reliable manner.

The constructs of trust have an important effect on the interactions that take place in schools (Hoy and Tschannen-Moran, 1999). Combining all of these elements Hoy & Tschannen-Moran, based on Mishra (1996), define trust as "...one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (1999, pp. 7-8). It is this multifaceted and multilevel definition of trust that this research embraces and wishes to further explore. Since the reconceptualization of the definition of trust into a

multifaceted and multidimensional concept, research in this area has begun to show informative results on the effects of trust for both individuals and organizations at multiple levels.

How Trust affects the organization and its members

As management models and administrative practices strive to move to more collaborative and inclusive decision-making models, the level of trust among individuals and groups becomes crucial to the efficiency and effectiveness of the organization (Tschannen-Moran, 2001). Not only does trust affect the individual players and the connection between levels of the educational organization hierarchy, but trust plays a vital role in the organizational health, openness, and effectiveness of schools. Hoy & Tschannen-Moran state "...trust is recognized as a vital element in well-functioning organizations" (1999, p. 4). Trust is an integral ingredient to the efficient and effective flow of accurate information (Wrightsman, 1974).

The level of trust in the organization and among its members has an affect on administrators, teachers, parents, students, and the school institution. Trust affects the education of students at almost every level. Teacher-student trust is basic in fostering the relationships needed to promote optimal learning. Rotter theorized that, "Much of the formal and informal learning that human beings acquire is based on the verbal and written statements of others, and what they learn must be significantly affected by the degree to which they believe their informants without independent evidence" (1967, p. 651). If students are to learn, they must trust those adults who are the keepers of knowledge.

Trust among members of the school organization has a significant affect on its effectiveness and efficiency. Employee trust in school leadership has been linked to increased employee productivity, cooperation, and institutional citizenship (Tschannen-Moran, 2001). Teacher-teacher trust has an effect on peer collaboration, which in turn affects teacher efficacy and decision making (Tschannen-Moran, 2001). Supporting this last element of school trust, Tschannen-Moran found that, "For teachers to break down norms of isolation and to sacrifice some of the autonomy they value so highly in order to reap the potential benefits of greater collaboration they must trust their colleagues" (2001, p. 311). Trust among members of the organization and its groups foster an openness of communication, allowing timely and accurate information to flow both horizontally and vertically throughout the structure. This flow of accurate information allows for a commonness of purpose and enhanced effectiveness of individual and group actions.

Collaboration

Very little information is available on the effects of teacher-teacher and teacher principal collaboration within the school setting (Meichtry, 1990). The research available indicates that collaboration among teachers and teachers and principals has positive effects on teacher efficacy, morale, job satisfaction, instructional effectiveness, and student achievement (Ashton, 1983). Tschannen-Moran found that "Collaboration is increasingly extolled as an important feature in the management of excellent schools" (2001, p. 308). In interviews with five sets of collaborating teachers, subjects reported having more energy, greater enthusiasm, and an increased sense of productivity (Nowacek, 1992). Walsh and Shay comment that teacher collaboration fosters a school

climate that is perceived by teachers as "...more participative in relation to goal commitment, to decision–making processes, and to cooperation" (1993, p. 59). Collaborating teachers report perceiving themselves as significantly more supportive of their students and as more receptive to student ideas (Walsh and Shay, 1993). Fuchs (1988) comments that collaboration serves to remind teachers of the shared responsibility and common purpose in education of young people. Supporting this idea, Tschannen-Moran writes ".... collaborative communities provide opportunities for teachers to reflect deeply and critically on their own teaching practice, on the content they teach, and on the experiences and backgrounds of the learners in their classrooms" (2001, p. 311). This ability to reflect deeply on one's practice and to examine critically the outcomes can be tied directly to teacher growth and student achievement.

According to Prager (1992) the essential element in restructuring schools is cooperative and collaborative planning among teachers. Professional isolation, on the other hand, is an antecedent to reclusiveness and a hermitical separateness from current educational issues (Lanier and Little, 1986). Professional collaboration among both teachers and teachers and principals can reverse these trends within the school system by fostering a more positive sense of trust among teachers and administrators. In a study by Meichtry (1990) on the effects of teaming, it was found that teacher collaboration resulted in sources of support ranging from collegial to personal. Teachers, while collaborating, discuss specific plans and beliefs regarding instruction, socialization, discipline, and evaluation. Also of vital importance during these collaborative discussions is an effort to give personal support needed in order for teachers to do their daily work. Meichtry (1990) reported that this collaborative process facilitated

discussions regarding students and instructional methodologies, which in turn brought about a reflective thinking by teachers concerning alternative methods of instruction, evaluation, and discipline.

Tschannen-Moran states that, "The productivity and adaptability of schools can be enhanced by creating structures that facilitate collaboration among teachers" (2001, p. 311). Similarly, Meichtry reported finding that collaboration engendered an environment in which shared interdisciplinary knowledge was commonplace.

> ...it has been found that the increased interdependence among teachers has the potential to enhance the instruction of teachers. Evidence from this study is consistent with the social constructivist theory and supporting research. ...it was discovered that the classroom practices of teachers were influenced as a result of their collaborative interactions. Norms of uncertainty which prevail among teachers who teach in [isolation] did not exist with the teachers in this study; help was sought from one another on a regular basis and instructional problems were discussed freely... (Meichtry, 1990, p. 13).

Even when collaborative efforts and processes are initiated between teachers and principals, the quality and effectiveness of these endeavors is many times less than ideal. Tschannen-Moran found that "...teachers and parents complain that they have not been given any real influence over the outcome of decisions" (2001, p. 308). Tschannen-Moran goes on to label these teacher-principal collaborations as "contrived collaboration" and explains that the lack of effective participation is due to the structure of "influence relationships" (2001, p. 309). Malen et al (1990) found that until these divergent power

and influence structures are changed, teacher-principal collaborative processes within the educational structure will be predominately superficial. Tschannen-Moran summarizes

> Collaborative decision making is a process with potential benefits of higher quality decisions and greater ownership and implementation of decisions, but it also can be costly in terms of time and energy, with no guarantee that potential benefits will be realized (2001, p. 309).

Collective Efficacy

Personal teacher efficacy and collective teacher efficacy have been found to be closely related but separate constructs (Goddard, Tschannen-Moran, and Hoy, Summer, 2000). The teachers' sense of personal efficacy, as defined by Ashton, is the "...extant to which teachers believe that they have the capacity to affect student performance" (1983, p. 1). Personal efficacy has been related to several variables within the school setting: student achievement (Armor et al., 1976), student motivation (Midgley et al., 1989), teachers' adoption of innovations (Smylie, 1988), superintendents' ratings of teachers' competence (Trentham et al., 1985), and teachers' classroom management strategies (Ashton and Webb, 1986). Bandura found that teacher efficacy works not only at the personal level, but also at the organizational level. He theorized that, "...personal agency operates within a broad network of sociostructural influences" (1997, p. 6). Goddard et al found that the collective feeling teachers share about their work can produce significantly positive outcomes and is a "...powerful construct that varies greatly among schools and is systematically associated with student achievement" (Summer 2000, p. 480). In their study of collective efficacy, Goddard et al found that there is a "...strong connection between

[collective] teacher efficacy and teacher behavior that fosters student achievement" (Summer, 2000, p. 480).

A myriad of environmental variables affect efficacy. Studies have shown that efficacy is affected by professional and collegial relations (Ellett and Masters, 1978; Little, 1982; Meyer and Cohen, 1971), strong principal leadership (Brookover and Lezotte, 1979; Edmonds, 1979; Ellett and Walberg, 1979), and high academic expectations (Brookover et al., 1978; Ellet and Masters, 1978). Ashton et al (1983) and Ashton and Webb (1986) found that limited collegial decision-making, lack of collegial and administrative support, difficulty in determining one's effectiveness, and teacher isolation all contribute to the educator's low sense of efficacy. Glickman and Tamashiro (1982) link teacher efficacy to survival in the teaching profession, reporting that teachers who left the teaching profession had a lower sense of efficacy than practicing teachers. Conversely, Trentham et al (1985) found that teachers of average or superior competency could be distinguished from low competency teachers on the basis of several variables, including efficacy.

Goddard et al (2000) found that collective teacher efficacy builds on the precepts of the theories of Bandura's self-efficacy model (1997) and Tschannen-Moran et al's (1998) teacher efficacy model. Goddard et al characterized collective teacher efficacy as an "...emergent group-level attribute, the product of the interactive dynamics of the group's members" (2000, p. 482). Earlier, Bandura defined it as "...the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" (1997, p. 477). As members of an organization, teachers' beliefs affect each other and collectively influence the organization (Hoy &

Miskel, 1996). An example of this influence can be seen in student achievement. There is a well documented link between personal teacher efficacy and student achievement (Anderson et al, 1988; Armor et al., 1976; Ashton &Web, 1986; Ross, 1994). This link helps explain differences in student achievement from one classroom to another. Goddard (2002) found that collective teacher efficacy may help to explain variances in student achievement between school sites. Bandura (1993) found that high levels of collective teacher efficacy were positively related to student achievement; also, that collective efficacy had a more dramatic effect on student achievement than socio-economic factors. These findings are also supported by Goddard et al (2000). The author found "...collective teacher efficacy is positively associated with the differences in student achievement that occur between schools" (p. 501). Explaining this phenomenon, Goddard et al states, "...teachers' beliefs about their faculty's capability to educate students constitute a norm that influences the actions and achievements of schools" (2000, p. 502).

Socioeconomic Status

Socioeconomic status (SES) is defined for this study as the percentage of students on free or reduced lunch. Practically, SES is a measure of the resources and experiences a student brings with them to the school setting. Research indicates that this lack of resources result in a difference in experiences between the poor and non-poor students (Walker, Greenwood, Hart, and Carta, 1994). SES has been shown to affect the home environment of poor children including the availability of stimulating toys, books, and other home educational experiences.

SES also affects students through their interaction with parents. SES has been demonstrated to affect parental language levels, parental educational levels and support for educational attainment (Walker et al, 1994). Knapp and Shields found that low SES students make up a "...disproportionate number of those most at-risk for school failure" (1990, p. 1). Purcell-Gates, McIntyre, and Freppon state that these children begin school with "significantly less implicit linguistic knowledge of books, as compared to well-read-to kindergartners" (1995, p. 659). These home experiences in turn have a direct impact on student achievement and success in school at every level.

SES has been shown to affect all most every aspect of the educational process. SES has been shown to affect student achievement (Bandura, 1993; Dossett, 2000; Okpala, 2001), classroom management (Barfield, 1974; O'Brien, 1982), student efficacy (Bandura, 1993) teacher efficacy (Ross, 1994), collective teacher efficacy (Bandura, 1993; Hoy et al, 2003), and prior academic performance (Bandura, 1993). Research indicates that SES affects the student's breadth of knowledge, level of varied experiences, and the student's perception of their ability to successfully complete a task (Bandura, 1993). This lack of confidence by the student and lack of prior knowledge brought on by the student's SES level has a direct impact on student achievement. In a cyclical manner, SES affects current achievement levels, which in turn impacts future achievement levels, which in turn affect the student's perception of their ability (Bandura, 1993). However, past, current, and future levels of student achievement are not the only aspect of schooling affected by SES.

In the classroom setting, SES has been shown to affect time on task, classroom instructing, teacher behavior, and classroom management (Greenwood, 1991; Reynolds,

1991, Slavin, 1989, Walker et al, 1994). Smith et al states that "It has been difficult to find organizational properties that go beyond the socioeconomic (SES) characteristics of the school and community to explain student achievement in schools (2001, p.1). All of these indicators, both student and teacher, mix to effect both the personal efficacy of the teacher and the collective efficacy of the school (Bandura, 1993, Ross, 1994). Bandura states that,

> Adverse characteristics of student body populations reflecting largely socioeconomic disadvantage erode schools' sense of instructional efficacy. Thus, the higher the proportion of students from low socioeconomic levels and the higher the student turnover and absenteeism, the weaker the staffs' belief in their efficacy to achieve academic progress and the poorer the schools fare academically (1993, p. 143).

Bandura goes on to state that these student characteristics, influenced by SES, alter the faculties "...beliefs about their collective efficacy to motivate and educate their students..." (1993, p. 143). In a path analysis, Bandura found that SES had a direct effect on the students prior academic achievement ($\beta = -.28$ $p < .01$). SES also had a direct negative effect on collective efficacy ($\beta = -.47$ $p < .01$) and academic achievement ($\beta = -.28$ $p < .01$) (Bandura, 1993, p. 143).

Prior Academic Skill

Prior academic skill, also know in the literature as prior academic achievement, was measured in this study using the Oklahoma Academic Performance Index. Prior

academic skill is an indicator of the student's previous school performance as measured by standardized tests. Prior academic skill has been shown to affect academic achievement (Weinburgh, and Englehar, 1994), student efficacy, the student's academic self-concept (Van Damme and Mertens, 2000), personal teacher efficacy, and collective teacher efficacy (Bandura, 1993; Ross, 1994). Bandura demonstrated using a path model that prior academic skill had a direct effect on parent expectation of achievement ($\beta = .26$ $p < .05$). The parent expectation's, influenced by prior academic skill, had a direct affect on the student's expectations ($\beta = .36$ $p < .01$) and that a significant amount of student achievement could be accounted for by these expectations and the student's self efficacy ($\beta = .43$ $p < .01$) (1994, p. 143).

The prior academic skill of the student not only affects the student, but, also has a direct impact on the classroom and the teacher. Research has shown that the prior academic skill level of students has a direct effect on the level of both personal teacher efficacy and collective teacher efficacy (Bandura, 1993, Ross, 1994). Ross summarized his finding,

> Teacher efficacy is higher in classes which teachers feel prepared to teach and which contain students who are relatively orderly and of higher ability. There is abundant evidence that teacher efficacy is higher in schools characterized by low stress, a student population that achieves the school's learning goals, and a faculty of satisfied teachers (1994, p. 20).

The literature supports the theory that the student's prior ability and achievement can influence what the teacher believes about their ability to influence outcomes in the classroom. Supporting the connection between efficacy and prior academic skill, Fletcher (1990) found that differences in teacher efficacy were predicted by the teacher's belief about the student's ability to learn. Smylie (1988) found that the quantity of low achieving students in a classroom had a negative effect on student achievement. Ashton et al (1983) also found student's prior and current ability contributed significantly to the teacher's level of efficacy. Since collective efficacy has been defined as "...the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" it is not difficult to see how the students prior academic performance would affect efficacy (Bandura, 1997, p. 477). In one of the few studies available that examined the direct effect of prior academic performance on collective efficacy, Nicholson (2003) found that prior academic skill had a significant affect on collective efficacy ($\beta = .16$ $p < .01$). This study confirms work done by Bandura (1993) which found a direct effect of prior academic skill on collective efficacy ($\beta = .32$ $p > .01$).

Theoretical and Empirical Rationale

The causal relationships among trust, collaboration, socioeconomic status, prior academic skill and collective efficacy have not been empirically investigated. However, the research cited above suggests that a causal effect does exist. In the findings we see that "...the cellular structure of schools creates norms of isolation among teachers and an individualistic conception of practice" and contributes to "...norms of uncertainty which

make teachers reluctant to share problems of instruction" (Meichtry, 1990, p. 12). This cellular and isolated concept of schooling has consequences for both teacher trust and teacher collaboration. Tschannen-Moran found that the level of collaboration is directly related to teacher trust, and that trust is a necessary condition for collaboration to occur. She states that, "...the hypothesis that the level of collaboration was related to the level of trust was supported in the bivariate correlational analysis" (March 2001, p. 26). She also found that, "Schools where there was a high level of trust could be predicted to be schools where there would be a high level of collaboration" (p. 26). This is consistent with research done in 1989 by Tarter et al who say that, "Engaged teacher behavior may elicit trust in colleagues through shared sentiments of pride in their school, commitment to students, and concerns for colleagues; conversely, trust is likely to promote engaged teacher behavior" (1989, p. 305). They found that engaged teacher behavior was related to a teacher's level of trust in colleagues ($r = .44$).

In a related qualitative study, Da Costa and Riordan found a relationship between a teacher's sense of efficacy and the ability to trust. "There does indeed appear to be a relationship between a teacher's perception of his or her teaching abilities and that person's willingness to work with another person for the purpose of professional development" (1996, pp. 12-14). They also found that a teacher's ability to self-select partners for collaboration increased that partner's trust levels. Tschannen-Moran (2001) found that, "For teachers to break down norms of isolation and to sacrifice some of the autonomy they value so highly in order to reap the potential benefits of greater collaboration, they must trust their colleagues" (p. 311). Da Costa and Riordan explain that, "The degree of trust established seems to greatly impact the choice of issues that become the focus of the work-

focused collaboration process" (1996, p. 11). In summary the authors explain that "Teachers who have high levels of teaching efficacy are more likely to allow other individuals...into trusting professional relationships..." (1996, p. 11).

Many researchers have called for increases in teacher collaboration and decision making participation. Blomquist (1986) found that teachers with limited input into organizational decision had a higher level of emotional exhaustion and a lower feeling of personal accomplishment. Despite these calls for a more open and democratic school environment, the implementation of such processes has had very little effect (Tschannen-Moran, 2001, Bartunek and Keys, 1979; Malen et al., 1990). It is important for us to create a better understanding of how the task of teaching and the educational environment affect teachers, their professional growth, and teacher efficacy. We know that educational reform and student achievement are stifled by the encapsulated environment in which teachers work (Green, 1999; Costello, 1987; Weasmer et al, 1998). We know that this environment affects both teacher efficacy (Tarter et al, 1989) and teacher ability to trust peers (Tschannen-Moran and Hoy, 1999).

Research demonstrates relationships between trust, collaboration, and teacher efficacy; it also demonstrates the importance of collective efficacy on school environments and academic achievement. In addition, research suggests an interdependent causal relationship among the three variables of trust, efficacy, and collaboration. If we are to explain the interconnectedness of these variables and the complex relationships involved, additional study is needed. The purpose of this study is to investigate the effects of collaboration and organizational and interpersonal trust on teachers' level of collective efficacy.

CHAPTER III

Rationale and Hypotheses

This chapter contains the rationales and nine hypotheses that were used to explore the causal interrelationships among teacher collaboration, trust, prior academic skill, socioeconomic status and collective efficacy.

Hypotheses

Trust has been found to be an important factor in the establishment and continuity of relationships within organizations. Conversely, the effects of distrust -- ranging from instability in the relationship to permanent damage of the relationship -- illuminate the importance of trust in any organization (Kramer & Tyler, 1996). Trusting relationships are built upon the component parts of trust, including the willingness to risk vulnerability and the belief that the other individual or group is benevolent, reliable, competent, honest and open (Hoy & Tschannen-Moran, 1999). In the trust literature one of the key components of trust is interdependence. Hoy & Tschannen-Moran state that interdependence is a necessary condition for trust between individuals (1999). One form of interdependence, often extolled as a necessary factor for the reform of schools, is teacher-teacher and teacher-principal collaboration (Meichtry, 1990; Prager, 1992; Campo, 1993).

