TEACHER ATTITUDES, ACHIEVEMENT, POVERTY, AND ACADEMIC PERFORMANCE INDEX

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CHAPTER I

INTRODUCTION

The challenge for every child living in poverty to reach his/her academic potential is the foundation for the federal legislation No Child Left Behind (NCLB), signed in 2002 by President George W. Bush (No Child Left Behind, 2007). This legislation "launched an unprecedented focus on student achievement in reading and math" (Guilfoyle, 2006, p. 9). Testing is the basis of this legislation. Schools use criterion referenced tests that are aligned to the curriculum yearly in both math and reading to evaluate student progress. Some low-income schools are exceeding the minimum standards as reflected in state scores, while others are struggling and failing to meet the minimum academic standards (Academic Performance Index, 2006, Student Assessment Section, API/AYP Section).

Low-income schools receiving funding under NCLB must meet research based criteria necessary for a school to be effective. The assumption that Title I schools are meeting these criteria is the basis for continued funding from the federal government for Title I schools (Department of Education, 2006, Title I Schools section). The dilemma is why some Title I schools score well above what is expected on performance standards set at the state level, while other Title I schools struggle but fail to meet minimum performance requirements. "At least 19,644 schools nation-wide fail to make adequate

progress; at least 11,008 schools are identified as in need of improvement" (Guilfoyle, 2006, p. 10).

Title I schools are monitored regularly by the states to ensure that the scientific based research mandated criteria are in place and implemented (Department of Education, 2006, Title I Schools section). Although all of these schools are receiving Title I funding, many are not reporting success on the requisite state assessments. All states have a plan in place to sanction schools relative to their academic performance, and many also are creating rewards structures.

Oklahoma's legislation specifies a system of recognition, rewards, sanctions, and technical assistance provided by the State Board of Education. Federal funds are available to reward successful Title I schools. Under federal regulations, schools or districts that do not meet targets called annual yearly progress (AYP) are subject to the possibility of state interventions, ranging from offering school choice and providing supplemental services to students, to required reorganization of the district or reconstitution or takeover of that school (Academic Performance Index, 2007, Student Assessment, API/AYP Section).

The greatest challenge of NCLB is teaching the underachieving children of poverty to be successful achievers (Barr & Parrett, 2007). This challenge is addressed in this study as demonstrated through the attitudes of teachers about other teachers and the principal, between high achieving and a low achieving Title I elementary schools, when both schools have seemingly met the scientific based research criteria. For a Title I school to continue to receive federal funding, it must have a plan outlining how certain scientific based criteria have been implemented within that school. According to federal

guidelines, when the mandated criteria are not present, funding will not continue (Department of Education, 2006, Title I Schools Section).

Sixteen recent studies on high poverty/high achievement schools have discovered schools where students from poverty are achieving high academic standards (Barr & Parrett, 2007). Eight strategies and practices were identified as follows: (a) Ensure effective district and school leadership; (b) engage parents; (c) guarantee communities and schools work together; (d) understand and hold high expectations for poor and culturally diverse students; (e) target reading instruction for low-performing schools; (f) align, monitor, and manage the curriculum; (g) create a culture of assessment for both math and reading; and (h) build and sustain instructional capacity and reorganize, time, space, and transitions.

However, even when these strategies are in place, as implied when schools receive federal funding, many low-income schools struggle to produce academic excellence among students (Academic Performance Index, 2007, Assessment Section). Although these strategies are outlined in the Title I Plan of each school, many of the schools do not have test scores that reflect academic excellence (Department of Education, 2007, Designing Schoolwide Program).

When these eight strategies, as required by eligibility for Title I funding are seemingly present, and, when a school continually fails to meet academic targets, could attitudes of a teacher group working within a school make the difference? Social Identity Theory (Tajfel, 1978) was used as a framework for this study. The Organizational Climate Description Questionnaire for Elementary Schools (OCDQ-RE) (Hoy & Forsyth, 1986) compared attitudes of teacher groups to the state reported achievement levels for

those schools. This coherent approach was used to study the discrepancies of teacher attitudes between high poverty/high achieving and high poverty/low achieving schools.

Teacher groups across the nation are evaluated according to results of state mandated testing. Instructional practices are instrumental in achieving good test scores that are representative of academic achievement (Barr & Parrett, 2007; Marzano, 2003; Payne, 2001). Attitudes of teachers may influence the success of instruction (DuFour, 2005; Hoy, 1986; Marzano, 2003). The teachers and administrators in a school, not its equipment or materials, determine the quality of the school (Eaker, DuFour, R., & DuFour R., 2002). With the implementation of NCLB, the quality of a school is judged by that school's test scores (Camille, 2006).

> Despite the fact that different states use different tests and thus determine proficiency differently, despite the fact that the testing industry is scrambling to produce valid tests, and despite the fact that designing learning around test taking is not one's vision of best practice, testing has become a way of life in the classroom. (Scherer, 2006, p. 7)

All states have developed a score based on criterion referenced testing to measure student achievement, and Oklahoma's score is the Academic Performance Index (API). Oklahoma students are presently tested in math and reading. The implications of this study involving attitudes of teachers about other teachers and the principal in comparison to student achievement in Oklahoma schools can be generalized to other similar situations in other states. Results may be generalized to similar situations involving low income students in which the educational goal is for each child to show yearly academic growth. Students not showing adequate growth are offered special academic

interventions. These results can be generalized to both high achieving schools of poverty, and to those low income schools that are struggling to meet the academic goals resulting from NCLB. The researcher matched and compared relative and absolute levels of poverty in low-income schools to make comparisons relative to the possible discrepancies in levels of income relative to teacher attitudes and demographics.

This researcher used the API (Academic Performance Index, 2007, Assessment Section) scores from Oklahoma Title I elementary schools in spring of 2006 to divide teacher survey responses into first a school group, and then to put each school into a high achieving group or a low achieving group. Both the high group and the low group consisted of many individual schools. API scores were used as reported by the Oklahoma State Department of Education. All K-5 Title I elementary schools with an API of 1400 or more were considered the high group, and all K-5 Title I elementary schools with an API of 1000 or less were considered the low group. Teachers at each site were surveyed on-line through a system provided by Oklahoma State University. That system guarantees confidentiality and anonymity to respondents. All information was stored on the server hosted at Oklahoma State University.

Demographic questions added to the questionnaire were name of school, size of school, type of school, percent of free/reduced lunch students, length of time the principal and teacher have been at the school, and whether the school was urban or rural. Any teacher who taught at the school for less than one year was eliminated from the study.

The researcher was interested in identifying attitudes among teachers in comparison to academic achievement. The influence of demographic data on these attitudes was also of interest. Teachers at 115 schools were surveyed. These schools

were chosen by excluding the 85% of schools with APIs lower that 1400 and higher than 1000. High and low groups were determined by choosing from the top and bottom 7.5% of Title I elementary schools. Those schools with an API above 1000 and below 1400 were not surveyed.

Statement of Problem

Although some students living in poverty score well on the requisite state assessments mandated by No Child Left Behind (NCLB), the majority of students living in poverty score lower than students coming from more affluent schools (Barr & Parrett, 2007). Teachers who work in high poverty/high achievement schools may interact differently with one another and with the principal than teachers from high poverty/low achievement schools, and this possible difference in interaction may result in measurable differences in the academic performance of students. Finally, demographics may play a significant role in the success of a high poverty/high achievement school. However, these issues need further examination.