Effective collaboration depends on the interaction, interdependence, and trust of individuals and groups. The effects of professional collaboration are far-reaching and an integral part of effective organizations. Previous findings indicate that collaboration has a positive effect on teacher efficacy, morale, job satisfaction, instructional effectiveness, and student achievement (Ashton, 1983). Collaboration has been defined as a "...mutually beneficial relationship between two or more parties who work toward common goals by sharing responsibility, authority, and accountability for achieving results" (Green & Etheridge, 1999, p. 2). If one examines this definition closely, it is not difficult to see the interaction between successful trust and successful collaboration. Tschannen-Moran found that ".... collaborative communities provide opportunities for teachers to reflect deeply and critically on their own teaching practice, on the content they teach, and on the experiences and backgrounds of the learners in their classrooms" (2001, p. 311). She found that the level of collaboration is directly related to the teacher-teacher and teacher-principal level of trust, and that trust is a necessary dimension for collaboration to occur. The author states that:

> Collaboration and trust are reciprocal processes; they depend upon and foster one another. Collaboration takes place between autonomous partners who choose whether or not to participate, therefore, it is unlikely that collaboration will develop without at least a measure of trust (p. 315).

Conversely, Powell theorizes that trust depends on collaboration and that trust "...is learned and reinforced...a product of ongoing interaction and discussion" (1996, p. 63). Powell's claim serves as a stark reminder of the routine isolation of the average

teacher. The author reinforces the connection between collaboration and trust, arguing that unlike physical capital, "...trust increases, rather than decreases with use; indeed, trust can become depleted if not used" (p. 52).

Empirical research documenting the connection between collaboration and trust is limited (Tschannen-Moran, 2001). Most of the literature regarding collaboration among teachers suffers from the lack of a common definition for collaboration, thus making comparisons difficult. In a recent study, Tschannen-Moran (2001) found that the level of teacher-teacher collaboration was related to the level of teacher-teacher trust ($r = 0.30$, $p < 0.05$). Using canonical correlation analysis, she found that a significant amount of the level of collaboration could be predicted by the level of trust. The direction of the causality is in conflict with the theories of Powell (1996). If collaboration constitutes a form of interdependence, then Hoy & Tschannen-Moran's statement that "Where there is no interdependence, there is no need for trust" would seem to support the theory of a casual relationship between collaboration and trust, where collaboration predicts the level of trust (1999, p. 8). This statement also seems to support Powell's theory of the causal affect of collaboration on trust. It is can be concluded that without interaction, there is no interdependence; without interdependence, there is no need for trust. Thus:

H1: Teacher-teacher collaboration has a direct effect on teacher trust of teacher.

Trust and collaboration within an organization can have far reaching effects on the perceptions of individuals within that organization. For example, as previously noted, both trust and collaboration can affect teacher morale and job satisfaction. Leadership within an organization can directly affect the levels of trust and collaboration. Trust and

collaboration only occur in an environment where the participants feel safe enough to endure vulnerability and take risks. Leadership within the organization has a significant effect on the climate and culture that foster those qualities. In schools, teachers' perceptions of trust or distrust can become a generalized phenomenon (Kramer, Brewer, & Hanna, 1996). Collaboration between teachers can affect the generalized feeling of trust within a building and influence the quantity of trust across levels of hierarchy. For example, in groups that are highly collaborative, teacher-teacher collaboration can have a positive effect on the perception of leaders (Hoy & Tschannen-Moran, 1998). Hoy & Tschannen-Moran (1998) found that collegial relationships between teachers and between teachers and administrators account for a significant amount of the variability in the levels of teacher-teacher trust and teacher-principal trust. Supporting this finding, Tschannen-Moran (2001) also found that that the level of teacher-teacher collaboration was significantly related to teacher-principal trust ($r = .64$, $p<.01$). The two studies mentioned above lead to a conclusion that not only is teacher-teacher collaboration related to teacher-principal trust, but also that teacher-teacher collaboration has a causal effect on teacher-principal trust. Thus:

H2: Teacher-teacher collaboration has a direct effect on teacher-principal trust.

Interaction, interdependence, and communication are key factors in the development of trust. It is through effective leadership that quality interaction, open communication, and an environment of collaborative success flourishes (Tarter et al, 1989). These collaborations foster the development of trust. Evidence supports the theory that the behavior and action of school leaders can affect the level of teacher-principal trust. Hoy &

Kuppersmith (1985) found that supportive leadership behavior affected teacher trust in the principal. Tschannen-Moran (1998) found that principal behavior can create the environment for trust development between teachers and principals, but interaction and interdependence are necessary in order for trust to develop. Simply stated, to collaborate with the principal is to at least create an opportunity for trust to develop. Supporting this theory, Tschannen-Moran (2001) found that the level of teacher-principal collaboration is related to teacher-principal trust ($r = 0.32$, $p<0.05$). However, to know that these two variables are related is not sufficient. What is the causal direction of the relationship? If we again focus on the premise that trust is reliant on the interdependence of two or more people, then a causal direction emerges with level of collaboration affecting the level of trust. Thus:

H3: Teacher \ principal collaboration has a direct effect on teacher trust of principal.

No members of the educational establishment work in isolation; they are members of an organization sharing norms and beliefs. "Their shared beliefs influence the social milieu of schools" (Goddard, Hoy, & Hoy, 2000, p. 482). Teacher beliefs affect colleagues and collectively influence the organization (Hoy & Miskel, 1996). Goddard et al characterized collective teacher efficacy as an "...emergent group-level attribute, the product of the interactive dynamics of the group's members" (2000, p. 482). It is the interaction between teachers and between teachers and principals that defines the school's overall environment. These shared beliefs can be affected by teacher-teacher and teacher-principal trust (Adams, 2003). Conversely, distrust within the organization can lead to

closed environments which have negative affects on the organization and collective teacher efficacy.

A positive level of trust among an organization's membership can lead to group level norms of collegiality and have been found to improve organizational effectiveness. Goddard et al defined the sources of collective teacher efficacy as the analysis and interpretation of mastery experience, vicarious experience, social persuasion, and emotional state. Logically, teacher-teacher trust and teacher-principal trust would affect vicarious experience, social persuasion and the teacher's emotional state. Supporting this, Hoy & Kupersmith (1985) and Hoy & Sabo (1998) found a positive correlation between trust in colleagues and collective teacher efficacy. Also supporting this finding, Goddard et al (2000) found the relationship to be both positive and significant ($r = .67$, $p < .001$). The authors attributed this outcome to increased levels of collegiality, more vicarious learning experiences, and greater levels of trust.

If teachers trust teachers and teachers trust principals – when teachers view themselves and their colleagues as benevolent, reliable, competent, honest, and open – they possess characteristics likely to be related to successfully teaching children, thus positively effecting the level of efficacy. These perceptions form in the specific content of the school, logically shaping individual perceptions of the group instructional efficaciousness. Thus:

H4: Teacher trust of teacher has a direct effect on collective teacher efficacy.

H5: Teacher trust of principal has a direct effect on collective teacher efficacy.

Collaboration among professionals is an important part of any well functioning organization. Schools are no exception. Tschannen-Moran observed that "Collaboration is

increasingly extolled as an important feature in the management of excellent schools" (2001, pg. 308). Collaboration has many components, including communication, participatory decision making, sharing of resources, shared responsibility, and time (Tschannen-Moran, 2000). One of the most important elements of successful collaboration is effective communication. Effective educational organizations depend on effective communication and participatory decision-making to achieve and maintain high standards. Research has demonstrated a close relationship between the level of trust and the effectiveness of communication (Tschannen-Moran, 2001). Tschannen-Moran states that "The quality of communication has been linked to the effectiveness [of the organization], and trust is necessary for open communication in an organization" (2001, pg. 313). Studies have also shown a close tie between the openness of a climate, the level of interpersonal relationships and trust (Tarter et al., 1995; Hoy et al., 1996, Tschannen-Moran, 2001). Tschannen-Moran theorized that "Collaboration and trust are reciprocal processes; they depend upon and foster on another" (2001, pg. 315). Collaboration and trust are two variables tied to both effective organizations and student achievement.

We have seen in the proceeding paragraphs the power of genuine collaboration and a strong connection between collaboration and trust. Another aspect of effective organizations is efficacy. Goddard et al state that "...one powerful construct that varies greatly among schools and that is systematically associated with student achievement is the collective efficacy of teachers" (2000, pg. 480). However, little research exists into the components of collective efficacy (Goddard et al, 2000). Researchers have demonstrated a strong link between teacher efficacy, teacher behavior, and student achievement (Goddard et al, 2000; Ross, 1992; Ashton & Webb, 1986; Gibson & Dembo, 1984; Meijer & Foster,

1988; Woolfolk & Hoy, 1993). Schwarzer et al (1999) found a high association between the quality of "social relationships" and collective efficacy. Goddard et al observed that "Teachers are members of school organizations. Their shared beliefs influence the social milieu of schools" (2000, pg. 482). Goddard et al (2000) also found a close link between the elements of self efficacy and those of collective efficacy. Especially interesting are the "vicarious experience" and "social persuasion" elements of self-efficacy and their relatedness to collaborative experiences.

There appears to be little direct research into the effects of collaboration on teacher efficacy and no research on the affects of collaboration on collective teacher efficacy. Remembering that teacher efficacy and collective teacher efficacy are different but closely-related concepts, some inferences can be made from that area of research. Tschannen-Moran, in her study of trust and collaboration, theorized that "Both the collaboration and trust measures were expected to be positively correlated with the school decisions subsection of Bandura's teacher self-efficacy scale" (2001, pg. 319). The author stated that collaboration with the principal was related to teacher efficacy at the $r = 0.36$ level, and collaboration with colleagues was related to teacher efficacy at the $r = 0.53$ level. Da Costa & Riordan found that "Teachers who have high levels of teaching efficacy are more likely to allow other individuals – teachers or administrators – into trusting professional relationships more readily than teachers with lower teaching efficacy" (1996, pg. 10).

Although evidence of a causal relationship between collaboration and collective teacher efficacy does not exist at this time, many indirect connections can be made between the component parts of collaboration and collective teacher efficacy. Of special interest are the "vicarious experience" and "social persuasion" elements of self-efficacy and their

possible association to both collective teacher efficacy and collaboration. In the proceeding paragraphs we have seen the importance of both collaboration and efficacy on the schools as an organization and student achievement. A relationship has been established between individual teacher efficacy and collaboration, and it will be theorized that the same may be true for collective teacher efficacy. This section of the research argues for a causal link between the level of teacher-teacher collaboration, teacher-principal collaboration and teacher collective efficacy. Thus:

H6: Teacher \ teacher collaboration has a direct effect on collective teacher efficacy.

H7: Teacher \ principal collaboration has a direct effect on collective teacher efficacy.

There is both a theoretical base and empirical evidence that prior academic skill has a direct causal affect on collective teacher efficacy. Since collective efficacy has been defined as "...the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" it is not difficult to see how the students prior academic performance would affect collective efficacy (Bandura, 1997, p. 477). From a theoretical perspective a student's prior academic performance affects the teacher's collective belief in their capacity to generate positive academic achievement. Empirical research demonstrates a direct causal affect of prior academic skill on collective efficacy. Nicholson (2003) found that prior academic skill had a significant affect on collective efficacy ($\beta = .16$ $p < .01$). Nicholson's study confirms work done by Bandura (1993) which found a direct effect of prior academic skill on collective efficacy ($\beta = .32$ $p > .01$).

H8: Prior academic skill will have a direct effect on collective teacher efficacy.

SES has been shown to affect all most every aspect of the educational process. Smith et al states that "It has been difficult to find organizational properties that go beyond the socioeconomic (SES) characteristics of the school and community to explain student achievement in schools (2001, p.1). SES has been shown to affect student achievement (Bandura, 1993; Dossett, 2000; Okpala, 2001), classroom management (Barfield, 1974; O'Brien, 1982), student efficacy (Bandura, 1993) teacher efficacy (Ross, 1994), collective teacher efficacy (Bandura, 1993; Hoy et al, 2003), and prior academic performance (Bandura, 1993). Bandura states that negative normative student characteristics, influenced by SES, alter the faculties "...beliefs about their collective efficacy to motivate and educate their students..." (1993, p. 143). In a path analysis, Bandura found that SES had a direct effect on the students prior academic achievement ($\beta = -.28$ $p < .01$). SES also had a direct negative effect on collective efficacy ($\beta = -.47$ $p < .01$) and academic achievement ($\beta = -.28$ $p < .01$) (Bandura, 1993, p. 143).

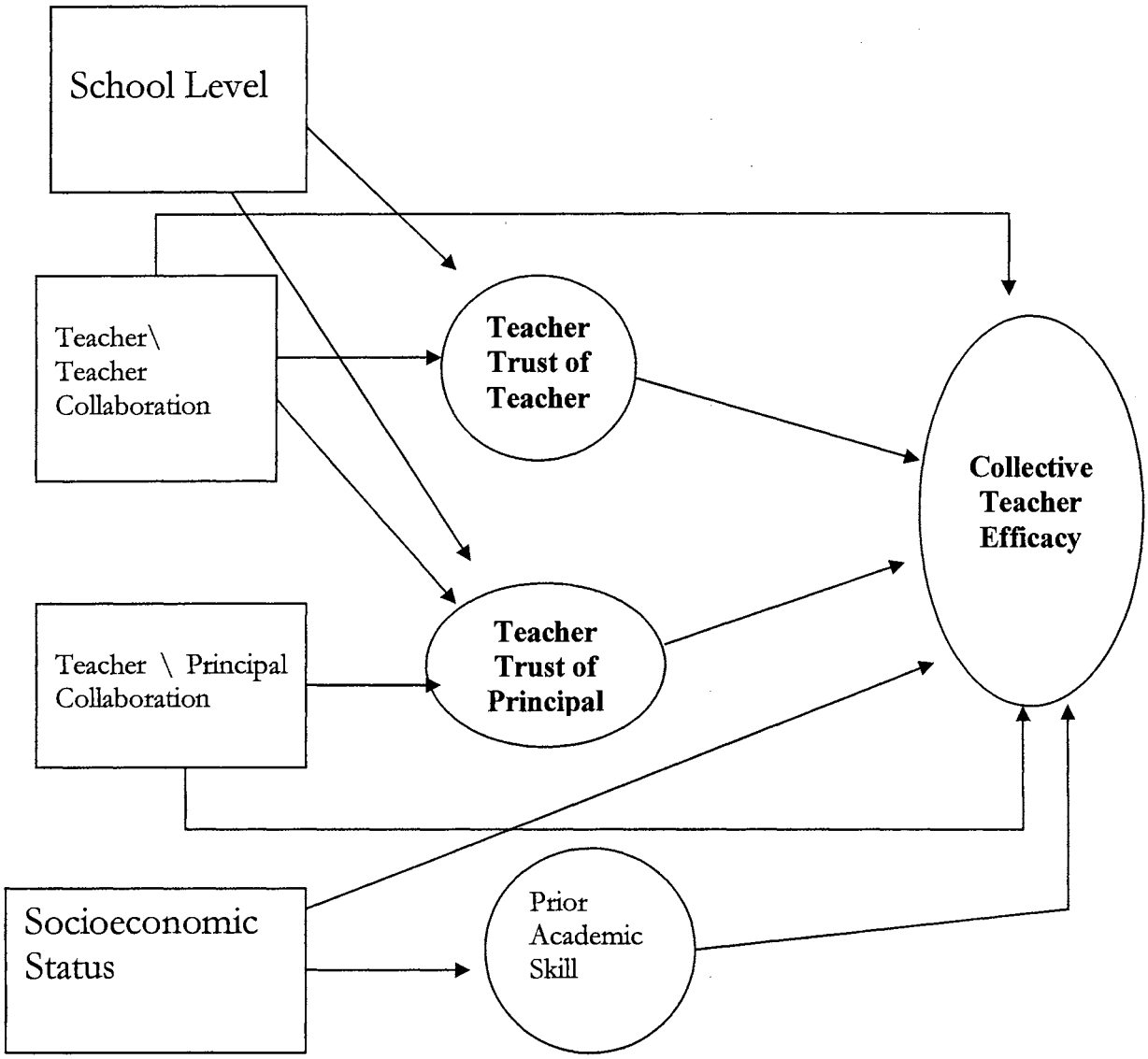
H9: Socioeconomic status will have a direct effect on collective teacher efficacy.

SES has been shown to affect all most every aspect of the educational process. SES has been shown to affect student achievement (Bandura, 1993; Dossett, 2000; Okpala, 2001), classroom management (Barfield, 1974; O'Brien, 1982), student efficacy (Bandura, 1993) teacher efficacy (Ross, 1994), collective teacher efficacy (Bandura, 1993; Hoy et al, 2003), and prior academic performance (Bandura, 1993). Research indicates that SES affects the student's breadth of knowledge, level of varied experiences, and the student's perception of their ability to successfully complete a task (Bandura, 1993).

H10: Socioeconomic Status will have a direct effect on prior academic skill.

Figure 1 presents the direct and indirect relationships among collaboration, trust, prior academic skill, socioeconomic status and collective teacher efficacy in a theorized path diagram. This path diagram includes eight variables: teacher-teacher collaboration, teacher-principal collaboration, teacher-teacher trust, teacher-principal trust, collective teacher efficacy, socioeconomic status, prior academic skill, and school level (grade configuration). Variance for the four endogenous variables (represented by ovals) will be accounted for by other variables in the model. The two exogenous variables are teacher-teacher collaboration and teacher-principal collaboration. These exogenous variables are influenced by factors outside of this model. Collective teacher efficacy is a criterion variable. Teacher-teacher collaboration and teacher-principal collaboration are predictors of trust and collective teacher efficacy. School level is a background predictor for both teacher-teacher trust and teacher-principal trust. Prior academic success and socioeconomic status are predictors of collective teacher efficacy.

Figure 1: Theorized Model of the Hypothesized Relationship



1. Y (TTT) = TTC + SL
2. Y(TTP) = TTC + TPC + SL
3. Y (CTE) = TTC + TPC + TTP + TTT + SES + PAS
4. Y (PAS) = SES

CHAPTER IV

METHOD

Design

To examine the causal paths of trust, collaboration, and collective teacher efficacy a stratified random sample of 180 schools was selected from the 836 schools in the 25 contiguous counties in northeastern Oklahoma. This random selection included 60 elementary schools, 60 middle schools, and 60 high schools representing 101 school districts. In the spring of 2001, a team of nine researchers sent each superintendent of the 101 school districts an informational packet which included a letter explaining the purpose and process of the research, the research proposal, a copy of the Internal Review Board (I.R.B.) approval, sample copies of instruments, and a district consent form. Five business days after mailing the informational packet, researchers telephoned each superintendent or assistant superintendent from the 101 school district to answer any questions and to obtain permission to contact the principals of the randomly sampled school(s). After initial contact, 34 districts declined to participate, leaving 67 participating school districts in the sample. As a result of nonparticipation by school districts, 91 schools remained from the original sample. Districts declining participation cited a lack of time by district\school personnel as a rationale for their failure to participate in the research. No superintendent voiced concerns about the nature or process of the study. Time constraints were an understandable concern in view of the

fact that the initial contact with the school districts occurred during a time period when schools were administering state-mandated assessments and \ or working on enrolling for the subsequent school year.

The third step of the sampling process involved contacting each of the 91 principals from the schools where districts consent was procured. Each principal received an informational packet which included a letter explaining the research purpose and process, sample copies of the research instruments, and the signed district consent form. Five business days after mailing the informational packet, researchers telephoned each principal to further explain the purpose and process of the project and to secure his \ her permission to participate in the study. After the completion of this stage of the project, twelve of the 91 principals declined to participate, leaving a sample of 79 schools. Reasons for nonparticipation from principals included time constraints, being new to the position, currently undergoing an accrediting review, and too many other tasks with which to contend. All principals who declined participation expressed their regret for not participating, as well as their belief in the importance of the study.

The sample of 79 schools consisted of 22 elementary schools, 30 middle schools, and 27 high schools. School characteristics of the final sample parallel Oklahoma state averages for ethnicity and free or reduced lunch eligibility. The state average for free or reduced lunch eligibility was 49 percent compared to 46.7 percent for this sample. Ethnically and economically the sample for this study is representative of the public school population in Oklahoma. School size and district population, on the other hand, were noticeably different. The average school size in the sample exceeded the state's average school size across all school levels. At the elementary level the difference was

100 students (477 sample to 377 state), 113 students at the middle school level (496 sample to 383 state), and 275 students at the high school level (626 sample to 351 state). In addition to school size differences, the average district population in the study was 96,692 residents to a state average district population of 6,355 residents. This variance is the result of having 21 schools, or 26 percent of the sampled schools, from the two largest urban districts in the state (the population for each of these school districts surpass 275,000 residents), as well as 8 other schools with district populations exceeding 90,000 residents in the sample.

The general population for this study would be all school teachers. The accessible population would be teacher from Oklahoma schools. The target sample was 1800 teachers from 181 northeaster Oklahoma schools. The net-sample was 545 teachers from 79 schools. The final step of the sampling process involved the random sampling of ten teachers from each school site. The principal from each school also participated in the research, yielding a total sample of 41 subjects from each school or 869 total subjects: 790 teachers and 79 principals. 545 of 790 surveys from teachers were returned giving us a 69 percent return rate.

Operational Measures

Internal Trust Scale

In the last two decades, several researchers have called for a more multidimensional concept of trust (Barber, 1983; Swan et al, 1988; Bromiley & Cummings, 1996). Hoy & Tschannen-Moran (1999), building on work of Mishra (1996), introduce a

multidimensional definition, incorporating "benevolence, reliability, competence, honesty, and openness" (pp. 7-8). Trust, from the teacher's perception, is defined as "...one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (Hoy & Tschannen-Moran, 1999, pp. 7-8). The Trust Scale (Hoy and Tschannen-Moran, 1999) consists of 37 items responded to on a Lickert scale ranging from "Strongly Agree," (coded as 1) to "Strongly Disagree," (coded as 6). For the purpose of this research, the response set was changed to "Strongly Disagree" (coded as 1) and "Strongly Agree" (coded as 6) in order to match the direction of measurement with other instruments in the study. Items were constructed to reflect a broad understanding of trust and tap each of the following five facets of trust: benevolent, reliable, competent, honest, and open. Sample items from each of the three relationships of studied include: "Teachers in this school can rely on the principal," "Teachers in this school believe in each other," and "Students in this school are reliable." Eleven items measure trust in the principal, eight items measure trust in colleagues, and 15 items measure trust in clients. Three items were categorized as filler items and were not scored.

The instrument was developed in four stages. The process began with a panel of experts from Ohio State University examining each item for validity. Next, Hoy and Tschannen-Moran field-tested the instrument with six experienced teachers to assess face validity, clarity of instruction, readability, length, and response set appropriateness. Third, based on a pilot study of 50 teachers from 50 schools, a factor analysis of items was performed. Finally, Hoy and Tschannen-Moran (1999) performed a large empirical study

of 50 elementary schools from a Midwestern school district. This instrument has subsequently been used by many researchers.

Results from the Hoy and Tschannen-Moran (1999) study indicated strong reliability for each subscale: Faculty trust in the principal, alpha = .98; faculty trust in colleagues, alpha = .98; and faculty trust in clients, alpha = .97. Using bivariate correlations, the validity of the instrument was assessed between each subscale, as well as measures for powerlessness, self-estrangement, conflict, and teacher efficacy. In the study, a significantly negative correlation was found between the internal dimensions of trust and powerlessness, self-estrangement, and conflict. A significantly positive relationship was found with trust and teacher efficacy (Hoy & Tschannen-Moran, 1999). The validity and reliability of the instrument is supported by several recent studies (Goddard, Hoy, & Woolfolk, 2000; Smith, Hoy & Sweetland, 2001; Tschannen-Moran, 2001).

Collective Teacher Efficacy

Using early theoretical and empirical works, Goddard, Hoy, and Woolfolk (2000) constructed a definition and measure for collective teacher efficacy. Goddard et al (2000) define collective teacher efficacy as an "...emergent group-level attribute, the product of the interactive dynamics of the groups' members" (p. 482). Bandura (1997) defines it as "...the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" (p. 477). As members of an organization, teacher's beliefs affect other teachers and collectively influence the organization (Hoy & Miskel, 1996). Using the Gimbson & Dembo individual efficacy

scale as a guide, Goddard et al, (2000) constructed the measure to reflect group perceptions and orientations related to positive \ negative competence and task analysis. In this study a short form of the instrument was used consisting of 12 Likert items ranging from "Strongly Disagree" (coded as 1) to "Strongly Agree" (coded as 6). The scale's range is 12-82 with a higher score indicating greater collective teacher efficacy. Sample items include the following: "Teachers in this school are able to get through to the most difficult students;" "These students come to school ready to learn;" "Teachers in this school do not have the skills to deal with student disciplinary problems;" "Teachers here are confident they will be able to motivate their students;" and "Students here just aren't motivated to learn" (p. 495).

Hoy and Tschannen-Moran field tested the instrument with six experienced teachers to assess face validity, clarity of instruction, readability, length, and response set appropriateness. Next, using a pilot study of 70 teachers from 70 schools a factor analysis of items was performed. Finally, Goddard et al (2000) performed a large empirical study of 452 teachers from 50 schools. Findings indicate that collective teacher efficacy is a single factor construct amalgamating perceptions of the teaching task and group competence. Strong internal reliability was indicated with an alpha value = .96. Significant correlations with teacher powerlessness, r = -.51, and trust among colleagues, r = .67, indicate strong validity.

Teacher collaboration

Tschannen-Moran (2001) states that the idea of collaboration within school settings "...has been a difficult construct to define and measure" (pg. 317). Several

studies (Bartunek and Keys, 1979; Bacharach et al., 1988; Duke et al., 1980) indicate that even with teachers participating more frequently in the decision making process, teachers feel that they "...have not had a real voice in the decisions that affected them..." (Tschannen-Moran, 2001, pg. 317). For the purpose of this study, teacher collaboration is defined as "...the extent to which teachers perceived themselves...to be not only involved but to exercise influence over school and classroom-level decisions" (Tschannen-Moran, 2001, pg. 317). In the original study, three aspects of collaboration were explored: teacher-principal collaboration on school level decisions; parent collaboration on school-level decisions; and teacher-teacher collaboration on classroom decisions (p. 317). For the purpose of this study, we are examining only teacher-teacher collaboration which affects classroom-level decisions and teacher-principal collaboration which affect school-level decisions.

The instrument used is the Tschannen-Moran Collaboration Survey. This instrument uses a six-point Likert response set which is coded from "Strongly Disagree" (coded as 1) to "Strongly Agree" (coded as 6). Tschannen-Moran first tested the content validity of the instrument via a review of the items by a panel of experts. The panel was to determine if the "...decision domains reasonably covered the kinds of decisions made in schools, and whether asking about both participation and influence seemed a promising approach to assess whether participation was collaborative" (Tschannen-Moran, 2001, pg. 318). Tschannen-Moran then field-tested the instrument with six experienced teachers to assess face validity, clarity of the instructions, readability, length, and response set appropriateness. Next, using a pilot study of 50 teachers from six states, a factor analysis of items was performed using Varimax orthogonal rotation. From the factor

analysis information, 11 items were eliminated from the original survey. The pilot study indicated that reliability for each subsection was positive with teacher-principal collaboration having an alpha correlation of .87 and teacher-teacher collaboration having an alpha correlation of .88. A significantly negative correlation was found between collaboration and powerlessness. A significantly positive relationship was found with teacher efficacy, as had been predicted by the author. Finally, Tschannen-Moran (2001) conducted an empirical study of 45 schools with a total of 898 useable surveys returned. A second factor analysis supported the validity of the instrument with teacher-principal factor loadings that ranged from 0.56 to 0.90 and teacher-teacher factor loading ranging from 0.66 to 0.90. The teacher \ principal collaboration subscale had a reliability of 0.93. The teacher \ teacher collaboration subscale had a reliability of alpha = 0.97.

Socioeconomic Status and Prior Academic Skill

Research also indicates a direct effect collective teacher efficacy by prior academic skill. Socioeconomic status has been shown to affect both prior academic skill and collective teacher efficacy. Data for these variables was obtained from the Oklahoma State Department of Education using the 2002 Oklahoma School Report Cards (www.schoolreportcards.org). Socioeconomic status was operationalized as the percentage of students at a school site qualifying for free or reduced lunches. Percentages ranged from 7 to 95 percent. Prior academic success was operationalized using each school's Academic Performance Index (API) from the 2000 – 2001 school year (API Overview, 2002). The API is a complex compilation of criterion reference test scores, school attendance rates, and academic excellence indicators. For elementary and

middle schools, 90 percent of the score is based on criterion-reference test scores from the 3rd, 5th, and 8th grades. The remaining 10 percent is based on school attendance rates. For high schools, 80 percent is based on end of instruction examinations for United States History and English II. Ten percent of the high school API is made up from graduation rates, school attendance rates, and dropout rates. The final 10 percent is based on average ACT scores, ACT participation, college remediation rates, and Advanced Placement scores. Each school's API ranges from 0 – 1500. The Oklahoma state average is 1000, and a perfect score is 1500.

Background Variables

Prior research indicates that school level has a direct effect on teacher-teacher trust and teacher principal trust. School level was operationalized by grade configuration with elementary schools coded as 1, middle schools coded as 2, and high schools coded as 3.

Data Collection

Data collected for this study was part of a larger project encompassing a wide range of school level variables. Nine researchers were involved with the data collection process, which started in the spring of 2002 and concluded in the winter of 2003. Initial data collection in the spring of 2002 targeted 16 schools and was designed to assess the friendliness of the data collection process. Returns from the spring emphasized the importance for early contact with the principals and consistent follow-up with non-respondents in order to ensure a strong return rate for all subject categories. The systematic

process of data collection included soliciting principal participation in the research, random sampling of subjects within schools, instrument dissemination, and follow-up with non-respondents.

Even though school districts consented to the research request, principals nonetheless had the right to decline participation. For this reason, principal consent was achieved by following the procedures described in the sample section. These procedures involved sending an informational packet to the principal and following-up with a phone conversation to further explain the purpose and process of the research. After securing principal consent, a member of the research team arranged an initial visit to the school to discuss the data collection process with the principal and to disseminate the student and teacher instruments. Consenting principals were asked to provide a complete list of teacher names from the entire school. Depending on each principal's preference, the list was submitted to the researcher prior to the initial visit or during the first visit to the school. Ten teachers from each site were randomly selected using a randomization table.

A letter explaining the purpose of the research and directions for completing the instruments was placed on the front cover of each instrument. At the conclusion of the initial visit with the principal, researchers left instrument packets for the teachers to be delivered by a representative of the school. Research instruments were coded for follow-up purposes. Follow-up with non-respondents started approximately eight to ten business days after the initial instrument dissemination. Members of the research team delivered additional instrument packets containing a follow-up letter to the school for teachers who did not respond to the previous instrument dissemination. Follow-up with non-respondents continued until at least 50 percent of the instruments per subject category were

received or three follow-ups with non-respondents were conducted for the respective schools. Disaggregating the return rate to the subject category indicates that 545 out of 790 teachers (69 percent) returned instruments. For the 79 schools the study had a minimum of two returns and a maximum of 10. The mean return rate was 6.47 returns. See tables 1for detailed results.

Table 1: Teacher Response Rates

# of Teacher Responses	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
2	2	2.5	2.5	2.5
3	1	1.3	1.3	3.8
4	4	5.1	5.1	8.9
5	16	20.3	20.3	29.1
6	21	26.6	26.6	55.7
7	14	17.7	17.7	73.4
8	9	11.4	11.4	84.8
9	8	10.1	10.1	94.9
10	4	5.1	5.1	100.00
Total	79	100.0	100.0	

Additional school level data used in this study (school socioeconomic status, school level, and prior academic performance) were obtained from the state department of education. Specifically, the Oklahoma School Report Card maintained by the Office of

Accountability was used to identify the percentage of students qualifying for the federal free or reduced lunch program (a proxy for school socioeconomic status), the grade configurations of the schools (school level), and the 2001 school Academic Performance Index (a proxy for prior school performance).

Analysis of Data

There is both a theoretical and a logical relationship among collaboration, trust, and collective teacher efficacy. To theorize that they are somehow related is not good enough. A more precise understanding of the theoretical formation of collective efficacy is likely to have important research implications, as well as practical consequences. One of the statistical methods often used to study the indirect and direct effect of variables is path analysis. Webley and Lea (2003) state that the path analysis model allows us to estimate the "....magnitude and significance of hypothesized causal connections between sets of variables" (p. 1).

Specifically, research leads one to conclude that collaboration between teachers and with administrators leads to trust, trust both between colleagues and between teachers and principals. It is further postulated that this trust leads to an increase in the collective efficacy of a school. Each path, using one predictor variable and one criterion variable, will be measured using standard regression techniques. Beta weights (standardized regression coefficients) will signal the relative strength of the causal relationship. This method will allow the analysis of the strength of each path, as well as the overall fit of the hypothesized model.

According to Ender (1998), path analysis has five assumptions that should be met. First, it is assumed that the relationship between variables will be linear, causal and additive. (p. 1) Second, it is assumed that residuals will be uncorrelated with other residuals and variables in the model. A violation of this assumption would indicate that other variables outside of the model are affecting the criterion variable. Third, it is assumed that there will be a one-way causal effect from one variable to another. There are no feedback or reciprocal relationships in this model. Fourth, the researcher must use interval level data for all variables. Finally, predictor variables are assumed to be measured without error (Edner, 1998). Path analysis involves the calculation of beta coefficients for each hypothesized causal relationship in the model. Using standard regression techniques, the model regresses each dependent variable on the independent variable. This model involves four (4) endogenous variables. A regression will be computed for each of these four variables.

The unit of analysis for this research was the school. During the assembly of the data individual responses were aggregated to the school level. There was an average of 6.47 of 10 surveys returned from each school site. This procedure involved first entering the data into an Excel database for tracking purposes and then importing those data into an SPSS file to remove cases which contained missing values. SPSS was also used to recode reversed item responses, compute a total score for each variable, and aggregate those individual subject scores to the school level. A total of 25 teacher instruments were collected without responses. These instruments were removed from the sample. A series mean was used to replace missing values. It is an accepted practice to replace missing values with a series mean if the variables are continuous and the missing data are less

than 15 percent of the total. For those cases exceeding 15 percent, the instrument should be removed (George & Mallery, 2002).

Following the removal of unusable instruments, reverse items were recoded and total scores were computed for individual cases. Individual cases were then aggregated to the school level. This aggregation produced a school mean and standard deviations for Teacher Trust of Principal and Teacher Trust of Teacher. The same process was used to calculate school means and standard deviations for the collaboration variables: Teacher Influence in Instructional decisions (teacher-teacher collaboration) and Teacher Influence in Management Decisions (teacher-administrator collaboration). The background variables (socioeconomic status, prior academic skill, and school level) were already school level variables and required no aggregation.

An SPSS program was used to calculate and analyze the bivariate correlations among all variables within the study. Next, a path analysis using ordinary least squares (OLS) multiple regression was performed to examine the causal relationship among the trust variables, the collaboration variables, the background variables and collective efficacy. The path analysis explained the variability caused by the exogenous variables of socioeconomic status, school level, and the trust variables on the endogenous variables of Teacher-Teacher Trust, Teacher-Principal Trust, Prior Academic Skill and Collective Efficacy. A path coefficient was given to each path which contained one predictor variable and one criterion variable. The path coefficients were obtained from the multiple regression analyses using standard beta-weights. Beta-weights are standardized values that can be compared across scales. The beta-weights were used to analyze the theorized casual relationships in the path model.

The path coefficients in the path analysis reflect the amount of variability measured in the criterion variable that can be attributed to the predictor variable. This calculation is accomplished by regressing each predictor variable on its associated criterion variable. Since this research involves four endogenous variables, four separate regressions were performed. Figure 1 shows the path model and the regression equations used in the path analysis.

CHAPTER V

RESULTS

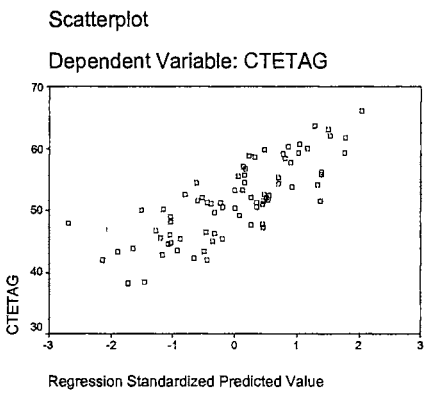
Assumptions

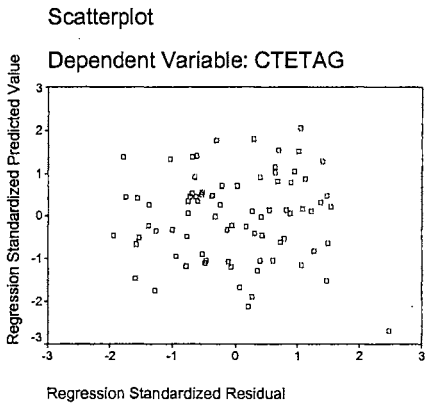
As previously mentioned, five assumptions must be met for a path analysis to be a valid measure. The nature of the relationships among variables must be linear and causal. Residuals, the calculated error, must be uncorrelated with other variables in the model except those that they cause. As can be seen in Figure 2, the variables maintained a linear relationship and the residuals were not correlated. Path analysis assumes that the relationship variables have a linear relationship and that there are no reciprocal relationships. No reciprocal paths were included in the theorized path. Path analysis also assumes that the variables involved are all continuous and measured on an interval scale. All endogenous variables of interest in this study are continuous variables. Finally, path analysis assumes that variables are measured without error. All measures used in this research were found to be reliable. The alpha values for the measures were as follows:

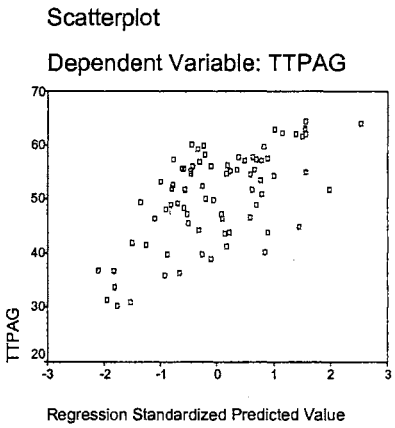
Table 2: Alpha Values for Research measures

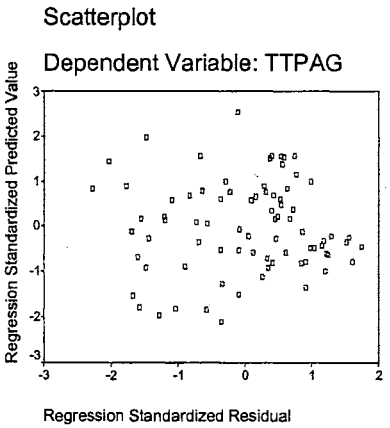
Measure	Alpha	Measure	Alpha
Teacher-teacher collaboration	.91	Collective Teacher Efficacy	.85
Teacher-principal collaboration	.91		
Teacher-principal trust	.94		
Teacher-teacher trust	.93		

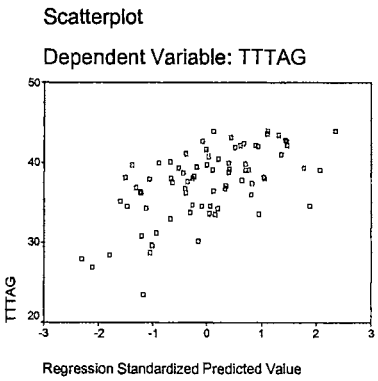
Figure 2: Scatter Plot of Dependent Variables

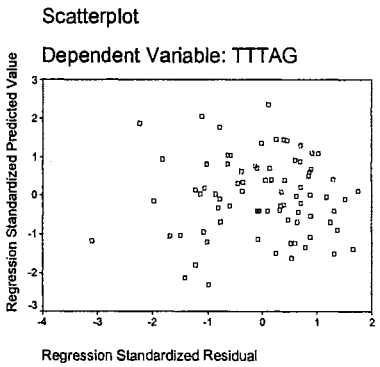












School Level Descriptors

Table 3 presents data from school level variables including the number of cases for the eight variables, data on minimum and maximum values, mean and standard deviation. The variable school level (SLV) was operationalized by grade configuration with elementary schools coded as 1, middle schools coded as 2, and high schools coded as 3. Socioeconomic status (SES) was operationalized as the percentage of students at a school site qualifying for free or reduces lunches. Prior academic success (PAS) was operationalized using each school's Academic Performance Index (API) from the 2000 – 2001 school year (API Overview, 2002). Each school's API ranges from 0 – 1500 with the state average being 1000 and a perfect score of 1500.