Purpose of the Study

The purpose of this study was to test the relationship between student achievement and teacher attitudes in high poverty elementary schools.

Theoretical Framework

Social Identity Theory is a theory of group behavior as it relates to membership (Hogg, Terry, & White, 1995). It is concerned both with the psychological and the

sociological aspects of group behavior. Originally a European theory dealing with conflicts between large groups (Tajfel & Turner, 1979), it has been extended to address the individual in a group. The psychological aspect of this theory refers to the when and why individuals identify with a group. Concern with what difference it makes when encounters between individuals affect group performance is the sociological aspect of the theory.

> Although multiple factors influence how people work, Social Identity Theory portends to be a unifying theory of organizational behavior because what and how people think as members of social groups influences subsequent behavior and attitudes in social systems. This influence has important implications for workplace learning. (Korte, 2007, p. 166)

According to this theory, social identity is more salient than personal identity in self-conception and that is when the behavior is different. Social identity is a key input to or driver of learning and performance in schools (Korte, 2007). This theory helped the researcher identify the attitudes within the teacher group that were associated with both high and low achievement in Title I elementary schools in Oklahoma.

Attitudes were framed within the three elements of the theory which are identification, categorization, and comparison (Social Identity, 2007, para. 1-4). Categorization is labeling oneself as part of the group. Identification is bolstering oneself by identifying with the group. Comparison is the perception of a favorable bias toward the group to which one belongs.

Social Identity Theory explains when and why individuals identify with and behave as part of a social group, adopting shared attitudes and values. Together the sub-

scales of Principal Openness and Teacher Openness evaluated attitudes of the when and why teachers were satisfied in a school as framed within the three elements of the theory. The implication is that teachers who identify with colleagues are more likely to produce high achieving students (Hoy & Forsyth, 1986).

Social identity is a combination of organizational culture and climate. Culture and climate, both aspects of an environment, provide insight into the approach and success that various organizations exhibit when working toward a goal. Culture includes values, beliefs, and assumptions. Cultures are deep and stable within an environment, while climate is the recurring pattern of behavior, attitudes, and feelings within an organization. Social Identity Theory embraces aspects of culture and climate (Lambert, 2002; Tajfel & Turner, 1979). Social Identity within schools is a combination of the culture and climate.

Low income schools have lower academic performance scores than do comparable schools from affluent areas (Murphy, 2004). However, some low-income schools are on par with high-income schools when academic performance scores are compared (Barr & Parrett, 2007). The problem relative to academic achievement among students from poverty is do teachers who work with high poverty/high achievement students interact differently with other teachers and principals than teachers working with high poverty/low achievement students? Social Identity Theory as formed by Tajfel (1978) would explain the development of high poverty/high achievement schools in terms of the attitudes of teachers directing instruction within the school.

Research Questions

1. What demographic differences exist between a high poverty/high achievement school and a high poverty/low achievement school when teacher attitudes are compared using the climate profiles of the high and low groups?
2. What teacher attitudes toward colleagues and the principal affect achievement in a high poverty/high achievement school?
3. What teacher attitudes toward colleagues and the principal affect academic achievement in a high poverty/low achievement school?
4. How useful is Social Identity Theory when explaining the relationship between principal and teacher attitudes and achievement?

Significance of the Study

Results of this study will add to the literature using Social Identity Theory as an analytical framework within the three elements of identification, categorization, and comparison as evidenced with the OCDQ-RE survey in groups of teachers working in both high achieving/high poverty, and in low achieving/high poverty schools. As teacher attitudes influence student achievement (Payne, 2001), results of this research may be generalized to similar school situations when looking for implications as to if and how academic performance can be improved relative to teacher attitude. Results of this research to practicing educators will be the capability for teachers and administrators to evaluate teacher group attitudes within their own environment relative to those attitudes in both the high and low performing Title I schools.

Because of the demands placed on educators resulting from NCLB (Guilfoyle, 2006), results may be helpful to educators at both the school and district level as they evaluate school improvement, and address teacher attitudes that will benefit academic performance for all students. Implementation of policy decisions relative to teachers' professional development may consider the development of the attitudes that are implied in this study and are evidenced among teachers in schools that are high achieving/high poverty.

Definition of Terms

The following terms are defined for the purposes of this study:

Academic Performance Index (API) – The API measures performance and progress of a school or district based on several factors that contribute to overall educational success. For the elementary schools in this study, the measure consisted of math and reading achievement, and attendance rate. API is a numeric index or score, ranging from 0-1500. An overall API score, as well as sub-scores for individual indicators were assigned to each Oklahoma school and district.

Adequate Yearly Progress (AYP) – NCLB requires all states to develop a school accountability system that determines AYP for all schools and districts. Oklahoma uses elements of Annual Yearly Progress, focusing primarily on the academic achievement of students in reading and math. Statewide targets are set for each required indicator to determine if a school is adequately progressing toward the ultimate goal of an API score of 1500.

Schools in Need of Improvement – Schools that do not make Adequate Yearly Progress for one or more of the indicators are considered in need of improvement.

SPSS – A software program used to analyze data, combine information on past circumstances, present events, and project future actions using a combination of attitudinal and behavioral information on structured and unstructured data.

Title I Schools – Schools with a qualifying minimum student population of 40% free/reduced lunch are Title I schools. The fundamental principles of a Title I school are accountability for results, research-based practices, and school/community engagement.

Unique Teacher Group – A group of teachers from individual schools in Oklahoma that have identifiable attitudes combined with an API score that is either extremely high or extremely low is a unique teacher group.

Limitations

Oklahoma's API is only one measure of academic achievement/performance. Results of this study can be generalized to similar situations only in relationship to the validity and reliability of this particular measurement as it relates to similar measurements in other states. This study may give insight into common attitudes within teacher groups, and these attitudes can be generalized to other similar situations, always keeping in mind that academic achievement can be measured in a variety of ways. API is only one measure and is criterion-referenced.

Summary

The purpose of this study involving all K-5 elementary Title I schools in Oklahoma with APIs at or above 1400 and at or below 1000 was to identify teacher attitudes about other teachers and the principal in relationship to student achievement. The implication is that certain attitudes within a group of teachers will contribute to a school environment that might decrease or increase academic achievement as measured on the tests mandated by NCLB.

CHAPTER II

REVIEW OF LITERATURE

Within a school, teachers have the power to create and maintain a positive, encouraging, and supportive-of-student instructional learning environment. Attitudes of a teacher within the social system of a school are of interest. Teacher groups establish norms or configurations of belief about behavior expected in various situations or circumstances (Braxton & Caboni, 2005). For some researchers, social psychology today is too fascinated with the individual approach in general analysis of self while paying insufficient attention to social identity (Ivanova, 2005). Studied here was the social identity of teachers as it relates to group attitudes.

Social Identity Theory

Social Identity Theory is a theory of group behavior as it relates to membership (Hogg, Terry, & White, 1995). It was originally a European theory dealing with conflicts between groups (Tajfel & Turner, 1979). The theory has been extended to address the individual and is concerned both with the psychological and the sociological aspects of behavior (Hogg, et. al., 1995). Social identity is a key condition of learning and performance in school (Korte, 2007). Characteristics of teacher groups can be framed within the theoretical lens of Social Identity Theory developed by Henri Tajfel (Tajfel & Turner, 1979). This theory has three distinct elements; identification, categorization, and

comparison. The theory says that the self-concept comprises two parts: personal identity, based on an individual's idiosyncratic characteristics, and social identity that comprises that part of an individual's self-concept which derives from his knowledge of his membership of a social group. Social identity is the value and emotional significance attached to that membership (Capozza & Brown, 2000). This study examined the three elements and how both the social and personal identity contributed to the development of attitudes.

Social identity is a combination of organizational climate and culture. Climate is a recurring pattern of behavior, while culture is a recurring pattern of behavior over time (Lambert, 2002). According to Tajfel, social identity is more salient than personal identity in self-conception when observed behavior is group behavior (Social Identity, 2007). This group behavior is qualitatively different from individual behavior. An individual's personal or social identity is shaped by the living systems around the individual. The individual, in turn, can shape and change the nature of these environments of which he/she is a part (Varghese, Morgan, Johnston, & Johnston, 2005).

Multiple factors influence how people work. Social Identity Theory is a unifying theory of organizational behavior because what and how people think as members of social groups influences their behavior and attitudes in social systems (Korte, 2007). One element of the theory, identification is bolstering oneself by identifying with the group. A second element, categorization involves labeling oneself as part of the group. A third element, comparison is the perception that the group to which one belongs is superior to all other groups. What and how teachers think as members of a faculty relative to these

three elements informs this study. Groups with similar views about the goals of the group perform better than groups with dissimilar views (Jordan, Field, & Armenkis, 2002).

Group members positively differentiating their in-group from a comparison out-group on some valued dimension (Capozza & Brown, 2000) is part of Social Identity Theory. If the aim for a group is to improve a group's task effectiveness, the means by which all members work together should be addressed (Chang & Bordia, 2001).

In a qualitative study involving 302 residents in Ohio of their social identification to a political party, researchers concluded that social identity is a fundamental aspect of partisanship that can lead to superior prediction and understanding of related political attitudes and behavior (Green, 2004). This study can be generalized to the use of Social Identity Theory as the framework to measure teacher attitudes that will predict behavior in a unique teacher group. Partisanship can be defined as fervent support of a cause, person, or idea. Unique teacher groups support the cause of increasing academic performance for students within their environment.

Social Identity Theory links the identity of individuals to the group to which they belong. Thus, this theory suggests that individual teachers are linked to the faculty (teacher group) in the school where they teach. Individuals who participate together in social events form a group. A group can be defined by the interaction of its members (Hoy & Forsyth, 1986). Group effectiveness is perceived as most effective when there are feelings about similarity, closeness, and bonding within the team and the focus is on the goal of the group, rather than the group as a social unit (Chang & Bordia, 2001). A person will identify with a group when the "sphere of certainty of the self is located

closer to the social structures that are more understandable and available for interaction" (Ivanova, 2005, p. 83).

Social identity can be used to describe (a) the self-structure of individuals, as they are defined by categorical memberships (b) the character of inter-group relations or (c) the relationship of the individual to the broader social structure (Reid and Deaux, 1996: Rosenberg and Gara, 1985; Tajfel and Turner, 1979).

According to Social Identity Theory, group comparisons among teachers relative to test scores will improve individual group performance. Group membership creates self-categorization in ways that favor the in-group at the expense of the out-group (Capozza & Brown, 2000). A person has not one personal self, but rather several selves that correspond to group membership. Group membership is that nucleus of persons, each of whom recognizes or remembers each of the others, and is in turn recognized or remembered by each of the others (Cartwright & Zander, 1956). Groups are an inescapable part of human existence (Brown, 2000).

According to Social Identity Theory, individuals are seen to have a repertoire of identities open to them, social and personal, each identity informing the individual of who he is and what this identity entails. When both the social and personal identities work together toward a group goal, the group will display unique attitudes (Capozza & Brown, 2000).

There are three processes relative to the individual's involvement within a system. These processes interpret the nature of relationships in the group (Social Identity Theory, 2007). The processes give legitimacy to the relationships and give the group the possibility to change. One process is self-categorization. This is the cognitive basis of

group behavior. It allows categories to be created within the group. The categories create a prototypic element or member. Once a prototypic element is designated, the norm for members is to behave as the prototypic group member. This process allows the individual to label him or herself as part of the group. The process results in depersonalization. The group is in the person. An example of this process is as follows:

I am a teacher.

I know how teachers act.

I know how teachers think about the world.

So – I know how to act.

I know how to think about the world (Social Identity Theory, 2007, Social Identity Section)

The second process is self-enhancement or identification. Here the motive is to feel good about oneself, and to do this by feeling good about the group of which the teacher is a part. This might be considered the informal structure of a school, that is, the natural ordering and structuring that evolves from the needs of participants as they interact in their workplace (Hoy & Forsyth, 1986). Teachers work together, learn to know and respect one another as individuals, and in the process feel good about themselves and the group of which they are a part. A group seeks to operate in a world that respects individuality and differences, and provides a path for consistency, not uniformity (Costa, 2001). Teachers identify with a group and thereby bolster their egos by identifying with the group.

The third process is comparison. Teacher groups believe that the group to which they belong is superior to all other groups. When teachers belong to a group, they are

familiar with the rules and procedures of that situation. Familiarity breeds confidence. This confidence within the group gives it the opportunity to commit to a goal and to work hard to accomplish the goal. Teachers within a group are more tolerant of shortcomings within the group than they are of the same traits and characteristics outside of their group (Capozza & Brown, 2000).

For the purpose of this research, social identity related to the individual as he/she belongs to a school faculty, including the values and emotions of the teacher group within the school and as measured through the attitudes of those individuals will be examined. When individuals come together to form a group, their patterns of behavior within the group change as social life develops itself over time (Hoy & Forsyth, 1986).

In a qualitative study of Polish and Russian students using Social Identity Theory as a framework, it was concluded that when a person is trying to survive under new social conditions, he designates himself as a member of the groups where this need is best satisfied. A crisis of identity leads to a change in the group structure. For a member to advance forward and escape from the crisis, that member needs to construct a new identity based on his perception of himself as a human being who knows how to do things. The study confirms and supplements data reflecting changes in the indicators of social identity under the influence of powerful social changes. The conclusion is that cognitive, personal, individual, and social development is essential to mold a social identity appropriate to current social and economic conditions (Ivanova, 2005).

Social identity is one lens through which individuals view their jobs, responsibilities, organization, and even the dynamics of work (Korte, 2007). Belonging to a group lightens the cognitive load for individuals by reducing uncertainty through

stereotyping and categorization. Uniformities between individuals within a group are of interest (Brown, 2000). The stronger the similarities are among group members, the stronger the commitment of the group (Korte, 2007). Social identity is an ongoing process of interactions between the individual and the focal group, or in-group, and between the individual and other groups, or out-groups (Brown, 2000).

The two psychological processes relative to the theory are categorization, an automatic perceptual process, and self-enhancement, the motive or need to have a positive self-concept. Concern with what difference it makes when encounters between individuals affect group performance is the sociological aspect of the group behavior. An informal organization is the natural ordering and structuring that evolves from the needs of participants as they interact in their school (Hoy & Forsyth, 1986).