Table 3: Descriptive Statistics of School Variables

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
TTT	79	27.00	44.00	37.65	4.13
TPT	79	30.33	64.50	51.34	8.34
CTE	79	38.25	66.00	52.08	6.24
SLV	79	1.00	3.00	2.08	.784
SES	79	7.00	95.00	45.23	22.79
PAS	79	394.00	1500.00	1011.65	202.43
TPC	79	7.50	27.40	16.18	4.46
TTC	79	26.00	57.40	41.38	6.51

Key: TTT = Teacher-Teacher Trust

TPT = Teacher-Principal Trust

CTE = Collective Teacher Efficacy

SLV = School Level

SES = Socioeconomic Status

PAS = Prior Academic Skill

TPC = Teacher-Principal Collaboration

TTC = Teacher-Teacher Collaboration

Bivariate Correlations

Data analysis in this research began by analyzing the strength of the relationships among variables using bivariate correlational analysis. This analysis produces a Pearson correlational coefficient indicating the degree and direction of the relationships between variables. The results were compared to previous findings using these variables. Table 4 presents the data from the bivariate correlational analysis.

Table 4: Bivariate Correlations Among School Variables. N=79

	TTT	TPT	TTC	TPC	CTE	PAS	SES	Schllv
TTT	1.0	74**	.60**	.41**	.53**	.22	-.23*	-.21
TPT		1.0	.63**	.41**	.47**	.19	-.20	-.12
TTC			1.0	.57**	.57**	.23*	-.13	-.27
TTP				1.0	.51**	.33**	-.23*	-.23
CTE					1.0	.73**	-.60**	-.33**

PAS	1.0	-.70**	-.17
SES		1.0	-.12
SLV			1.0

**Correlation is significant at the .01 level

*Correlation is significant at the .05 level

Key: TTT = Teacher-Teacher Trust

TTP = Teacher-Principal Trust

TTC = Teacher-Teacher Collaboration

TPC = Teacher-Principal Collaboration

CTE = Collective Teacher Efficacy

PAS = Prior Academic Skill

SES = Socioeconomic Status

SLV = School Level

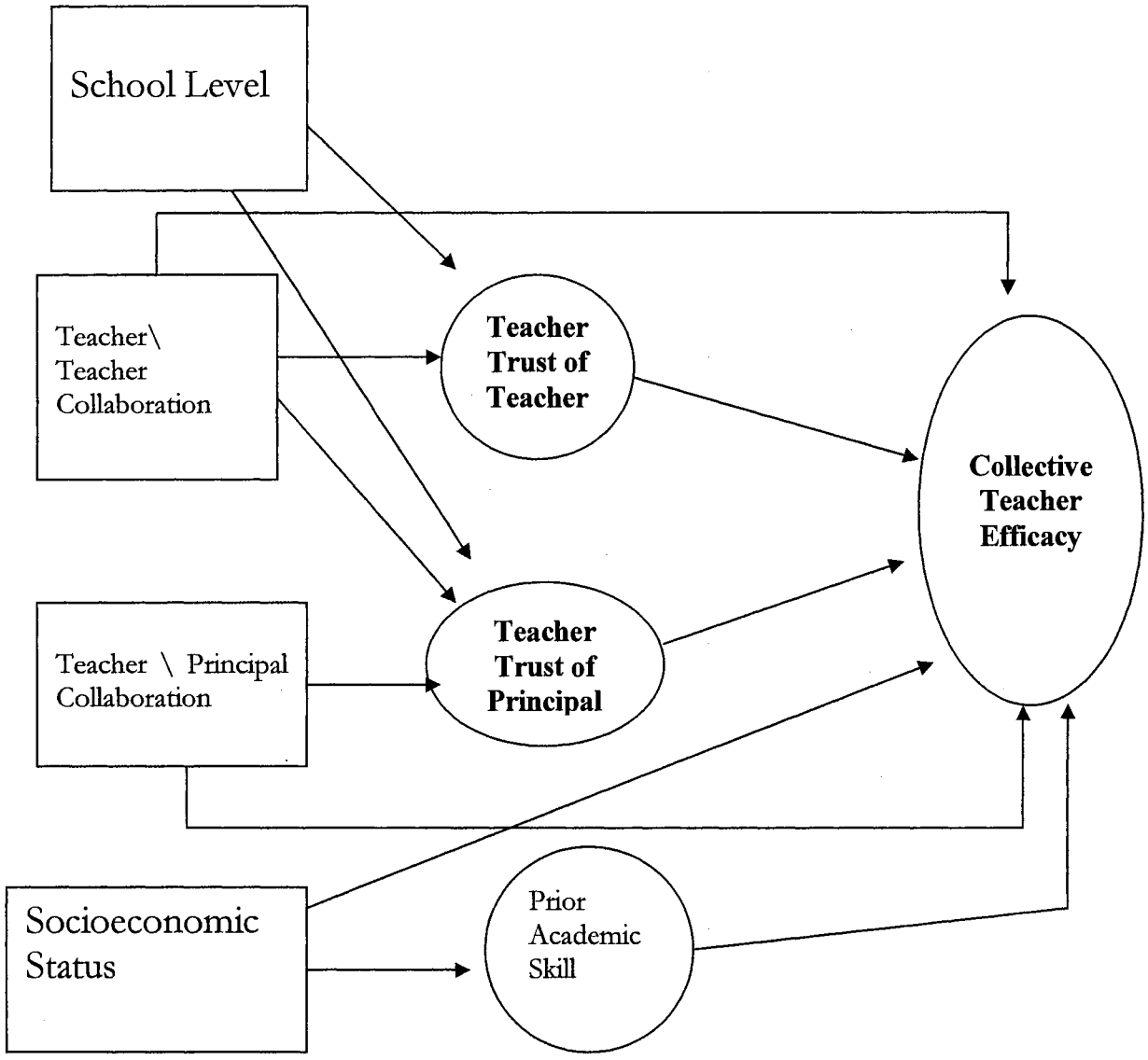
The bivariate correlational analysis indicated a positive relationship between teacher trust of teacher and teacher trust of principal ($r = .74$, <0.01) and between teacher trust of teacher and teacher-teacher collaboration ($r = .60<0.01$). A positive and significant relationship was found between a teacher's trust of the principal and teacher-teacher collaboration ($r = .63$ <0.01). Furthermore, analysis indicated a positive and significant relationship between teacher trust of the principal and teacher collaboration with the principal ($r = .41$, <0.01). Finally, analysis indicated a positive and significant relationship between teacher trust of teacher and teacher-principal collaboration ($r = .41$, <0.01).

Also found in table 4 are the correlations among the internal trust variables and the background variables (prior academic success, socio-economic status, and school level). Teacher-teacher trust was only significantly related socio-economic status (r = -.23, <0.01). Teacher-principal collaboration was negatively related to socio-economic status and school-level, but none of these relationships were significant. Table 4 also presents the correlations among the collaboration variables and the background variables. Teacher-teacher collaboration was positively and significantly related to prior academic success (r = 0.23, < 0.05). The correlations between teacher-teacher collaboration and the background variables were non-significant and negative in nature. Teacher-principal collaboration was significantly and positively related to prior academic success (r = .33, < 0.01) and negatively related to socio economic status (r = -0.23, < 0.05). Although the relationship between teacher-principal collaboration and school level was negative, it was not significant.

The study next examined the relationship between collective teacher efficacy and the internal trust variables. This study found significant and positive relationships among collective teacher efficacy and teacher-teacher trust (r = 0.53, <0.01), as well as collective teacher efficacy and teacher-principal trust (r = 0.47, <0.01). The study also found positive and significant relationships between collective teacher efficacy and teacher-teacher collaboration (r = 0.57, < 0.01) and collective efficacy and teacher-principal collaboration (r = 0.51, < 0 01). When the relationship between the study's background variables of prior academic success, socio economic status, and school level were examined, the analysis indicated a significant relationship between all variables, but differences in direction. Collective teacher efficacy was positively and significantly

related to prior academic success ($r = 0.73, <0.01$). However, collective teacher efficacy was significantly but negatively related to socio economic status (percent free and reduced lunch) ($r = -0.60, < 0.01$) and school level ($r = -0.33, < 0.01$). The findings in this study's are consistent with prior research findings using collective teacher efficacy, as it is related to, teacher-teacher trust, prior academic performance, and socio economic performance (Goddard, Hoy, and Hoy, 2000; Smith, Hoy, & Sweetland, 2002; Goddard, Hoy, & Logerfo, 2003).

Figure 1: Theorized Model of the Hypothesized Relationship



1. Y (TTT) = TTC + SL
2. Y(TPT) = TTC + TPC + SL
3. Y (CTE) = TTC + TPC + TPT + TTT + SES + PAS
4. Y (PAS) = SES

Path Analysis

This study utilized a path analysis to test the relationships among the variables theorized in the model. Path analysis uses standardized regression coefficients (beta weights) to describe the level and direction of the relationships. A statistically significant beta weight indicates the direct effect the independent variable has on the dependent variable. The path analysis process also allows a researcher to evaluate the indirect effect variables may have on the dependent variables through interceding variables. Both the direct effect and indirect effect will be reported in this research.

In the first regression, teacher-teacher trust was regressed on teacher-teacher collaboration and school level. Table 5 shows that the variable of teacher-teacher collaboration ($\beta = .59, p < .01$) independently contributed to the explanation of teacher-teacher trust. Hypothesis 1 stated that Teacher-teacher collaboration has a direct effect on teacher trust of teacher. As predicted in hypothesis 1, teacher-teacher collaboration had a direct positive effect on teacher-teacher trust. School level, ($\beta = -.05, p < .635$) was not a statistically significant predictor.

Table 5: Teacher-Teacher Trust Regressed on Teacher-Teacher Collaboration and School Level N=75

	Beta Weights	T	Significance
TTC	.59	6.12	.00
SLV	-.05	-.48	.64

Key: TTC = Teacher-Teacher Collaboration

SLV = School Level

In the second regression, teacher-principal trust was regressed on teacher-teacher collaboration, teacher-principal collaboration, and school level. In Table 6 we find that only teacher-teacher collaboration ($\beta = .58$, $p < .01$) independently contributed to the variation in teacher-principal trust. Teacher-principal collaboration ($\beta = .13$, $p > .05$) and school level ($\beta = .07$, $p > .05$) were not significant. Hypothesis 2 stated that teacher-teacher collaboration would have a direct effect on teacher-principal trust. As predicted in hypothesis 2, teacher-teacher collaboration had an independent and positive effect on teacher-principal trust. Hypothesis 3 stated that teacher-principal collaboration would have a direct effect on teacher-principal trust. This hypothesis was not supported ($\beta = .13$, $p > .05$). The background variable of school level was also not significant ($\beta = .07$, $p > .05$).

Table 6: Teacher-Principal Trust Regressed on Teacher-Teacher Collaboration, School Level, and Teacher-Principal Collaboration N=75

	Beta Weights	T	Significance
TTC	.58	5.274	.00
SLV	.07	0.714	.48
TPC	.13	1.199	.23

Key: TTC = Teacher-Teacher Collaboration

SLV = School Level

TPC = Teacher-Principal Collaboration

Collective teacher efficacy was regressed on prior academic skill, social economic status, teacher-teacher trust, teacher principal trust, teacher-principal collaboration, and teacher-teacher collaboration. In this regression, collective teacher efficacy is treated as the dependent variable; predictor variables include prior academic achievement, social economic status, teacher-teacher trust, teacher-principal trust, teacher-principal collaboration and teacher-teacher collaboration. As seen in Table 7, teacher-teacher collaboration ($\beta = .30$ $p < .01$), prior academic achievement ($\beta = .50$, $p < .01$) and teacher-teacher trust ($\beta = .19$, $p < .05$) were the only variables to significantly predict the level of collective teacher efficacy. These findings support hypothesis 4, which stated that teacher-teacher trust has a direct effect on collective teacher efficacy and hypothesis 8 which stated that prior academic skill would have a direct effect on collective teacher efficacy. The variable of prior academic achievement ($\beta = .50$, $p < .01$) was significantly related to the level of collective teacher efficacy.

This regression also supported hypothesis 6 which stated that teacher-teacher collaboration has a direct effect on collective teacher efficacy ($\beta = .30$ $p < .01$). Teacher-teacher collaboration also had an indirect effect on collective teacher efficacy through the mediating variables of teacher-teacher trust (.11) and teacher-principal trust (.01). Total effect for the variable of teacher-teacher collaboration on collective efficacy was .42.

Hypothesis 5 and 7, using the variables of teacher-principal trust and teacher-principal collaboration, were not supported. Hypothesis 5 stated that Teacher trust of principal would have a direct effect on collective teacher efficacy. Hypothesis 7 stated

that Teacher-principal collaboration would have a direct effect on collective teacher efficacy. Hypothesis 7 was not supported ($\beta = .13$ $p < .23$). Teacher-principal collaboration had an indirect effect, through the mediating variable of teacher-principal trust of .00 and a total effect of .07.

In the final regression, socioeconomic status was regressed on prior academic skill. Socio economic status ($\beta = -.16$, p. $< .06$) was not a statistically significant predictor of collective teacher efficacy. Socio economic status had an indirect effect, through prior academic achievement, of .35 and a total effect of .41. Socioeconomic status had a significant negative affect on prior academic skill ($\beta = -.70$, p. $< .01$).

Table 7: Collective Teacher Efficacy Regressed on Teacher-Teacher Collaboration, Teacher-Principal Collaboration, Prior Academic Skill, Teacher-Teacher Trust, Teacher Principal Trust, and Socioeconomic Status

TTP, and SES. N= 75

	Beta Weights	T	Significance
TTC	.30	3.48	.00
TPC	.07	0.89	.38
PAS	.50	5.86	.00
TTT	.19	2.12	.04
TPT	-.02	-0.19	.84
SES	-.16	-1.91	.06

Key: TTC = Teacher-Teacher Collaboration

TPC = Teacher-Principal Collaboration

PAS = Prior Academic Skill

TTT = Teacher-Teacher Trust

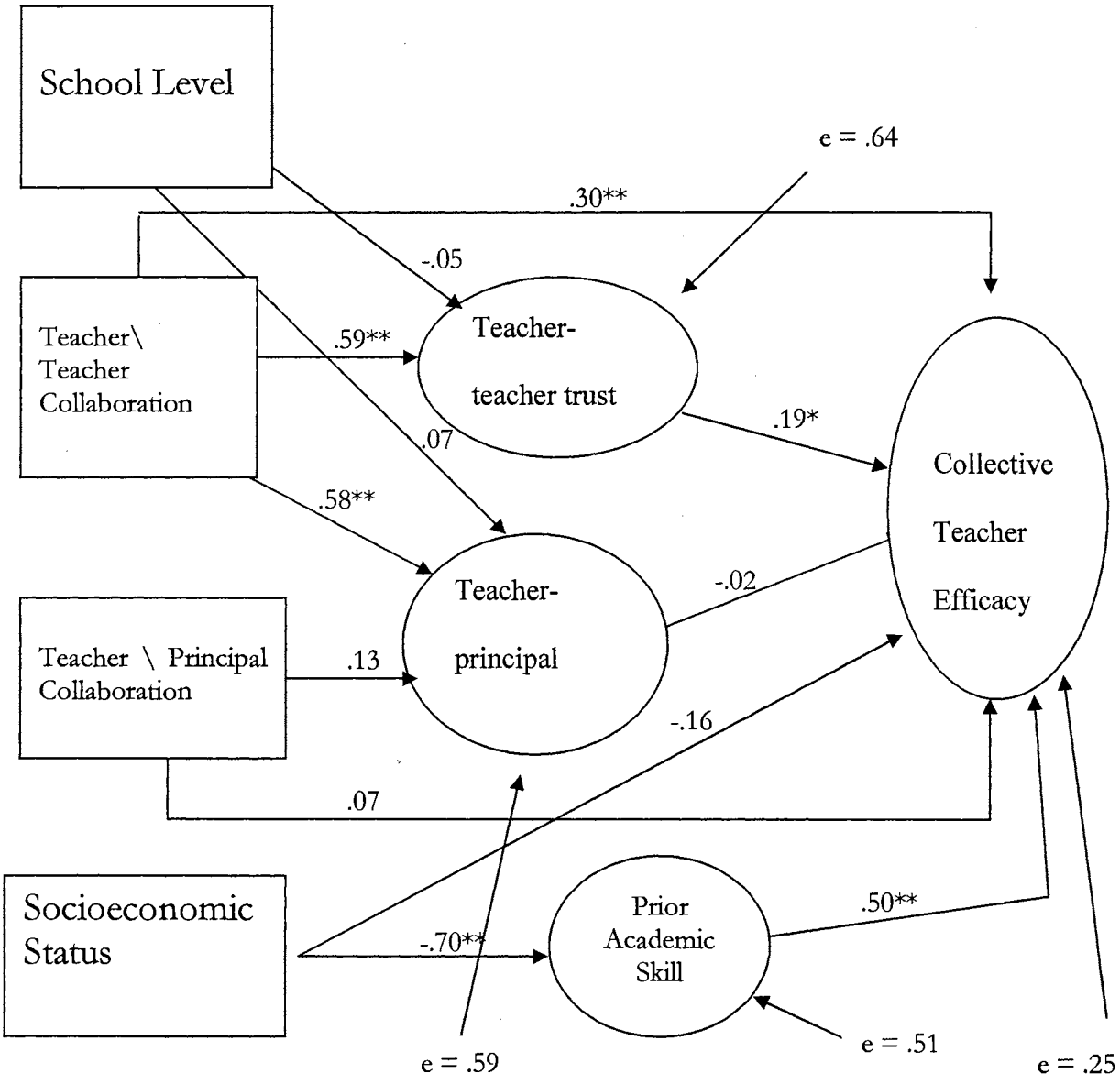
TPT = Teacher-Principal Trust

SES = Socioeconomic Status

In Figure 3, all standardized regression coefficients for the hypothesized model are presented. These coefficients demonstrate the direct effect of all independent variables on the dependent variable. The level of significance is noted with an asterisk. In this diagram, one can easily see that several of the modeled relationships were not supported, especially regarding teacher-principal trust and teacher-principal collaboration. The background variables of school level had no direct effect on either teacher-teacher trust or teacher-principal trust. Similarly, socio economic status had no statistical impact on collective teacher efficacy. Only the background variable of prior academic performance had a statistically significant affect on collective teacher efficacy.