According to Social Identity Theory, categorization, that is finding likenesses among members, creates the prototypic group member. Because the norm for the group is to behave as a prototypic member, the individual is depersonalized, becoming part of the group. When this occurs, the group goals become a priority. The attitudes of teacher groups that embraced the group goals of NCLB were of interest in this study, as compared to attitudes of teacher groups that had not accepted or achieved these goals. Social Identity Theory says that when one belongs to a group, he is likely to gain a sense of identity from that group (Capozza & Brown, 2000). Because test scores are an important element of NCLB, teacher groups that support or accept this legislation are likely to embrace the importance of high test scores.

Teacher Identity

Teacher identity within a group is a social matter because the formation and growth of teacher identity are fundamentally a social process taking place in a school setting. For teachers to commit to collective action, group members need to express viewpoints, perspectives, and assumptions during the formation of the group (Costa, 2001). When teachers within a group have clarity relative to their role in the group, group satisfaction increases (Neubert, Taggar, & Cady, 2006).

Identification, an element of Social Identity Theory, with a group can be predicted and assessed at a variety of levels – personal, interpersonal, group, or inter-group – depending on the theoretical questions of interest (Ashmore, Deaus, & McLaughlin-Volpe, 2004). Outcomes of this identification can be both positive and negative. If a teacher identifies with a group that is productive and positive, that teacher will be successful. However, if a teacher identifies with the negative attributes shared within a group, success will be less likely.

Organizational Life

"To understand organizational life, one must examine its informal as well as its formal aspects. The informal structure of a school develops from the formal as new sentiments – ones based on feelings of liking and disliking – emerge and lead to a more personal set of activities, and interactions" (Hoy & Forsyth, 1986, p. 71).

In a quantitative study of graduate students and postdoctoral fellows in science, two findings emerged about organizational climate. Graduate students and postdoctoral students who found themselves in the right kind of work setting were more successful,

and group size was positively associated with early productivity (Louis, Holdswork, Anderson, & Campbell, 2007).

In a study in the Netherlands where data were collected from 99 teams (groups), the results suggested the importance of a team belief (goal). Group factors such as interdependence, task cohesion, psychological safety, and group potency turned out to be very important for a group to meet its goal (Bossche, Segers, & Kirschner, 2006). The study determined that team behaviors do not just happen by putting people together. Some cohesive force must be operating.

Group formation often results in "ethnocentrism, which in Social Identity Theory is described as group behavior which favors the in-group and often actively disfavors the out-group" (Sullivan & Johns, 2002, p. 223).

In a quantitative study, "participants were able to see and experience, first-hand, in a non-emotive and safe way, how naturally predisposed they themselves, and people in general are toward ethnocentrism" (Sullivan & Johns, 2002, p. 225). Teacher groups tend to believe that the way their group is working within a school is the only and correct way for things to be done. It is seven times more difficult to change an attitude than a behavior (Eaker, DuFour, & DuFour, 2002). Attitude change must be the goal when a change in group behavior is the goal. The characteristics of unique teacher groups that can change attitudes and respond positively to the pressures of NCLB are of interest. If teacher groups can accept the demands of NCLB positively within the group by displaying positive attitudes, these teachers are more likely to work within the boundaries of the legislation and to show student academic growth.

The findings from many group experiments conducted with a wide range of participants are that the mere fact of being categorized as a group member seems to be necessary and sufficient to produce ethnocentrism and competitive group behavior (Hammond, 2006; Sullivan, 2002). In the case of high achieving schools, the behavior might be positive. In the case of low achieving schools, this behavior may be detrimental to the goal of improving student achievement (Ashmore, Deaus, & McLaughlin-Volpe, 2004).

Accentuation is a phenomenon in which the in-group magnifies the difference between itself and the out-group. This magnification results in a perceived wider margin of difference between the in-group and the out-group. Membership in a group involves a primary division into one's own people and other people, and it can lead both to cooperation which is good for an organization and to rivalry which can possibly hurt an organization (Ivanova, 2005). Cooperation versus rivalry was of interest as in-groups of teachers, faculty groups representing high achieving schools were compared to faculty groups representing low achieving schools.

Theories of group development have not treated the group as a complex system. That is, they do not pay enough attention to certain aspects of the group development process, such as the complex and discontinuous nature of change in groups (McLeod, 2006). There are two teacher groups in Title I elementary schools, high achievement/high poverty schools and low achievement/high poverty schools that have developed and changed attitudes in response to the legislative demands of NCLB (Guilfoyle, 2006). According to Brown (2000), a group exists when two or more people define themselves as members of it and when its existence is recognized by at least one other.

In a study of African identity, the most important finding was that a sense of collective identity was positively related to achievement (Robinson & Biran, 2006). A direct relationship was found to exist between levels of African self-consciousness and levels of feeling responsible for the welfare of others in the Black community. Perhaps this conclusion could be generalized to the degree for which a teacher group feels responsible or a consciousness for the school community, as compared to the academic achievement within the school community, or the welfare of the students.

"Beginning with Mead (1934), and followed by Sherif (1936), Asch (1952) and Lewin (1952), these thinkers have insisted on the reality and distinctiveness of social groups, believing them to have unique properties that emerge out of the network of relations between the individual members" (Brown, 2000, p. 5). Some teacher groups within schools have individual relationships that form a network within the environment that contributes to unique group attitudes. A teacher, who wants close relations with members of a certain group within the faculty group, often attempts to emulate the behavior and attitudes of that group. If that teacher is successful, social interaction typically develops (Hoy & Forsyth, 1986).

Group behavior occurs when participants appear to be interacting in terms of their group memberships rather than their distinctive personal characteristics (Brown, 2000). Social psychologists believe that the way in which people think about themselves and others depends on the focal group level and heavily influences their behavior and performance (Korte, 2007). The strength of social identity varies according to the situation. The stronger the similarities are within a group, the stronger the social identity will be of that same group (Korte, 2007).

Several experimental studies of groups under laboratory conditions concluded that groups made better progress toward a goal than did individuals working toward that same goal (Brown, 2001). Effective teacher groups have a profound influence on student achievement (Marzano, 2003). The effectiveness of cooperative effort is a function of group functioning. When a group has clear goals and is effective in reaching them, personal satisfaction of members of the group and group morale will be high (Cartwright & Zander, 1956). When group goals bring people into a positive relationship with one another, then cooperation, cohesion, and enhanced group performance are a likely result (Brown, 2000). Individual behavior becomes less self-regulated and more controlled by norms in the environment when they become part of a group (Capozza, 2000).

The lower performing the school, the more difficult group change becomes. This change becomes difficult because those who must implement the change are uncertain about what needs to be changed to improve the situation (Timar, 2003).

McLeod (2006) found the following characteristics in group development:

1. Members shared a vision, dream, or ideal.
2. Members were willing to explore challenges.
3. Members focused on the goal.
4. Members were willing to experiment with new practices
5. Members continually worked to build and maintain trust within the group.

Social Identity Theory says that the perception that one's outcomes are bound with those of others increases the likelihood that a goal will be accomplished (Brown, 2001). When teachers know the direction they are go move with students, it is more likely that they will reach the goal.

Cartwright & Zander (1956) outlined four conceptions relative to group goals.

1. Individual goals are not sufficient to form a group goal. Group goals are a composite of similar individual goals.
2. Individuals must believe that their individual goals are included in the group goal.
3. Group goals are formed by members giving and taking from their personal goals.
4. A group goal can induce motivational forces on individuals within the group.

There is strong evidence that enhanced group performance leads to cohesion rather than the reverse. A crucial moderating variable is the prevailing norm in the group – whether this encourages or inhibits group productivity (Brown, 2000). Teachers that are positive and goal oriented are more likely to reach a goal than are negative teachers.

One of the most powerful outcomes of a small group experience is the strong relational bonds and mutual support that a group develops over time. Groups establish the systems of norms that define the limits of acceptable and unacceptable behavior for that group (Lawson, 2006). "The link between the individual and the groups starts with the idea of the self as a bounded cognitive schema – a sort of implicit identity" (Korte, 2007, p. 166).

An individual's status in a group is the result of the nature of that person's interactions with others within the group. Respect for the individual is earned through interaction (Hoy & Forsyth, 1986). Dynamics of groups have an important role in the judgments of groups and their members (Abrams, Rutland, Lindsey, & Ferrel, 2007).

In-Group Bias

Social Identity Theory says that people's sense of self-worth partly derives from their group memberships and the evaluation of those groups compared to other groups. "Empirical evidence suggests that a predisposition to favor in-groups can be triggered easily by even arbitrary group distinctions, and that preferential cooperation within groups occurs even when it is individually costly" (Hammond & Axelrod, 2006, p. 926). Groups establish their own practices, values, and social relations as members interact with each other (Hoy & Forsyth, 1986).

A study of children ages 3-9 years found that, at an apparently critical age period around age 5 where both self-esteem and group identification seem to be especially positive "own-group bias on affective measure was mirrored by positive self-ratings, which were higher than those given to X" (Yee, 1992) which were same age children with similar abilities. In-group bias can be identified early in life.

People may lose some sense of their personal identity in a crowd, but at the same time they will often adopt a stronger sense of their social identity as a biased member of a particular group. Social Identity Theory has implications for the way people deal with organizational change (Turner & Onorato, 1991), suggesting that some teacher groups are able to deal with the organizational change resulting from the mandated changes of NCLB.

Horwitz (1982) found that members who most fully accept the group goal display the strongest need to have the group achieve its goal (Cartwright & Zander, 1956). When a group goal is accepted by the group's members, the accepted goal will have the most power to influence the behavior of the members. The group situation is one in which the

goals of individuals are so related to each other that a goal can be achieved by any one only if all the individuals can also achieve their respective goals (Cartwright & Zander, 1956).

Pressures from Change

The need for change within teacher groups has resulted from the legislative demands that children from poverty must score as well as more affluent students when compared on scales of achievement. The National Education Association strongly supports NCLB's goals to improve student achievement and help close achievement gaps (Weaver, 2006). However, the support is qualified in that the association does not support the manner in which the legislation requires the goals to be met.

As discussed in the previous chapter, the challenge for all Title I schools to meet the quantitative academic goals set and evaluated yearly by individual states has become a forced priority to educators (Guilfoyle, 2006). Schools attempting to raise the academic index are looking to research on effective schools for answers. According to Marzano (2003), research conducted over the last 35 years demonstrates that effective schools can have a profound affect on student achievement. The relationships among the educators in a school define all relationships within the school's culture. Strengthen those relationships and professional practice will improve (Barth, 2006). Teacher perception of the school's work environment is related to classroom performance (Hoy & Forsyth, 1986).

Several states use different tests and determine proficiency differently. Designing learning around test taking is no one's vision of best practice; however, testing has become a way of life in classrooms (Scherer, 2006). Teachers must learn to adjust and

adapt to the changing process for student achievement. As classroom demands change, the map for success must change.

> People are cast out into the imperfectly charted, continually shifting seas of everyday life. Mapping them out is a constant process resulting not in an individual cognitive map, but in a whole chart case of rough, improvised, and continually revised sketch maps. (Hall, 2004, p. 354)

Teacher groups must continually shift, improvise, and revise instructional practice to meet the demands of NCLB and to earn membership as part of the unique teacher group (US Department of Education, 2002). As these changes occur among teachers, attitudes change. Teacher groups in schools surpassing the quantitative academic goals of NCLB earn recognition and funding. In Oklahoma, 290 teachers received merit bonuses of more $2,000 during the spring of 2007 at high-performing and annually improving Oklahoma schools (Garrett, 2007). These awards were based on a comparison of teacher groups relative to an academic index score at individual schools. Since groups are a source of social identity (Brown, 2000), it is important for individuals to see their group as positively distinct, perhaps superior, when compared to other groups. In this instance, the merit pay bonuses offered to teacher groups distinguished one group from another. Teacher groups often resist change (Zellmer, Frontier, & Phifer, 2007). The mandates and demands of NCLB dictate many changes for teachers, resulting from demands that students show academic growth through testing (Department of Education, 2002).

Changes resulting from NCLB are often in conflict with past practices in education. For example, the theory of policy incrementalism and evolving change proposes that new policies, particularly those whose implementation requires major

change in existing patterns of individual and organizational behavior, will be implemented slowly and through a process of mutual understanding (Timar, 2003). The process of change must be negotiated in some fashion, entered into and supported if the developer's role is not to be appreciated and supported (Land, 2001). Existing patterns for educating students are evolving, teacher groups must adapt to this change. Although implementation of this legislation has been fast and forced (Guilfoyle, 2006), which is contrary to the policy of incremental change, teacher groups must adapt to the change and adjust attitudes in an attempt to meet the guidelines of the new policies (No Child Left Behind, 2007).

Meeting these new guidelines implies a comparison of teacher groups within a district, over a state, and ultimately across the nation. Failure to meet the goals set at the state level will have negative consequences for schools. Negative consequences will affect teacher attitudes. Underperforming schools are threatened with state takeover, and the state can replace the principal and teachers at these schools (McDermott, 2003). As groups compare themselves to each other, norms and identities are set for the individual group.

Leadership

Every group must have a leader. Great leaders treat people as equals, no matter who they are. Leaders know that it is only the job or ability that is different, not one's essential value as a person (Dorsey, 1999). A leader organizes and initiates activities that help the group achieve its goal. A leader must remain optimistic about the outcome of the

goal (Mays, 1997). A leader does not wait for someone else to determine the course of action and outcome of plans; rather a leader takes control of the situation.

Leadership in a school is a crucial aspect of the school culture (Hoy & Forsyth, 1986). Informal leaders within a group, with their unofficial norms, arise side by side with formal leaders in the same group, establishing structures and with official expectations. Leaders have attributes to help the group achieve a goal. Good leaders have personalities that match the particular situation. When leaders communicate to individual group members that their contributions to the group are necessary to accomplish the task, group members may be motivated to exert more effort toward the goal of the group (Neubert, Taggar, & Cady, 2006). A leader acquires legitimacy with the group though competence, initial conforming to group norms, identifying with the group, trying to fit into the group prototype, and acting fairly in allocating rewards and sanction (Brown, 2000).