Because of prior research and theory, it was not surprising to find that teacher-teacher collaboration had a significant direct impact on teacher-teacher trust and collective efficacy. For the same reason, it was also not a surprise to find that teacher-teacher trust had a significant direct effect on collective teacher efficacy. It was surprising to see the lack of significance in the variables of teacher-principal collaboration and teacher-principal trust. Neither of these variables had any significant direct influence within the model.

Figure 3: Beta Weights for the Conceptual Model



After the variables of prior academic skill and indirectly socioeconomic status, teacher-teacher collaboration and teacher-teacher trust have the greatest direct effect on collective teacher efficacy. In a closer examination of these findings (Table 8) we see a zero relationship between the variables of teacher-principal trust and collective teacher efficacy. This finding is consistent with a study done by Adams in 2003. The significance of prior academic performance is consistent with other research on collective teacher efficacy (Goddard, Hoy, & Woolfolk, 2000; Goddard, 2002). The negative effect of socio economic status is also consistent with previous findings (Goddard, 2000; Adams, 2003).

Table 8: Comparison of Correlational Coefficients and Beta Weights on CTE

	r	Beta Weights
Teacher-teacher trust	.53**	.19*
Teacher-principal trust	.47**	-.02
Teacher-teacher collaboration	.57**	.30**
Teacher-principal collaboration	.51**	.07
Prior Academic Skill	.73**	.50**
Socioeconomic Status	-.60**	-.16

**Correlation is significant at the .01 level

*Correlation is significant at the .05 level

CHAPTER VI

SUMMARY AND DISCUSSION

Summary of Findings

The purpose of this study was to explore the relationships among teacher collaboration, teacher trust, and collective efficacy. The study attempted to examine the direct effects of collaboration on trust and collective efficacy. The study also attempts to examine the direct effects of trust on collective efficacy. The theoretical framework and conceptual model for this study is guided by both trust theory and social cognitive theory. This chapter will summarize the findings of the analysis through the lens of the hypothesized relationships, examine the implications for both theory and practice, and assess the need for future research.

The findings of this study demonstrate the importance of collaborative relationships in the building of trust among teachers, as well as the positive affects that collaboration and trust have on the collective efficacy of teachers. This study is one of the first to examine the affects of collaboration on collective teacher efficacy. It is the first to examine the effects of principal trust and principal collaboration on collective efficacy. The conceptual model, guided by the theoretical framework of trust theory, research on teacher collaboration, and social cognitive theory, proposed a direct affect on

the internal trust variables of teacher-teacher trust and teacher-principal trust due to the effects of collaboration among teachers and principals.

Previous research found a positive relationship between teacher trust of teacher and teacher trust of principal (Tarter, Sabor, & Hoy, 1995; Hoy & Tschannen-Moran, 1999; Hoy & Sweetland, 2001). The results of this study confirm these earlier findings. The internal dimensions of trust (teacher trust of teacher and teacher trust of principal) have been found in previous research to be positively related to the internal dimensions of collaboration (teacher influence on management decisions and teacher influence on instructional decisions) (Tschannen-Moran, 2001). All but one of these findings are consistent with the research of Tschannen-Moran (2001). That research indicated a significant and positive relationship between teacher trust of teacher and teacher-teacher collaboration ($r = .30$, <0.05), teacher trust of principal and teacher-teacher collaboration ($r = 0.64$, < 0.01), teacher trust of principal and teacher-principal collaboration ($r = 0.32$, < 0.05). The current study differs in findings from Tschannen-Moran (2001) who found a positive ($r = 0.28$), but not statistically significant relationship between teacher-teacher trust and teacher-principal collaboration.

In hypothesis one, teacher collaboration was predicted to have a direct effect on teacher-teacher trust. This hypothesis was supported by the findings. These findings also support earlier research which concluded that a necessary antecedent to trust is interdependence and that collaboration provides the interaction necessary for that interdependence to develop (Powell, 1996). The control variable of school level was not significant.

The second hypothesis stated that teacher-teacher collaboration would have a direct effect on teacher-principal trust. This prediction was also supported and is consistent with the findings of Hoy & Tschannen-Moran (1998).

Hypothesis three stated that teacher-principal collaboration would have a direct affect on teacher-principal trust. This hypothesis although positive was not significant (Beta = .13, $p < .23$). This finding differs from the findings of Tschannen-Moran (2001). In that study, the level of collaboration positively and significantly related to teacher-principal trust ($r = 0.32$, $p < 0.05$). The control level variable of school level was not significant.

The next two hypothesized relationships dealt with the effects of internal trust variables and their direct affect on teacher collective efficacy. Hypothesis four predicted a direct effect from teacher-teacher trust on collective teacher efficacy. This prediction was supported. Interestingly, hypothesis five predicted a direct affect from teacher-principal trust on collective teacher efficacy and was not supported. This is the first known examination of the relationships among these two variables. The background variables measured were prior academic skill and socioeconomic status. Prior academic skill was found to be a significant predictor of collective efficacy ($\beta = .50$ $p < .01$), while student socioeconomic status was not ($\beta = -.16$ $p < .06$). Although socioeconomic status had little direct effect on collective teacher efficacy, its indirect effect, through the mediating variable of prior academic skill, was significant (total effect = -.41).

Our next hypotheses concerned teacher-teacher collaboration and teacher-principal collaboration and their effects on collective teacher efficacy. The hypothesis that collaboration would be a significant predictor of collective teacher efficacy was

partially supported. Teacher-teacher collaboration was found to be a significant predictor of collective teacher efficacy (total effect = .40). Interestingly, and consistent with the study's findings on trust, teacher-principal collaboration was not a significant predictor of collective efficacy (total effect = .07). As previously stated, no other known research is available using the variables of collaboration and collective efficacy.

Our final three hypotheses involved the socioeconomic status of students, prior academic skill, their relationships and the direct effect they have on collective teacher efficacy. One of these hypotheses stated that socioeconomic status would have a direct effect on collective teacher efficacy, it was not supported. However, socioeconomic status did have a significant influence on collective efficacy through the mediating variable of prior academic skill. This is interesting since most research has used one or the other of these variables, but not both. It may be that socioeconomics strength in influencing collective may be through its effects on prior academic levels. This would make logical since in light of the fact that SES has such a strong influence on school readiness and student's belief in their academic ability. Our next hypothesis stated that prior academic skill would have a direct effect on collective efficacy. This hypothesis was supported and is consistent with prior research. Finally, it was theorized that SES would have a direct effect on prior academic skill, this hypothesis was supported and is consistent with prior research.

Discussion of findings

The hypotheses in this study were derived from previous research findings and theoretical knowledge of trust, collaboration and collective efficacy. A common element

can be found within the definitions of these variables. Trust was defined in this study as "...one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (Hoy & Tschannen-Moran, 1999, pp. 7-8). Collaboration was defined as the extant teachers perceived themselves to be both involved and influential in school and classroom level decision making. Collective efficacy was defined as "...the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" (Bandura, 1997, p. 477). Intertwined through these definitions is the consistent element of interdependence and interaction.

The first three hypotheses in this study examined the effect of collaboration on internal trust variables. Consistent with other studies on trust in schools I found that teacher-teacher collaboration positively affected both teacher-teacher trust and teacher-principal trust. The later finding can be attributed to the generalized affect of collaboration on the teacher's perception of the principal. These findings emphasize the importance of collaborative environments and collaborative opportunities within schools. These findings also emphasize the importance of transcending the barriers and teacher isolation that are so common in schools, as well as the need to create genuine collaborative relationships between teachers and between teachers and administrators. For administrators, these findings highlight the need for teachers to have the time to collaborate on instructional issues. Prior research has demonstrated that one of the most isolating variables within the school setting is the lack of time for collaboration. The creation of quality collaborative environments and the ability of teachers to collaborate on substantive issues can empower a staff and have far-reaching affects.

Interestingly, the third hypothesis which stated that teacher-principal collaboration would predict teacher-principal trust was not supported. It may be theorized that these data do not demonstrate the negation of the hypothesized relationship, but perhaps it may demonstrate the almost complete lack of experience of teachers with real collaboration. If the only experience the subjects in this study had with collaboration was superficial or limited, then it is no surprise that collaboration with administrators would have little effect on either trust or collective efficacy. Several studies have demonstrated the superficial nature of teacher-principal collaboration. Tschannen-Moran called this "contrived collaboration" and explains that the lack of effective participation is due to the structure of "influence relationships" (2001, p. 309). Malen et al (1990) found that until these powers and influence structures are changed, collaborative processes within the educational structure will be predominately superficial. In my own experience, substantive collaboration with teachers did not occur until after the creation of a site council which had far-reaching powers and money to fund a mutually agreed upon agenda, thus creating an equalization of power influences within the teacher-principal relationship. If principals want to reap the benefits of collaboration, they must find ways to equalize and diffuse the power structures inherent in schools.

The next two hypotheses examined teacher-teacher and teacher-principal trust and their effect on collective efficacy. Trust within an organization has been shown to affect employee productivity, cooperation, communication, teacher efficacy, and student achievement (Tschannen-Moran, 2001). Teacher-teacher trust has also been found recently to affect collective teacher efficacy. The findings in this study support this research (Adams, 2003). For teachers and administrators, these findings demonstrate the

need for school personnel and researchers to examine the context of teaching and the normative and contextual variables which affect the interpersonal relationships that constitute the environment of a school. This research suggests that principals should promote situations which change the encapsulating and isolating nature of schools and develop environments which promote trusting relationships. Current research demonstrates that through the creation of a true sense of community and a commonness of purpose can real reforms occur within schools. For such an endeavor to be successful, trusting teacher relationships are essential.

This study also found that teacher-principal trust had no affect on collective efficacy. This is especially interesting since the correlational analysis was both significant and positive. This suggests a suppression phenomenon. These findings are similar to findings by Adams, 2003. That study also found a suppression phenomenon involving teacher-principal trust, collective efficacy, socioeconomic status and prior academic skill. It was determined through hierarchical regression that the suppression affect was caused by the variable of prior academic skill and socio-economic status. However, even while controlling for these variables, teacher-principal trust was not a significant predictor of collective efficacy. This is an area which will need further research. One might speculate that possibly the converse of the hypothesis in this study might be true; it may be that collective efficacy has a direct affect on teacher-principal trust.

In the next two hypotheses, the direct effect that teacher-teacher collaboration and teacher-principal collaboration have on collective efficacy is examined. The hypothesis that collaboration directly affects collective efficacy was partially supported. As with our

previous findings, we see that teacher-teacher collaboration has a significant and positive affect on collective teacher efficacy. This is especially significant since both of these variables have been shown to affect student achievement. These findings demonstrate the importance for school officials to examine the nature of schooling, the nature of teaching, and to create avenues for teachers to work more collaboratively.

Consistent with other findings in this study, teacher-principal collaboration was not a significant indicator of collective teacher efficacy. Several previous studies have found correlational relationships between such variables as principal behavior, teacher-principal collaboration, and teacher efficacy. However, a causal link between the variables of teacher-principal collaboration and collective efficacy has not previously been examined. Although our findings were not significant, they are informative. It enlightens us to the fact that energies are better used fostering teacher-teacher relationships and creating teacher-teacher collaborative opportunities, as opposed to spending time developing teacher-principal collaborations. This finding may also demonstrate the need for a better or at least different measure of collaboration, especially for teacher-principal collaboration. As previously mentioned, collaboration in this study was measured by the level of teacher influence on management decisions. The findings in this study may be demonstrating that what teachers really want to do is teach and focus on teaching-learning activities and decisions; perhaps teachers are not significantly interested in management decisions that may or may not have a direct effect on their daily lives.

In summary, this study has demonstrated that the most significant indicators of collective efficacy, after the variables of prior academic performance and socioeconomic

status, are teacher-teacher collaboration and teacher-teacher trust. We have demonstrated with this study that if schools are interested in increasing how teachers as a group feel about the influence they have as educators, the creation of an environment that promotes trusting, collaborative relationships between teachers has the greatest influence. We also see the importance of prior academic performance on collective efficacy. This finding is consistent with prior research and is not surprising considering that prior performance is an indicator of student achievement and also that teacher efficacy is very sensitive to achievement variables. Prior to this research, collective efficacy studies have focused on variables outside the control of most administrators (i.e. socioeconomic status, school size, and school level). These findings suggest variables that affect collective efficacy which administrators can directly and indirectly affect. Through the creation of environments that promote collegiality, cooperation, problem solving and collaboration school officials create opportunities for positive increases in collective efficacy.

The research into variables of collective efficacy, collaboration, and trust is essentially about improving schools through the creation of a sense of community. Sergiovanni's research calls for the development of school communities as a substitute for formal leadership. Sergiovanni states that, "Students are best served when teachers, administrators, and parents act in concert—when their complementary roles represent more than a partnership but a mutually beneficial compact on behalf of students" (1995, p. 49). As this community develops "...teachers and administrators are brought together into a collective practice that resembles a shared stewardship" (1995, p. 48). Through the development of collaborative environments and the building of trusting relationships, a sense of school community within a school can be developed. Sergiovanni states that

"Communities are defined by their centers. Centers are repositories of values, sentiments and beliefs that provide the needed cement for uniting people in a common cause" (1992, p. 41). For such a community to form, it is essential to include trust, a high level of efficacy, and collaboration. One important bi-product of the creation of school communities is increased collective efficacy. If teachers work collaboratively from a common set of goals and ideals, in trusting relationships, the result will be increased student achievement and higher levels of efficacy. What are the implications for principals? Sergiovanni states that:

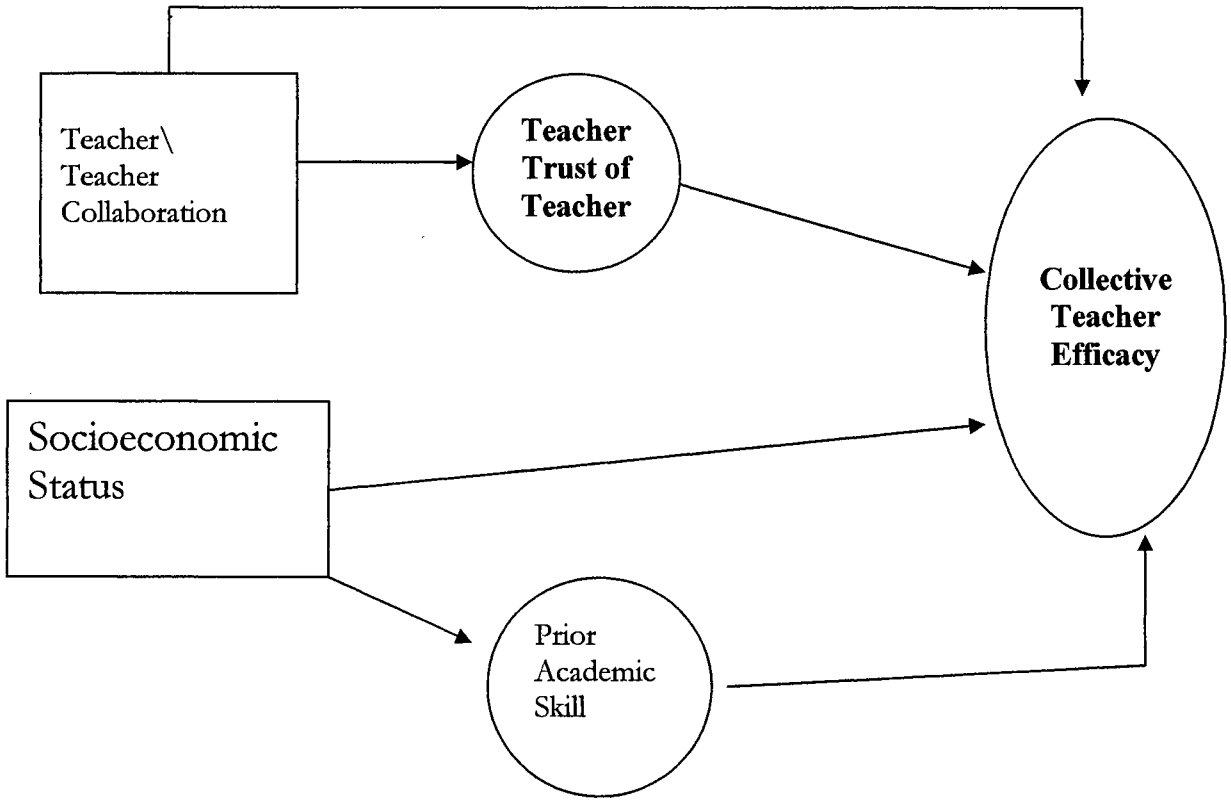
> They must plant the seed of community, nurture fledgling community, and protect the community once it emerges. To do this they lead by following. They lead by serving. They lead by inviting others to share in burdens of leadership. They lead by knowing. And like Plato's Guardians, they lead by being. (1994, pp. 202-203).

A Trimmed Model and Practical Implications

As I indicated in the preface of this work, I started my educational career in a very isolated teaching position, working as the only music instructor in a very small school system. My experiences at that school and later at a larger district where I worked with a team of instructors, gave life to my interest in teacher collaboration and trust. So, how does this study inform us on a practical level? Although the significance of this study's findings is only moderate at best, taken with the other research and literature available on our variables, practical implications can be drawn. First, figure 4 represents a trimmed model using only paths that were significant in this study. If we examine this model, we

see that two direct lines lead to the variance in collective efficacy. We see that teacher-teacher collaboration combined with increased teacher-teacher trust lead to increases in collective efficacy. We also see the negative affect that prior academic skill and socioeconomic status have on collective efficacy. Interestingly, the total effect of the teacher-teacher collaboration and the total effect of socioeconomic status were almost equal (.40 vs. -.41). Teachers and administrators have little influence on prior academic skill or socioeconomic status. However, there is a growing body of research that demonstrates that variables such as teacher collaboration and collective efficacy can counter the negative affects.