Oklahoma's Academic Performance Index

Public Law 107-110 links high stakes testing with strict accountability measures designed to ensure that, at least in schools that receive government funding, no child is left behind (Smith, 2005). According to NCLB, states are to identify their student achievement standards and to develop assessments that align with these standards (Sclafani, 2002). These state plans must meet the standards of the National Assessment of Educational Progress (Hombo, 2003). Oklahoma has chosen to use API for this measure.

An overall API score, as well as sub-scores for individual indicators, is calculated for each school and district in Oklahoma (Academic Performance Index, 2007, Assessment Section). The API score is a statistical combination of individual scores in combination with average daily attendance. This API score includes math and reading achievement (90%) and the attendance rate (10%) (Academic Performance Index, 2007, Assessment Section).

Adequate yearly progress (AYP) is a measure derived from the sub-scores of the API score. Schools or districts not meeting AYP, as outlined in federal regulations, may or will be subject to interventions, ranging from offering school choice and providing supplemental services to students, to required reorganization of the school (Academic Performance Index, 2007, Assessment Section). It is important to remember that the pressures on teacher groups for students to succeed academically are a result of the components of AYP (Guilfoyle, 2006). API measures overall educational success and is calculated as follows:

> Assuming a confidence interval of 95 percent for a minimum sample size of 30 students, Oklahoma estimated a confidence interval of 99 percent for a minimum size of 30 students, Oklahoma estimated a confidence interval of 99 percent for the other student groups, which calculated to a minimum sample size of 52, increasing the reliability of scores and AYP determinations. (Academic Performance Index, 2007, Assessment Section, para. 3).

This means that a class size of 30 students is used for figure API for a classroom group, and that a sample size of 52 students is used to figure API for a sub-group like students with Individual Educational Plans.

Conclusion

In conclusion, group decision making is a special form of performance and relates to the attitudes of those making the decisions (Brown, 2000). In-groups believe that their performance is superior to that of out-groups. The collective view of a group is more extreme that the average of individual opinions in the same direction. Social Identity Theory proposes that individual commitment to a group is due to the group members' conforming to in-group norms in contrast to out-group norms (Capozza & Brown, 2000). This theory has implications for how people deal with organizational change (Turner & Onorato, 1991). This study addressed teacher attitudes compared to the academic demands of NCLB, which have resulted in organizational change within Title I elementary schools in Oklahoma.

Researchers observed individuals readily altering their personal behavior to adapt to group norms and values, while striving for consensus within the group (Korte, 2007). The individual identity of the person recedes into the background as the identity as a member of the group comes to the foreground. Social Identity Theory says that no group works in isolation (Brown, 2000). The presence of one negative influence in a group may threaten the extent to which work groups are collectively committed to achieving group goals (Wellen & Neale, 2006). Even when all components are present within a group, the group can still make bad decisions, and fail to reach the goal. Cognition, comparison, and self-enhancement are involved in decision making (Brown, 2000).

CHAPTER III

METHOD

The purpose of this study was to test the relationship between student achievement and teacher attitudes in high poverty elementary schools. This is done using the frame of Social Identity Theory, which concerns group behavior as it relates to membership (Hogg, Terry, & White, 1995). It was originally a European theory dealing with conflicts between large groups, and has been extended to address individuals in a group. The theory is concerned with both the sociological and the psychological aspects of behavior (Tajfel & Turner, 1979). Concern with what difference it makes when encounters between individuals affect group performance is the sociological aspect of the theory. When and why individuals identify with a group is the psychological aspect of the theory. Social identity is a driver of learning in schools, and is more salient than personal identity in self-conception (Korte, 2007). Social identity is a combination of organizational climate and culture. Both climate and culture provide insight into the successes of a group. Cultures are deep and stable. Climate is a recurring pattern of behavior, attitudes, and feelings. Social Identity Theory embraces both climate and culture (Lambert, 2002; Tajfel & Turner, 1979).

The three elements of Social Identity Theory are: (a) identification – bolstering oneself by identifying with the group, (b) categorization – labeling oneself as part of the

group, and (c) comparison – the perception of a favorable bias toward the group to which one belongs.

Research Questions

1. What demographic differences exist between a high poverty/high achievement school and a high poverty/low achievement school when teacher attitudes are compared using the climate profiles of the high and low groups?
2. What teacher attitudes toward colleagues and the principal affect achievement in a high poverty/high achievement school?
3. What teacher attitudes toward colleagues and the principal affect academic achievement in a high poverty/low achievement school?
4. How useful is Social Identity Theory when explaining the relationship between principal and teacher attitudes and achievement?

Variables

ANOVAs were calculated using the demographic data and the API as the independent variables and the sub-scales and dimensions as dependent variables. For the regression analysis the sub-scales, dimensions, and demographic data were the independent variables and the API was the dependent variable.

The independent variable for ANOVAs and the dependent variable for the regression analysis was the school grouping as sorted into high and low groups with the API score. For the ANOVAs the API (independent variable) was either high or low, while API (dependent variable) used for the regression analysis was the numerical score earned by each school. Each school surveyed was identified as a high or low performing

school by the API score earned in the spring of 2006. API scores obtained from the State Department of Oklahoma showed a natural break for the high and low groups, and excluded 85% of average schools from the study. An API score of 1400 and above was considered a high score, and an API of 1000 and below was considered a low score. These high and low scores represented 15 % of the total Title I elementary schools in Oklahoma. API scores of 1400 and above can qualify schools for recognition and awards. Scores of 1000 and below can qualify schools for the needs improvement list.

Dependent variables for the ANOVAs, identified, compared, and contrasted within the high performing schools and within the low performing schools, included the six sub-scales of the OCDQ-RE survey. Demographic data, the independent variable, was compared to the six sub-scales as appropriate. Comparisons were also made to the two dimensions, Principal Openness and Teacher Openness (dependent variables), resulting from the second order factor analysis conducted during instrument development. Eight dependent variables, six sub-scales and two dimensions, outcomes or results influenced by the independent variable, as measured on the OCDQ-RE and framed with the three elements of Social Identity Theory were examined. Demographics were also compared using ANOVAs.

The OCDQ-RE consists of six sub-scales to measure the dependent measures of (a) supportive principal behavior, (b) directive principal behavior, (c) restrictive principal behavior, (d) collegial teacher behavior, (e) intimate teacher behavior, and (f) disengaged teacher behavior. Standardized mean scores for each of these sub-scales indicated how each score compared to each element of the theory, with sub-scale scores of average or above being considered to be positively aligned with the theory. Schools' scores were

compared against the mean and standard deviations calculated from the sample population.

Instrument

The Organizational Climate Description Questionnaire for Elementary Schools (OCDQ-RE) was used as the on-line survey tool. This survey design is designed to provide a quantitative or numeric description of attitudes and opinions of the population by studying a sample of that population. Survey responses were recorded on a Likert-like four-point scale defined by the categories "rarely occurs," "sometimes occurs," "often occurs," and "very frequently occurs." Responses were divided into six sub-scale scores. These six sub-scale scores, that represented the climate profile of a school, were supportive principal behavior, directive principal behavior, restrictive principal behavior, collegial teacher behavior, intimate teacher behavior, and disengaged teacher behavior. Two additional dimensions resulting from second factor analysis were Teacher Openness and Principal Openness. Table 1 outlines how the theory elements were evaluated using the survey tool.