Figure 4: Trimmed Model of the Hypothesized Relationship



This study, the literature on collaboration, trust, and collective efficacy, along with related research all indicate that if teachers and administrators work to find ways to collaborate, on a significant level, the results will be increased levels of trust and higher levels of collective efficacy. However, this is not an easily obtainable task. Two main barriers hinder the creation of collaborative communities. The first barrier for increased collaboration is the very nature of schooling whose structure, both physical and normative, foster professional isolation. However, there are many ways to overcome this barrier. Principals must first seize upon day to day opportunities to encourage teachers to work and plan together. An environmental norm must be established where the sharing of ideas and problems is not just accepted, but expected. Administrators can arrange the physical environment and school schedule to foster greater collaborative opportunities (i.e. department wings, common plan times for departments, schools within schools, team plan times, etc). The principal can also lead discussions during staff and department meetings which initiate collaborative thoughts and processes. Finally, principals can help create a norm of collaboration through example. Through a greater involvement in team and department level issues principals have the opportunity to increase the types of collaborations which are sustainable and will foster greater trust and efficacy.

The second barrier to greater levels of collaboration is the influence of power. If real collaboration is to occur, principals and department heads must be willing to set aside their mantle of distinction and truly become a member of a team. As I indicated in the preface of this document, one of my most successful collaborative experiences has been with the site council at the school in which I work. This council controls its own agenda and budget. The fact that this team controls its own agenda and budget is an

important one as this seems to negate any power influence and empower the team to be independent. As a member of this team I am but one vote. At these meetings we discuss and try to solve problems of almost every nature regarding teachers, administrators, facilities, students, parents, curriculum etc. This group is not only a well functioning collaborative team; it also serves as an excellent example to the whole staff. Through this council the entire faculty has found a voice through which ideas flow and problems get solved. The process has now filtered down to the department level which also has its own budget thus creating a norm of collaboration which has filtered throughout the entire building. Through the facilitation of collaborative processes a greater level of trust has evolved and a higher level of collective efficacy has emerged.

Recommendations for Future Research

Findings from this research highlight the importance of collaboration in building trusting relationships and raising the level of collective efficacy within a school. These findings also highlight the need for future research involving these variables. Suggestions for future research will be categorized by the principle variables within the conceptual model: collaboration, trust, and collective efficacy.

Findings from this research demonstrate the need for a more tightly woven definition and operationalized method for measuring collaboration. Research into the effects of collaboration suffers from a vagueness of definition; the variable of collaboration needs a more direct measure of its affects. Research would also benefit from further examination of collaboration using a larger sample size, which would allow for more robust measures of the variable (HLR or SEM). Future research should also

examine collaboration using other members of the school community, including students, parents, and community members.

One of the most important questions this research raised involved principal collaboration. Future research is needed to further examine the role that principal collaboration plays in different aspects of the interpersonal environment of schools. This research found little significant impact of principal collaboration on either trust or collective efficacy. This would seem to be in conflict with current trust theory. Does collaboration between teachers and principals really have little impact on the internal trust variables and collective efficacy? Or is the measure and definition of collaboration somehow confounding the results? A deeper more focused examination of this variable would greatly benefit research.

Trust within a school site affects almost every aspect of its environment. Research into the effects of trust need to be extended to include both students and parents. What are the affects of parent trust on schools? What are the affects of student-teacher trust? To what extent does trust in the school's administration affect students, parents, and teachers? Research also needs to examine the affects of fixed variables on internal and external trust. What effect do school size, school level, socioeconomic conditions, and prior academic achievement have on the building of trusting relationships? Very little research has been done on the effects of trust on collaboration and collaboration on trust. This line of inquiry should also be extended to include students, parents, and community members. Finally, further research needs to be developed examining the direct affect trust has on school performance and under what conditions that affect most optimally occurs.

Collective efficacy is a relatively new construct and very little research has been done on the variable. Prior to this study most of the research centered on such external variables as school size, school level, and socioeconomic status. Collective efficacy is inextricably linked to the context of teaching. It is from this perspective that future research is most needed. As Adams (2003) stated, "a healthy and supportive context of teaching fosters the presence of the sources of efficacy information and the sources of efficacy information cultivate a positive teaching context" (p. 99). Future research on collective efficacy should focus on the variables which have a direct affect on the task of teaching: monetary resources, instructional resources, accountability, school size, and teaching load. Research would also benefit from further examination of this variable using a larger sample size which would allow for more robust analysis of the variable (HLR or SEM).

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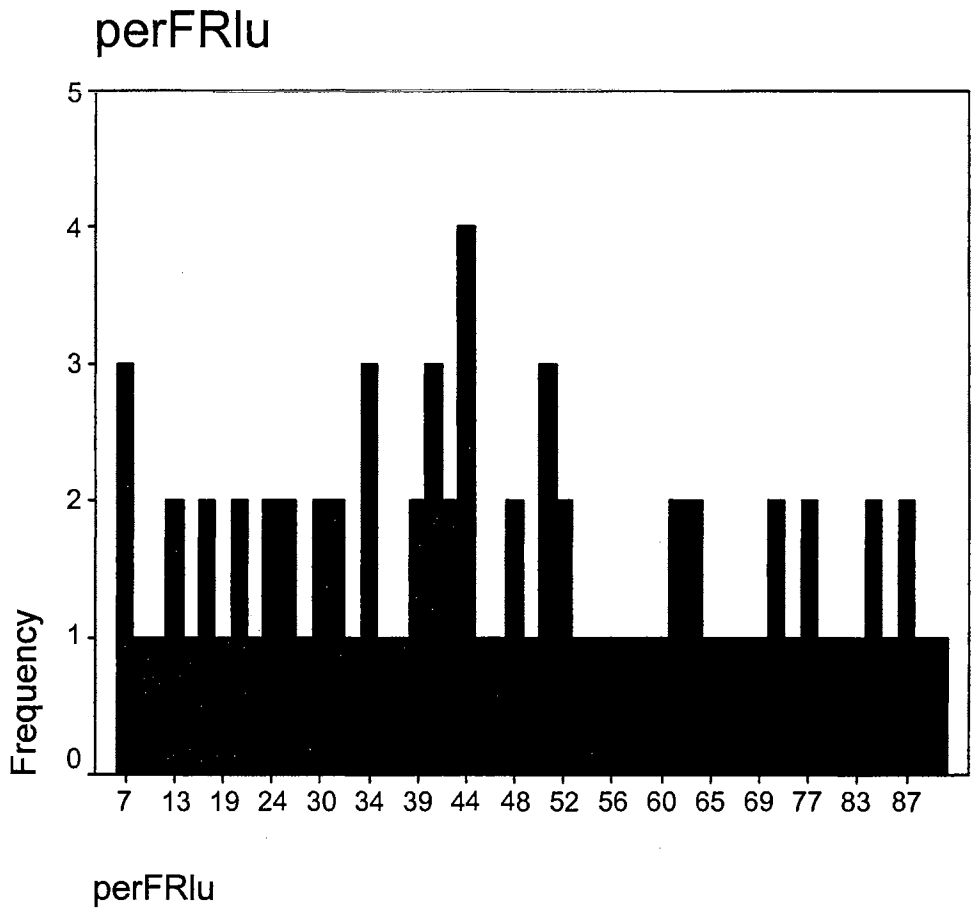
APPENDICES

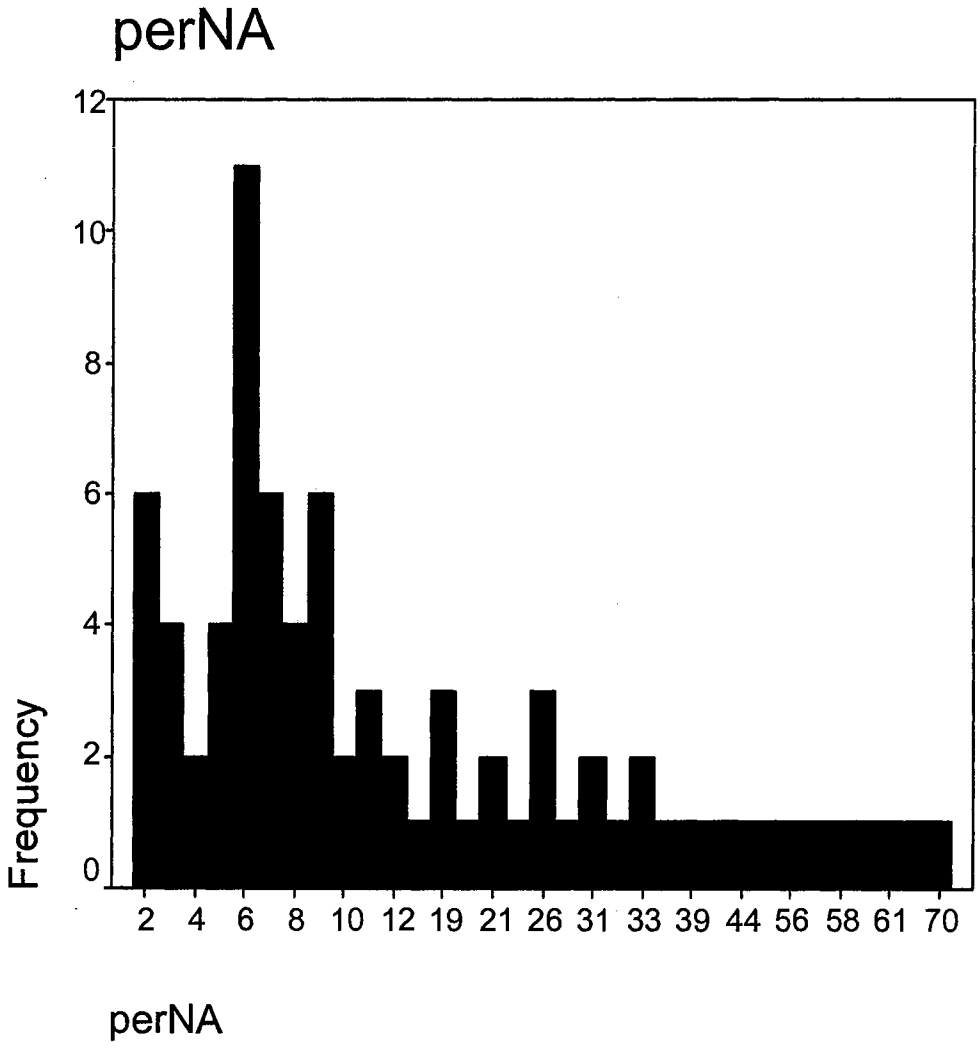
APPENDIX A

Sample Demographics: Percentage of Students Qualifying for the Federal Free or Reduced Lunched Program



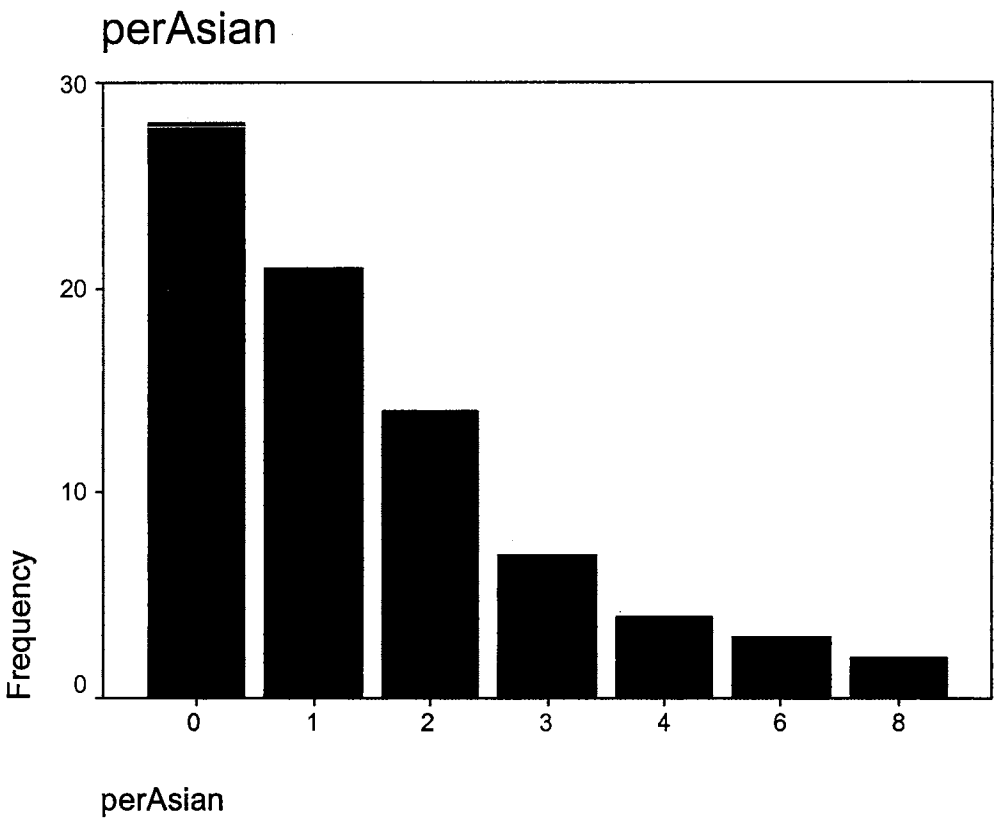
APPENDIX B

Sample Demographics: Percentage of Native American Students



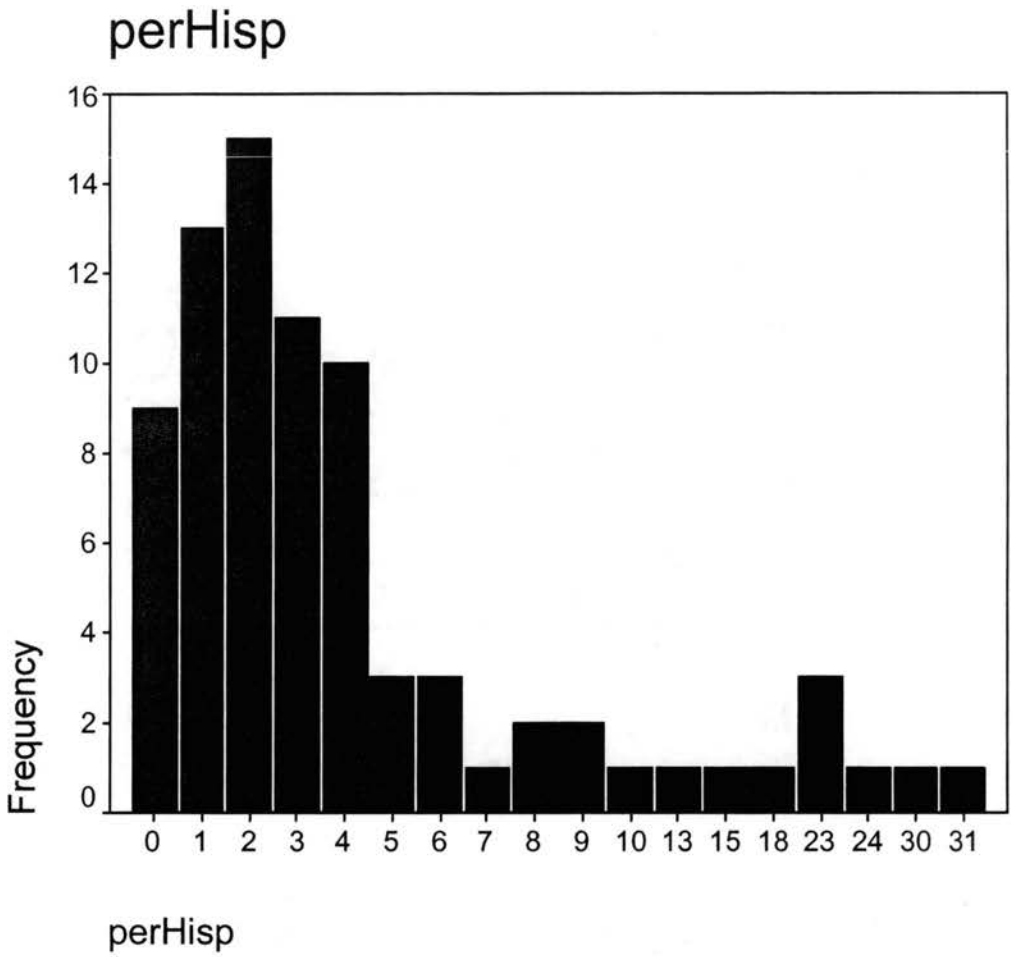
APPENDIX C

Sample Demographics: Percentage of Asian Students



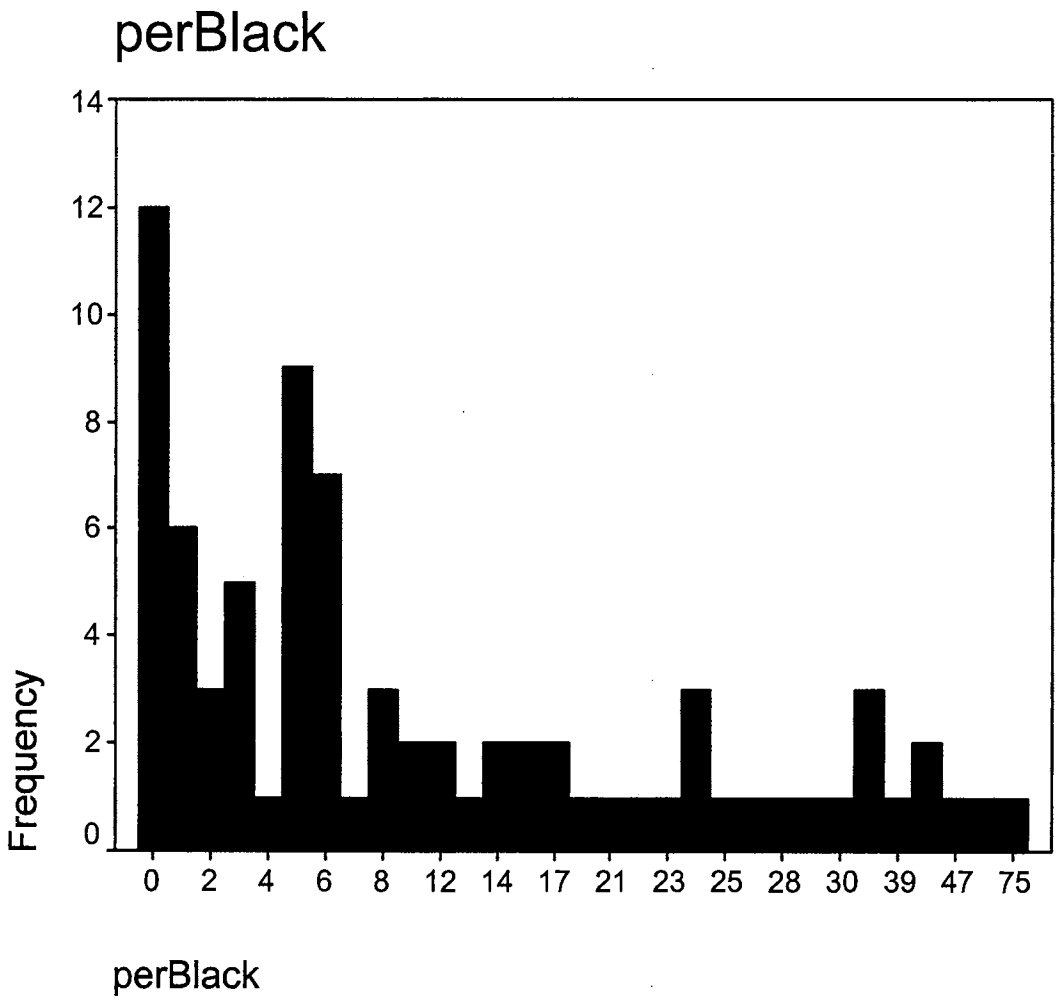
APPENDIX D

Sample Demographics: Percentage of Hispanic Students



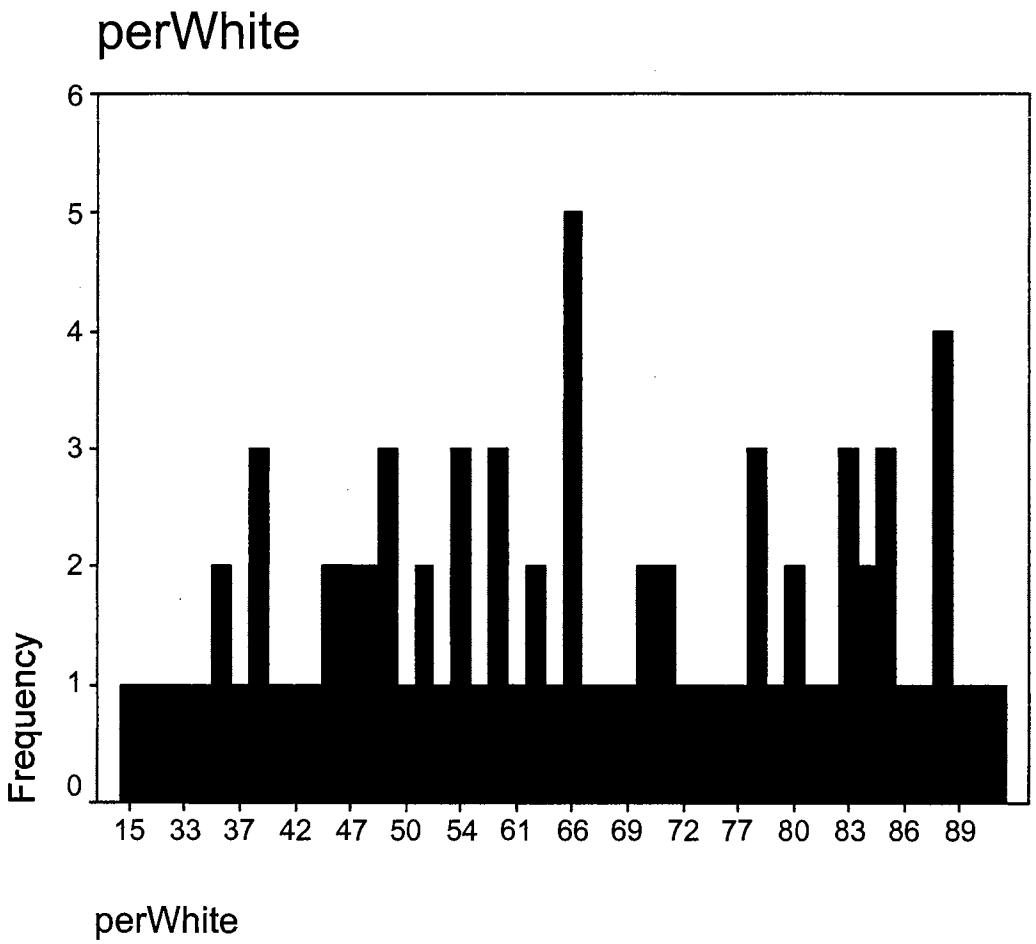
APPENDIX E

Sample Demographics: Percentage of Black Students



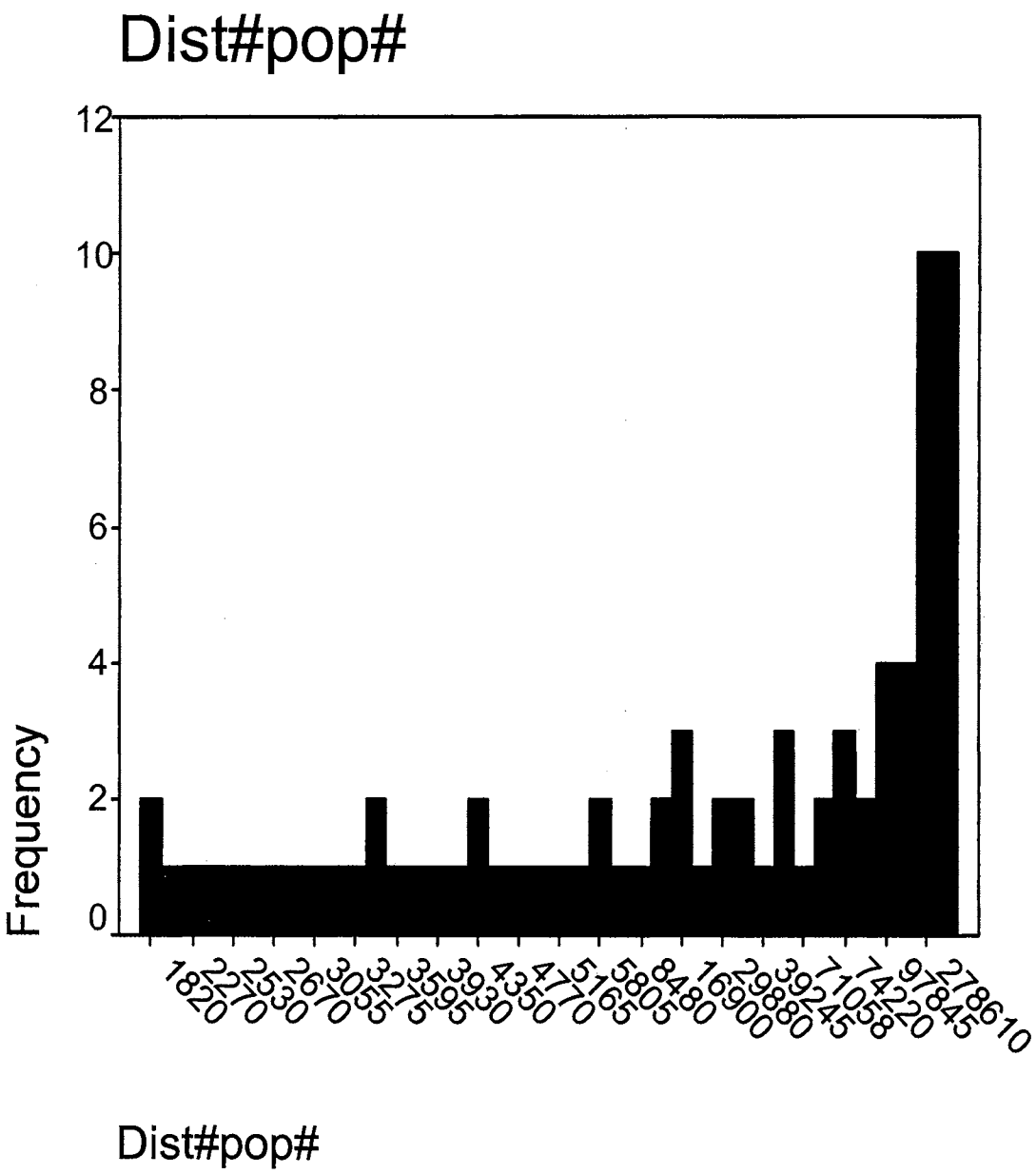
APPENDIX F

Sample Demographics: Percentage of White Students



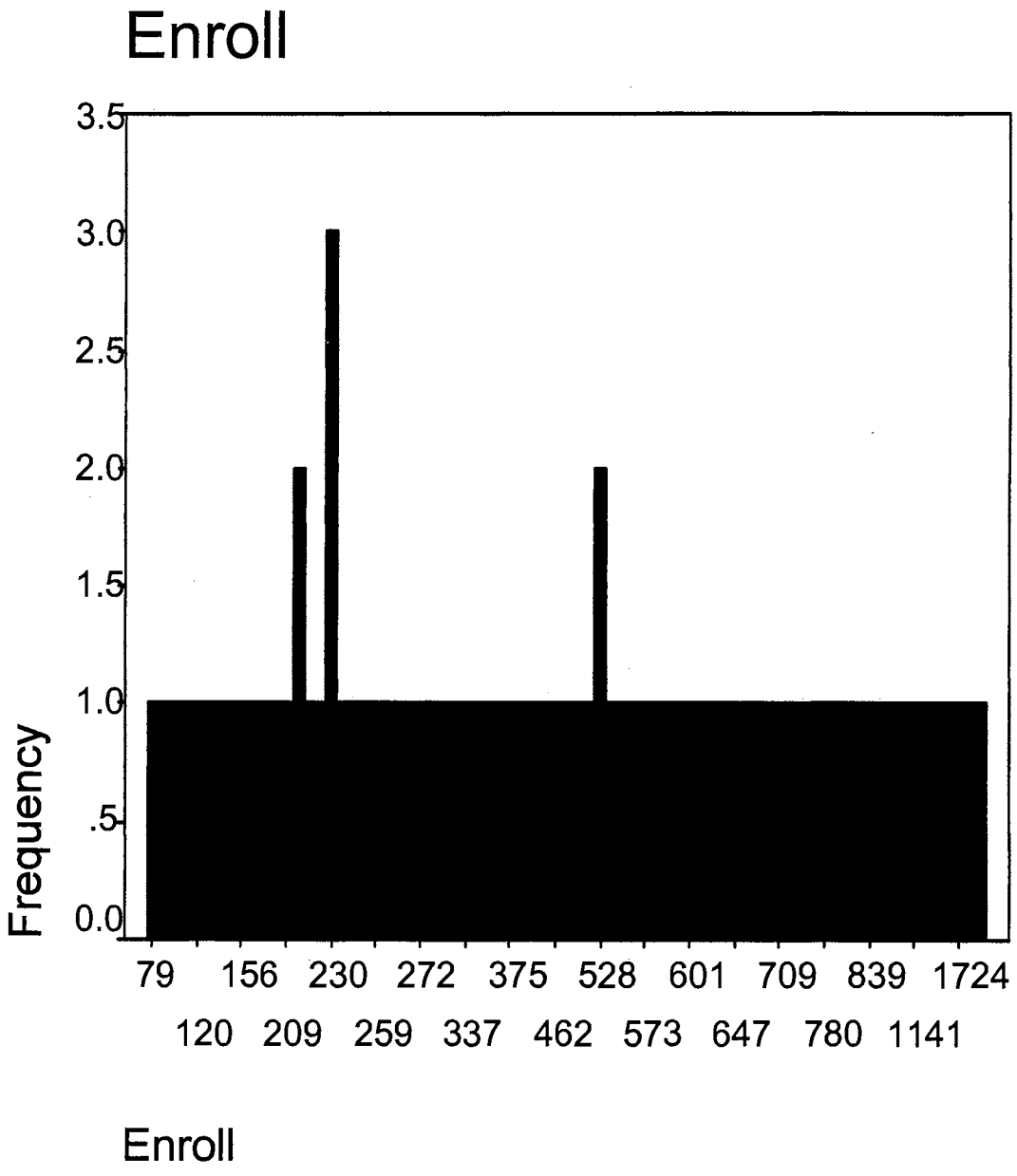
APPENDIX G

Sample Demographics: Population of Residents Living within the School District



APPENDIX H

Sample Demographics: School Enrollment



APPENDIX I

Pursuant to 45 CFR 46 www.vpr.okstate.edu/irb

IRB

Number

APPLICATION FOR REVIEW OF HUMAN SUBJECTS RESEARCH

Submitted to the

OKLAHOMA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD

Title of Project: School Trust Project

Is the Project externally funded? ___Yes _x__No

Type of Review Requested: ___Exempt ___Expedited __x_Expedited Special Population ___Full Board

Principal Investigator(s): *I acknowledge that this represents an accurate and complete description of my research.*

Patrick B. Forsyth		12/8/01	forsytp@okstate.edu
Name of Primary PI (typed)	Signature of PI	Date	E-Mail
SES		Education	
Department		College	
2444 Main Hall / OSU-Tulsa / 700 N Greenwood / Tulsa / 74106		918-594-8192	
PI=s Address		Phone	

Laura L. B. Barnes		12/8/01	lbarnes@okstate.edu
Name of PI (typed)	Signature of PI	Date	E-Mail
SES		Education	
Department		College	
2444 Main Hall / OSU-Tulsa / 700 N Greenwood / Tulsa / 74106		918-594-8281	
PI=s Address		Phone	

NOTE: If sufficient space is not provided below for a complete answer in sufficient detail for the reviewer to fully understand what is being proposed, please use additional pages as necessary.

1. Describe the purpose of the research.

The primary purpose of this research is to investigate "school trustworthiness," the causes and conditions of its formation and its consequences for academic performance.

2. Describe the subjects of this study, including: 1) sampling procedures, 2) sampling population, 3) number of subjects expected to participate, 4) how long the subjects will be involved, 5) any follow-up procedures planned, and 6) any anticipated risks. Please state explicitly if subjects are under 18 years of age. Include a copy of the script or other mechanisms to be used to solicit subjects.

The unit of analysis for this study will be the school. The population for the study includes the 836 public schools in the 25 contiguous counties of NE Oklahoma. A sample of 60 schools each has been drawn from three strata (505 elementary schools; 160 middle schools; 182 high schools), for a total of approximately 180 schools, which will be asked to participate in the study. For comparison purposes, several non-public schools will also be asked to participate. Our estimate is that approximately 120 schools will become part of the sample. Data will not be collected until permission from the district in which it has been located has been obtained.

Two kinds of data will be collected or used for this study. First, existing, publicly available data from the Education Oversight Board, Office of Accountability and the Common Core of Data will be used to develop school variables such as average family earnings per school and indicators of academic performance.

Second, data will be collected from four sets of individuals in each school: principals, parents, teachers, and students. Perceptual data for parents, teachers and students will be aggregated to create school variables. Data collected on principals will obviously be individual, but never reported in such a way that permits identification of schools and principals or connects them. Temporary, separate files will allow the PIs to identify individuals for follow-up of non-respondents.

Principals. One principal for each school will complete a series of demographic and attitudinal scales, totaling approximately 96 questions. Copies of the instruments, descriptions, and the informed consent form to be presented in duplicate (ours, theirs) at the time the researchers provide the instruments to the principals, are attached in the "Instruments" addendum.

Parents. Principals will be asked to provide the grade roster for one grade per school (elementary schools, grade 3; middle schools, grade 7; high schools, grade 11) from which the researchers will randomly select 15 parent subjects each. In cases where principals are uncomfortable with this procedure, they or their designee may use a random number system provided by us to create a list of 15 parent households. Principals will be consulted as to the best way to maximize response from their parent group, whether hand delivered by children, mailed directly to parents, etc. A suggested "cover letter" from the principal will be included in requests for parent cooperation. In most cases, responses will be returned directly to the researchers by participating parents via postage free envelope. In no case will the school principal have access to un-aggregated responses. Thus, approximately 1,800 parent packets will be distributed. Four instruments will be distributed to parents, for a total of 32 questions. Copies of the instruments, descriptions, and the informed consent form to be included in duplicate (ours, theirs) are attached in the "Instruments" addendum.

Teachers. Principals will be asked to provide the roster of full-time, classroom teachers assigned to their schools, from which 8-10 individuals will be randomly selected to participate. The best way to collect these data will be negotiated with each school. Options include direct, individual, hand distribution by the researchers; distribution at a faculty meetings; or distribution via faculty mail box. In no case will the principal handle completed instrument packets, which will be sealed and collected by a faculty representative or the researcher, or returned by mail directly to the PIs. Approximately 960 faculty packets will be distributed. Seven instruments will be given to teachers for a total of approximately 82 questions. Copies of the instruments, descriptions, and the informed consent form to be included in duplicate (ours, theirs) at the time the instruments are pro vided to teachers, are attached in the "Instruments" addendum.

Students. Principals will be asked to provide the rosters for one grade level in each school (grade 11 in high schools, grade 7 in middle schools, and grade 5 in elementary schools), from which 15 individuals will be randomly selected to participate. The best way to collect these data will be negotiated with each school, but in all likelihood, packets will be hand distributed by teachers to selected students. These instrument packets, to be completed at home, will be sealed and received by a school staff member or returned by mail directly to the PIs,

depending on school preference. Approximately 1,800 student packets will be distributed. Two instruments will be given to students for a total of approximately 26 questions. Copies of the instruments, descriptions, and the informed consent form to be included in duplicate (ours, theirs) at the time the instruments are provided to students, are attached in the "Instruments" addendum. This informed consent form will require signatures of both the student and one legal guardian. Probably all student respondents will be under 18 years of age.

Subjects will be involved in the study only during the time they are completing the survey. Follow up with non-respondents will be done only to inquire if another copy of the instrument is needed and the remind respondents of the importance of their cooperation. No risks are anticipated with this kind of research and the mechanisms are in place to maintain autonomy of all respondents. Simple cover letters inviting respondents to participate will be the primary mechanism for soliciting cooperation. Copies of these letters are found at the back of this document.

3. Describe each proposed condition, intervention, or manipulation of human subjects or their environments. Include a copy of any questionnaires, tests, or other written instruments, instructions, scripts, etc., to be used.

Random sampling techniques will establish lists of target subjects for each school. Most subjects will be invited to participate in the study by receipt of a response packet containing survey instruments, instructions for the return of the instruments, and forms explaining the nature of the research, which they will sign if they agree to participate. Technically there will be no intervention or manipulation of subjects.

Cooperation of principals of randomly selected schools will be solicited in-person by members of the research team, since their cooperation is somewhat more complicated and involves explanations about procedures for sampling and collecting data from parents, students, and teachers in their school.

4. Will the subjects encounter the possibility of stress or psychological, social, physical, or legal risks that are greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests?

[ ] Yes [x] No If Yes, please explain below.

5. Will medical clearance be necessary for subjects to participate because of tissue or blood sampling, administration of substances such as food or drugs, or physical exercise conditioning?

[ ] Yes [x] No If Yes, please explain how the clearance will be obtained.

6. Will the subjects be deceived or misled in any way?

[ ] Yes [x] No If Yes, please explain below.

7. Will information be requested that subjects might consider to be personal or sensitive?

[x] Yes [ ] No If Yes, please explain below.

Possibly, however individual data will be aggregated to form school level variables. For example, parents will be asked questions that reveal their levels of trust of the school and principal, but all analysis and reporting will be done by school and even the researchers will be limited in their ability to connect individuals and their responses to the follow-up period. Principal data will obviously be connected to individuals, but the connections of data to individuals and their schools will be protected. After follow-up, all connections between individuals and their data will be destroyed and no reporting will require or permit identification of individual respondents or their schools.

8. Will the subjects be presented with materials that might be considered to be offensive, threatening, or degrading?

[ ] Yes [x] No If Yes, please explain below, including measures planned for intervention if problems occur.

9. Will any inducements be offered to the subjects for their participation?

[ ] Yes [x] No If Yes, please explain below.

If extra course credit is offered, describe the alternative means for obtaining additional credit available to those students who do not wish to participate in the research project.

10. Will a written consent form (and assent form for minor) be used?
[x] Yes [ ] No

If Yes, *please include the form(s). A suggested format and checklist for the consent form may be useful as a guide. Elements of informed consent can be found in 45 CFR 46, Section 116.*

If No, *a waiver of written consent must be obtained from the IRB. Explain in detail why a written consent form will not be used and how voluntary participation will be obtained. Include any related material, such as a copy of a public notice, script, etc., that you will use to inform subjects of all the elements that are required in a written consent.*

11. Will the data be a part of a record that can be identified with the subject?

[x] Yes [ ] No If Yes, please explain below.