Table 1

OCDQ-RE Framed Within Social Identity Theory

The three elements of identification, categorization, and comparison comprise the theory. These elements will be measured using the six sub-scales of the OCDE-RE survey including (a) supportive principal behavior, (b) directive principal behavior, and (c) restrictive principal behavior, which together comprise the Principal Openness dimension, and (d) collegial teacher behavior, (e) intimate teacher behavior, and (f) disengaged teacher behavior, which together comprise the Teacher Openness dimension. Attributes of these six sub-scales framed within Social Identity Theory are supportive principal behavior, collegial teacher behavior, and intimate teacher behavior.

Theory Elements	Principal Openness	Teacher Openness	
⇩	⇩	⇩	
	Index of Principal Openness	Index of Teacher Openness	
Identification ⇨	*Supportive Principal* ⇔	*Collegial Teacher* ⇔	*Intimate Teacher*
(Bolstering oneself by identifying with the group)	(Encourages teachers to feel better about themselves)	(Enjoys working with colleagues)	(Strong relations among teachers, enjoy one another)
Categorization ⇨	*Supportive Principal* ⇔	*Collegial Teacher*	
(Labeling oneself as part of a group)	(Encourages teachers to want to be part of the group)	(Helps teachers be proud of their school)	
Comparison ⇨	*Supportive Principal* ⇔	*Collegial Teacher*	
(Perceiving a favorable bias toward the group one belongs to)	(Believes their teacher group is superior to others)	(Respectful of other teachers in the group)	

In addition to the questions on the OCDQ-RE, demographic information requested included: name of the school, type of school (rural or urban), the size of school (0-135, 136-235, more than 235), free/reduced rate of school (40-60%, 61-79%, 80% and above), and the length of employment at that school for the principal and teacher (first year, 2-5 years, more than 5 years). These data were compared to the means of the surveyed dimensions of the six sub-scale scores for both the high and the low group and to the measures of Principal and Teacher Openness. Demographics were also compared to the surveyed dimensions.

Questions 4, 9, 15, 16, 22, 23, 28, 29, and 42 were added together and the means standardized to compute a standardized score for supportive principal behavior. Questions were:

4. The principal goes out of his/her way to help teachers,

9. The principal uses constructive criticism,

15. The principal explains his/her reasons for criticism to teachers,

16. The principal listens to and accepts teachers' suggestions,

22. The principal looks out for the personal welfare of teachers,

23. The principal treats teachers as equals,

28. The principal compliments teachers,

29. The principal is easy to understand, and

42. The principal goes out of his/her way to show appreciation to teachers.

Directive behavior was the combination of questions 5, 10, 17, 24, 30, 34, 35, 39, and 41. Questions for directive behavior were:

5. The principal rules with an iron fist,

10. The principal checks the sign in sheet every morning or comes around to be sure everyone is on time,

17. The principal schedules the work for teachers,

24. The principal corrects teachers' mistakes,

30. The principal closely checks classroom (teacher) activities,

34. The principal supervises teachers closely,

35. The principal checks lesson plans,

39. The principal is autocratic, and

41. The principal monitors everything teachers do.

Restrictive behavior was the combination of 11, 18, 25, 31, and 36. Questions for restrictive behavior are:

11. Routine duties interfere with the job of teaching,

8. Teachers have too many committee requirements,

25. Administrative paperwork is burdensome at this school,

31. Clerical support reduces teachers' paperwork, and

36. Teachers are burdened with busy work.

Collegial behavior was the combination of questions 1, 6, 12, 19, 26, 32, 37, and 40. Collegial questions are:

1. The teachers accomplish their work with vim, vigor, and pleasure,

6. Teachers leave school immediately after school is over,

12. Most of the teachers here accept the faults of their colleagues,

19. Teachers help and support each other,

26. Teachers are proud of their school,

32. New teachers are readily accepted by colleagues, and

37. Teachers socialize together in small select groups.

Intimate behavior was the combination of questions 2, 7, 13, 20, 27, 33, and 38. Intimate behavior questions are:

2. Teachers' closest friends are other faculty members at this school,

7. Teachers invite faculty members to visit them at home,

13. Teachers know the family background of other faculty members,

20. Teachers have fun socializing during school time,

27. Teachers have parties for each other,

33. Teachers socialize with each other on a regular basis, and

38. Teachers provide strong social support for colleagues.

Disengaged behavior was the combination of questions 3, 8, 14, and 21. Disengaged behavior questions are:

3. Faculty meetings are useless,

8. There is a minority group of teachers that always oppose the majority,

14. Teachers exert pressure on non-conforming faculty members,

21. Teachers ramble when they talk at faculty meetings.

Responses for questions 6, 31, and 37 were reverse scored. To each of the questions on the OCDQ-RE, teachers had the choice of four responses on a Likert-type continuum ranging from rarely occurs (1) to very frequently occurs (4).

Reliability for each dimension of this survey instrument was measured by a subtest score. The reliability scores for the scales were relatively high: Supportive (α = .94), Directive (α = .88), Restrictive (α = .81), Collegial (α = .87), Intimate (α = .83), and

Disengaged (α = .78). The construct validity for each dimension of openness was supported by correlating each dimension with the original OCDQ-RE index of openness. The index of Teacher Openness correlated positively with the original general school openness ($r = .67$, $p < .01$) as did the index of Principal Openness ($r = .52$, $p < .01$). The factor analysis supports the construct validity of organizational climate (Research Instruments, 2007, OCDQ-RE Section, para 3).

The conceptual underpinnings of the OCDQ-RE are consistent and clear. The instrument has two general factors – one is a measure of openness of teacher interactions and the other is a measure of openness of teacher/principal relations (Hoy & Forsyth, 1986).

Principal Openness was defined using the standardized sub-scales of supportive, directive, and restrictive principal scores. First, the scores on each of these dimensions were standardized, and then the sum of the directive and restrictive scores were subtracted from the supportive score. This equaled the Principal Openness index (Hoy & Forsyth, 1986).

Teacher Openness was defined using the sub-scales of collegial, intimate, and disengaged teacher scores. The scores on each of these dimensions were standardized, and then the disengagement score was subtracted from the sum of the collegial and intimate scores. This equaled the Teacher Openness index (Hoy & Forsyth, 1986).

Teacher Openness and Principal Openness were interpreted the same way that the sub-scale scores were interpreted. The standardized mean from the sample population was 500 (Research Instruments, 2007, OCDQ-RE section).

Dimensions were calculated as follows:

Supportive = 100 X (S-Mean)/SD + 500

Directive = 100 X (D-Mean)/SD+500

Restrictive = 100 X (R-Mean)/SD + 500

Collegial = 100 X (C-Mean)/SD + 500

Intimate = 100 X (Int-Mean)/SD + 500

Disengaged = 100 X (Dis – Mean) / SD + 500

$$\text{Principal Openness} = \frac{(\text{SDS for S}) + (1000 - \text{SdS for D}) + (1000 - \text{SdS for R})}{3}$$

$$\text{Teachers Openness} = \frac{(\text{SdS for C}) + (\text{SdS for Int}) + (1000 - \text{SdS for Dis})}{3}$$

The range of scores computed for the six sub-scales representing school climate can be presented as follows: If the score is 200, it is lower than 99% of the participants. If the score is 300, it is lower than 97% of participants. If the score is 400, it is lower than 84% of participants. If the score is 500, it is average. If the score is 600, it is higher than 84% of participants. If the score is 700, it is higher than 97% of participants. If the score is 800, it is higher than 99% of participants (Research Instruments, 2007, OCDQ-RE section).