Until follow-up procedures are concluded, the researchers will have lists of subjects, which they will use to determine who has responded. Subsequent to follow-up (using respondent, numeric codes), all identifiers will be discarded and no analyses or reporting will necessitate the inclusion of any specific individual or location identifiers.

12. Describe the steps you are taking to protect the confidentiality of the subjects.
These procedures have been described in the responses above.

13. Will the subject=s participation in a specific experiment or study be made a part of any record available to his or her supervisor, teacher, or employer?

[ ] Yes [x] No If Yes, please describe below.

14. Describe the benefits that might accrue to either the subjects or society. *Note that 45 CFR 46, Section 46.111(a)(2) requires that the risks to subjects be reasonable in relation to the anticipated benefits. The investigator should specifically state the importance of the knowledge that reasonably may be expected to result from this research.*

There are no risks to subjects in this research design. The study is proposed to develop generalizable knowledge about the causes, conditions and effects of trust in schools. Such an understanding should enable educators to build more successful learning communities and better serve the education needs of American schools and learners, especially those schools serving increasingly diverse populations of students.

Concurrence:

Department Head (type)	Signature	Date	Department

College Dean or Research Director	Date	College

Checklist for application submission:

X Research plan* or grant proposal
X Informed consent/assent forms
X Outline or script to be provided prior to subjects= agreement to participate
X Instrument(s) [questionnaire, survey, testing]
X Curriculum vitae
X Department/college/division signatures

*Research plan should be a brief summary of research, the methodology, risks to subjects, and benefits. This plan is generally used for thesis or dissertation research or other unfunded research.

Number of copies to be submitted (based on type of review required):

Exempt	2
Expedited	3
Expedited Special Population	5
Full board	12

NOTE:

1. ANY CHANGES IN THE PROJECT AFTER APPROVAL BY THE IRB MUST BE RESUBMITTED AS A MODIFICATION FOR REVIEW BY THE IRB BEFORE APPROVAL IS GRANTED. MODIFICATIONS DO NOT CHANGE THE PERIOD OF INITIAL APPROVAL.

2. APPROVAL IS GRANTED FOR ONE YEAR MAXIMUM. ANNUAL REQUESTS MUST BE MADE TO THE IRB FOR CONTINUATION, AS LONG AS THE RESEARCH CONTINUES. FORMS FOR CONTINUATION AND MODIFICATION ARE AVAILABLE ON THE WEB AND IN THIS PACKET.

Oklahoma State University
Institutional Review Board

Protocol Expires: 2/3/03

Date: Monday, February 04, 2002 IRB Application No ED0267

Proposal Title: SCHOOL TRUST PROJECT

Principal Investigator(s):

Patrick Forsyth
2444 Main Hall, OSU
Tulsa, OK 74106

Laura Barnes
2436 Main Hall
Tulsa, OK 74145

Reviewed and Processed as: Expedited (Spec Pop)

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 203 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Carol Olson

Olson, Chair
Institutional Review Board

Appendix J

Documents of Solicitation and Informed Consent.

1. Letter to school district or head of non-public school.

Superintendent of Instruction
Riverside Public Schools

Dear Ms/Mr Superintendent:

We, and several colleagues from Oklahoma State University, are conducting research on the causes and consequences of public trust in schools, especially as related to academic performance of children. A school (or enter number here) from your district has been randomly selected from the 836 public school population in North Eastern Oklahoma. We are hoping you will grant us permission to contact the principal(s) of the school(s) and make arrangements for data collection. We also ask that you provide us with your approval and any other approvals required at the district level to conduct our research. You have our sincere assurance that these procedures will not be disruptive or in any way cause the district or school embarrassment. Ultimately we are hoping for more than 120 schools to participate.

A brief description of the study, instruments, and approval of the OSU Institutional Review Board are enclosed for your review. Since the study focuses on schools as the unit of analysis, no individual data will be analyzed or reported. In fact, there will be no schools named or identified by specific location. Our interest is in the broad relationships between perceptions and characteristics of schools and the trust parent have for them and their principals.

As you can see from the attached materials, we will collect data from the school principal, a small sample of parents (15 households) from one grade in each selected school, a small sample of students (15) in one grade, and a sample of teachers (10). It will be made clear that participation is voluntary and that the most stringent protections of participant anonymity will be observed. In the case of the student participants, informed consent forms will be required from the student and parent/guardian. Adult participants will also be asked to read and sign informed consent forms. There will be no reports by school or district. It will be made clear to all participants that this research is being conducted by researchers from OSU who have received appropriate permissions to conduct the research in your school(s).

In a few days, a member of our research team will be calling you to encourage your cooperation with this project. We look forward to working with members of your school community to better understand the importance of community trust of school and its causes. Thank you in advance for your careful review and consideration of our request.

Sincerely,

Patrick B. Forsyth
Williams Professor of Educational Leadership

Laura Barnes
Associate Professor

Enclosures: District Permission Form
IRB report and approval
List of schools and principals sampled from your district

Letters Explaining the Research Process and Directions for Participation

Dear Colleague:

Oklahoma State University is conducting research on the causes and consequences of public trust in schools, especially as related to children's academic success. This important work could help improve public schools in Oklahoma. Your school has been randomly selected as one of the 836 in NE Oklahoma for study. Your principal and school district have given us permission to seek your cooperation and we genuinely need your help. About 10 classroom teachers from your school have been randomly selected to participate.

Participation will take only a few minutes of your time. We ask that you complete the survey and mail it directly to OSU in the postage-free envelope provided. Your name will never be attached to this survey and once we have received your survey, all evidence that you participated (or declined to participate) will be destroyed. No one at your school, district, or anywhere will have access to your responses or research findings that could be connected to you.

Thank you, most sincerely, for your cooperation. We know you share our belief that Oklahoma's schools should be the best they can be. If you complete the survey, it is important that you answer ***all*** questions. If you choose not to participate, simply return the incomplete survey and we will not send you another mailing. Any questions may be directed to the e-mail address below. Thank you again.

Sincerely,

Patrick B. Forsyth
Williams Professor of Educational Leadership
forsytp@okstate.edu

Laura Barnes
Associate Professor

Enclosures: Return Envelope

Dear Parent or Guardian:

Oklahoma State University is conducting research on the causes and consequences of public trust in schools, especially as related to children's success in school. This important work can help improve public schools in Oklahoma. Your child's school has been selected as one of the 836 in NE Oklahoma for study. Your school district and principal have given us permission to seek your cooperation and we genuinely need your help. Yours is one of fifteen randomly selected school households.

Participation will take only a few moments of your time. We ask that you complete this 46-item survey and mail it directly to OSU in the postage-free envelope provided. Your name will never be attached to this questionnaire and once we have received your survey, all evidence that you participated will be destroyed. No one at the school will be shown your responses.

Thank you, most sincerely, for your help. We know you share our belief that Oklahoma's schools should be the best they can be. If you complete the survey, it is important that you answer ***all*** questions. If you do not want to participate, please return the blank survey and we won't send you another mailing. Any questions you might have may be directed to the

researchers below. Thank you.

Sincerely,

Patrick B. Forsyth
Williams Professor of Educational Leadership
Phone: 918-594-8192
E-mail: forsytp@okstate.edu

Laura Barnes
Associate Professor

Enclosure: Return Envelope

APPENDIX P

Follow-up Letter

January/February 2003

A few weeks ago you received a research instrument from Oklahoma State University. If you still have this instrument please complete it and send it back to OSU-Tulsa via the return envelope. If you misplaced the instrument, please complete the accompanying instrument and return it to OSU-Tulsa. If you choose not to participate in the research, please return the instrument with a statement indicting that you do not desire to participate. Upon receiving your returned instrument, or response indicating that you choose not to participate, we will stop contacting you for follow-up purposes. We thank you in advance for your time and support of this important research study over the causes, consequences, and effects of trust in schools.

Sincerely,

Richard Dale

Informed Consent (School Principal)

Researchers at OSU are conducting a study of school trust, its causes and effects, especially for academic performance of children. Small samples (15 or fewer) of subjects will be drawn from among the school's parents, teachers, and students to collect the perceptions of these groups, and, information and perceptions of the school's principal will also be collected by survey. Randomly selected schools in NE Oklahoma comprise the study's population. Identification of individual respondents (by code) will be temporarily maintained until follow-up procedures have been completed, after which, all data connecting individuals with data will be destroyed. The more than 100 participating schools and thousands of respondents will not be identified except by level (HS, MS, Elementary School) in any files, analyses, or reports.

We thank you for your help. If you have questions, please contact us at OSU-Tulsa:

Professor Patrick B. Forsyth 918-594-8192 or forsytp@okstate.edu
Professor Laura L. B. Barnes 918-594-8281 or lbarnes@okstate.edu

I acknowledge that the researchers have described the research and its level of personal risk to me. They have offered to answer my questions about the research and I voluntarily consent to participate, recognizing that I have no obligation to do so. I understand that information-gathering procedures will protect the confidentiality of my responses to questions and that I may keep a copy of this consent form for my records.

Signature:_____ Printed Name:

_____

Date: ___/___/___

Informed Consent (Teacher)

Researchers at OSU are conducting a study of school trust, its causes and effects, especially for academic performance of children. Small samples (15 or fewer) of subjects will be drawn from among the school's parents, teachers, and students to collect the perceptions of these groups, and, information and perceptions of the school's principal will also be collected by survey. Randomly selected schools in NE Oklahoma comprise the study's population. Identification of individual respondents (by code) will be temporarily maintained until follow-up procedures have been completed, after which, all data connecting individuals with data will be destroyed. The more than 100 participating schools and thousands of respondents, will not be identified except by level (HS, MS, Elementary School) in any files, analyses, or reports.

We thank you for your help. If you have questions, please contact us at OSU-Tulsa:

Professor Patrick B. Forsyth 918-594-8192 or forsytp@okstate.edu
Professor Laura L. B. Barnes 918-594-8281 or lbarnes@okstate.edu

I acknowledge that the researchers have described the research and its level of personal risk to me. They have offered to answer my questions about the research and I voluntarily consent to participate, recognizing that I have no obligation to do so. I understand that information-gathering procedures will protect the confidentiality of my responses to questions and that I may keep a copy of this consent form for my records.

Signature:_____ Printed Name:

_____

Date: ___/ ___/ ___

Informed Consent (Parent)

Researchers at OSU are conducting a study of school trust, its causes and effects, especially for academic performance of children. Small groups of parents, teachers, and students have been selected to represent the views of each participating school by survey. Once the OSU researchers have received your survey and noted your choice to participate or not, all connection between your name and the data will be destroyed. No one at your child's school will see your survey, nor will any of the 100 participating schools and thousands of respondents be identified.

We sincerely thank you for your help. If you have any questions, please contact us at OSU-Tulsa:

Professor Patrick B. Forsyth 918-594-8192 or forsytp@okstate.edu
Professor Laura L. B. Barnes 918-594-8281 or lbarnes@okstate.edu

I acknowledge that the researchers have described the research and its level of personal risk to me. They have offered to answer my questions about the research and I voluntarily consent to participate, recognizing that I have no obligation to do so. I understand that information-gathering procedures will protect the confidentiality of my responses to questions and that I may keep a copy of this consent form for my records.

Signature:_____ Printed Name:

_____

Date: ___/ ___/ ___

Informed Consent (Student)

Researchers at OSU are conducting a study of school trust, what causes trust and how trust affects how well students do in school. Small groups of parents, teachers, and students will be surveyed to represent the views of each school. Once the OSU researchers have received your survey and noted your choice to participate or not, all connection between your name and the data will be destroyed. No one at your school will see your survey, nor will your name be associated with your responses in any reports.

We sincerely thank you for your help. If you have any questions, please contact us at OSU-Tulsa:

Professor Patrick B. Forsyth 918-594-8192 or forsytp@okstate.edu
Professor Laura L. B. Barnes 918-594-8281 or lbarnes@okstate.edu

I acknowledge that the researchers have described the research and its level of personal risk to me. They have offered to answer my questions about the research and I voluntarily consent to participate, recognizing that I have no obligation to do so. I understand that information-gathering procedures will protect the confidentiality of my responses to questions and that I may keep a copy of this consent form for my records.

Note: Federal law requires the signature of a parent or guardian AND the student's signature for participation in this type of research. Please be certain your parent signs too. Thanks.

STUDENT Signature:_____ Printed Name:_____

Date: ___/___/___

PARENT Signature:_____ Printed Name:

_____

Date: ___/___/___

Instrument Packets Organized by Respondent Category

1. Principal

* Myers Briggs Type Inventory
* Collaboration Survey
* Internal Trust Scale – trust in teachers and trust in clients (parents/students)

2. Parent

* Trust of School Scale
* Trust of Principal Scale
* Collaboration Survey – Collaboration with parents
* Parent Involvement Questions

3. Teacher

* Internal Trust Scale – Teacher trust in the principal, teacher trust in colleagues, and teacher trust in clients (parents/students)
* Enabling School Structure Scale
* Teacher Efficacy Scale
* Collaboration Survey

4. Student

* Student Attitude Questionnaire
* Trust of Principal Scale

Appendix K

SAMPLE COPIES OF THE RESEARCH INSTRUMENTS

(PARENT SURVEY) SCALE I

The items below permit a range of response from one extreme on the left (strongly disagree) to the other extreme on the right (strongly agree). By circling one number in each row, please indicate how you feel about your child's school. Circled numbers close to the "1" or "8" suggest more intense feelings.

Think about your child's school and respond to the following items.

	Strongly *Disagree*							**Strongly** *Agree*
1. This school always does what it is suppose to.	1	2	3	4	5	6	7	8
2. This school keeps me well informed.....	1	2	3	4	5	6	7	8
3. I really trust this school.	1	2	3	4	5	6	7	8
4. Kids at this school are well cared for.....	1	2	3	4	5	6	7	8
5. This school is always hones with me.....	1	2	3	4	5	6	7	8
6. This school does a terrific job.....	1	2	3	4	5	6	7	8
7. This school has high standards for all kids.....	1	2	3	4	5	6	7	8
8. This school is always ready to help.	1	2	3	4	5	6	7	8
9. I never worry about my child when he/she's there.	1	2	3	4	5	6	7	8
10. At this school, I know I'll be listened to.....	1	2	3	4	5	6	7	8

(Teacher Survey) Scale I

Directions: The following are statements about your school. Please indicate the extent to which you agree with each statement along a scale from strongly agree to strongly disagree by circling one number for each question.

	Strongly Disagree					**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 students in this school have to be closely supervised	1	2	3	4	5	6
10. The principal in this school typically acts with the best interests of the teachers in mind	1	2	3	4	5	6
11. Teachers in this school believe in each other	1	2	3	4	5	6
12. Students in this school care about each other	1	2	3	4	5	6
13. The principal of this school does not show concern	1	2	3	4	5	6
14. Even in difficult situations, teachers in this school can depend on each other	1	2	3	4	5	6
15. Students in this school are reliable	1	2	3	4	5	6
16. The principal in this school is unresponsive to teachers' concerns	1	2	3	4	5	6
17. Teachers in this school do their jobs well	1	2	3	4	5	6
18. Parents in this school are reliable in their commitments	1	2	3	4	5	6
19. Teachers in this school can rely on the principal	1	2	3	4	5	6
20. Teachers in this school have faith in the integrity of their colleagues	1	2	3	4	5	6
21. Students in this school can be counted on to do their work	1	2	3	4	5	6
22. The principal in this school is competent in doing his or her job	1	2	3	4	5	6
23. Teachers in this school are open with each other	1	2	3	4	5	6
24. Teachers can count on parental support	1	2	3	4	5	6
25. The principal in this school keeps his or her word	1	2	3	4	5	6
26. When teachers in this school tell you something you can believe it	1	2	3	4	5	6
27. Teachers here believe students are competent learners	1	2	3	4	5	6
28. The principal doesn't tell teachers what is really going on	1	2	3	4	5	6
29. Teachers think most of the parents do a good job	1	2	3	4	5	6
30. The principal openly shares personal information with teachers	1	2	3	4	5	6
31. Teachers in this school believe what students say	1	2	3	4	5	6
32. Students in this school cheat if they have the chance	1	2	3	4	5	6
33. Teachers can believe what parents tell them	1	2	3	4	5	6
34. Students here are secretive	1	2	3	4	5	6
35. The students in this school talk freely about their lives outside of school	1	2	3	4	5	6
36. Parents of students in this school encourage good habits of schooling	1	2	3	4	5	6
37. Teachers in this school show concern for their students	1	2	3	4	5	6

Scale III

The following statements are descriptions of the way your school is structured. Please indicate the extent to which each statement characterizes behavior in your school by circling one number for each question.

	NEVER	ONCE IN A WHILE		SOMETIMES	FAIRLY ALWAYS
				OFTEN	
1. Administrative rules in this school enable authentic communication between teachers and administrators	1	2	3	4	5
2. In this school red tape is a problem	1	2	3	4	5
3. The administrative hierarchy of this school enables teachers to do their job	1	2	3	4	5
4. The administrative hierarchy obstructs student achievement	1	2	3	4	5
5. Administrative rules help rather than hinder	1	2	3	4	5
6. The administrative hierarchy of this school facilitates the mission of this school	1	2	3	4	5
7. Administrative rules in this school are used to punish teachers	1	2	3	4	5
8. The administrative hierarchy of this school obstructs innovation	1	2	3	4	5
9. Administrative rules in this school are substitutes for professional judgment	1	2	3	4	5
10. Administrative rules in this school are guides to solutions rather than rigid procedures	1	2	3	4	5
11. In this school the authority of the principal is used to undermine teachers	1	2	3	4	5
12. The administrators in this school use their authority to enable teachers to do their job	1	2	3	4	5

Scale IV

Directions: Indicate your level of agreement with each of the following statements from STRONGLY DISAGREE (1) to STRONGLY AGREE (6) by circling one number for each question.

	Strongly *Disagree*				**Strongly** *Agree*
1.Teachers in this school are able to get through to the most difficult students	1	2	3	4	5	6
2.Teachers here are confident they will be able to motivate their students	1	2	3	4	5	6
3.If a child doesn't want to learn teachers here give up	1	2	3	4	5	6
4.Teachers here don't have the skills needed to produce meaningful learning	1	2	3	4	5	6
5.Teachers in this school believe that every child can learn	1	2	3	4	5	6
6.These students come to school ready to learn	1	2	3	4	5	6

7.Home life provides so many advantages that students here are bound to learn	1	2	3	4	5	6
8.Students here just aren't motivated to learn	1	2	3	4	5	6
9.Teachers in this school do not have the skills to deal with student disciplinary problems	1	2	3	4	5	6
10.The opportunities in this community help ensure that these students will learn	1	2	3	4	5	6
11.Learning is more difficult at this school because students are worried about their safety	1	2	3	4	5	6
12.Drug and Alcohol abuse in the community make learning difficult for students here	1	2	3	4	5	6

VITA (2)

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Candidate for the Degree of

Doctor of Education

Thesis: THE EFFECTS OF TEACHER COLLABORATION AND SCHOOL TRUST ON COLLECTIVE EFFICACY

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