The range of scores for Principal and Teacher Openness are represented as follows: if the score is 600 it is considered very high, 551-500 is high, 525-550 is above average, 511-524 is slightly above average, 490-510 is average, 476-489 is slightly below average, 450-475 is below average, 400-499 is low, anything below 400 is extremely low (Research Instruments, 2007, OCDQ-RE section). .

This tool has been used for similar studies involving teacher attitude and student performance (Alexander, 1977; Baughman, 1995; Brown, 2001; Chirichello, 1997;

Famularo, 1996; Ford, 1996; Mikkelsen, 1981; Pacheco, 2003; Teel, 2003; Turan, 1998). The instrument measures climate. "Climate is a broad concept that refers to teachers' perceptions of the school's work environment" (Hoy & Forsyth, 1986, p. 147). The original measure of school climate was Halpin and Croft's Organizational Climate Description Questionnaire. This measured aspects of teacher/teacher and teacher/principal interactions. "A major revision of the instrument was completed at Rutgers University and a refined version of the instrument was developed" (p. 149). It is the refined version that will be used in this study.

Validity and Reliability

Reliability is the measure of internal consistency. Items' responses should be consistent and scores from the instrument stable over time. Administration and scoring must be consistent. Each of the dimensions on the OCDQ-RE was measured by a subtest. The reliability scores for the scales were relatively high. Reliability scores for the scales were: Supportive (.94), Directive (.88), Restrictive (.81), Collegial (.87), Intimate (.83), and Disengaged (.78).

Validity is necessary to draw meaningful and useful inferences from scores on the instrument. Three forms of validity are content validity, the items measure the content they were intended to measure; predictive or concurrent validity, scores correlate with other results; and, construct validity, items measure hypothetical concepts (Creswell, 2003). The construct validity of each dimension of openness was supported by correlating each dimension with the original OCDQ-RE index of openness.

Participants

Teachers in two groups of K-5 Title I elementary schools in Oklahoma were surveyed on-line using the Organizational Climate Description Questionnaire for Elementary Schools (OCDQ-RE) with the addition of five demographic questions. Group one consisted of teachers in high achieving schools with an API of 1400 or better. Group two consisted of teachers in low achieving schools with an API of 1000 or less. Teachers in 15 percent of Title I elementary schools in Oklahoma, considered either high or low performing, were offered the survey. Both groups consisted of teachers who had taught in the schools for more than one year. Teachers were surveyed as to name of school, size of school, type of school, and length of time the principal had been employed at the school.

The initial survey request was mailed electronically to the building principal. Prior to the survey being e-mailed, the researcher contacted each building principal, or the principal's secretary, using a directory provided by the State Department of Education in Oklahoma to obtain an e-mail address, to explain the purpose of the survey, and to get verbal permission to send the survey. The building principal forwarded the survey to all teachers at his/her school. Once teachers completed the survey, it was returned directly to the server where the web site originated at Oklahoma State University. Information was collected/stored in a way to protect teacher anonymity/confidentiality.

Of the 1786 public schools in Oklahoma, 1192 were Title I schools, and 743 were K-5 Title I elementary schools. Teachers at 115 of the 743 Title I elementary schools were surveyed. Fifty-five schools had an API at/below 1000, and 60 schools had an API at/above 1400. All certified teachers at each school were invited to participate. Eighty-

five percent of Title I elementary schools earned an API greater than 1000 and less than 1400. These schools were considered average and were not part of the study.

Experimental Control

Every teacher surveyed was assured anonymity and confidentiality. Teachers were not identified by name when completing the survey. Every attempt was made to create a non-threatening atmosphere for responding teachers, so that teachers would give candid responses. Teachers were assured that their personal responses would not be shared with other teachers or with the principal at their school.

Experimental controls that were used enable the conclusion that differences occur as a result of characteristics of the teacher group. All teachers from each of the two surveyed groups were given the opportunity to respond to the survey. History, events occurring in the environment during the research, was controlled by eliminating teachers with less than one year of experience from the study. Teachers responded about the length of time they had been employed by a school, and teachers with less than one year of employment were deleted from the data base. Because teachers were completing the survey, lack of experience might have influenced the responses.

Maturation, the processes of change that takes place within the persons participating, was a concern, because no allowances were be made for consideration of professional development within each school that may have influenced the teacher attitudes. Teachers were surveyed regarding their attitudes, but there was no way to determine if a change in teacher attitude was influenced by some recent external factor.

Pilot Study

A pilot study using the on-line survey was conducted eight weeks prior to the main study, and involved schools within the district in which the researcher worked. The purpose of the pilot study was to determine if the data collection procedures worked as designed. Teachers were not categorized into high achieving/high poverty schools and low achieving/high poverty schools, for this was not the intent of the pilot. It was used solely to check the reliability of the web site and the gathering and sorting of desired information. Data gathering procedures were successful. The only change between the survey sent for the pilot study and that sent for the study was the addition of demographic questions.

Data Collection

Electronically collected data were available four weeks after surveys had been sent to participants. Surveys were sent to participants during December 2007 and January 2008. A cover letter along with the link for the survey was sent to the building principal, who then forwarded the link to teachers in the building to complete the survey. Surveys sent from two web addresses originated at the Oklahoma State University server. One web site received survey responses from teachers in schools with low APIs, and the other from teachers in schools with high APIs. Time to complete the survey was estimated to be 10 minutes.

Data Analysis

API scores were chosen to be used as the numeric score to sort schools into high and low groups. Analysis sorted schools into a group one with an API of 1400 or better, and a group two with an API of 1000 or less. The API measured performance and progress of a school or district based on several factors that contributed to education. The index or scores, range from 0-1500. API was based on math and reading achievement scores as 90% of the calculation, and attendance as 10% of the calculation.

The independent predictor variables were two groups of schools as determined through the sorting of schools into groups according to the API score earned in the spring of 2006. Eight dependent variables, outcomes or results influenced by the independent variable, as measured on the OCDQ-RE and framed with the three elements of Social Identity Theory were examined. Demographic data were also compared to the dependent variables using several ANOVAs.

The unit of analysis was the teacher groups. The dependent variables were the standardized means of six sub-scales and two dimensions of the OCDQ-RE. The dependent variables, standardized mean scores, were attributes influenced by the independent variable. SPSS was used to compute the statistics. The standardized mean scores from the eight indexes (sub-scales and dimensions) of the survey tool were compared using ANOVAs to the high and the low groups of teachers, the size of school, the name and location of school, the free/reduced lunch rate, the type of school, and the length of employment of the principal at the school.. ANOVAs were calculated to show the main effects, determine if the highs were different from the lows, and to detect any

interactions. Means were calculated for all variables. Tukey tests compared all pair-wise comparisons between means as appropriate (Homack, 2001).

A step-wise regression analysis (including all sub-scales and demographic data) and a hierarchical regressions (with level one being step-wise with demographic data and level two being step-wise with surveyed sub-scales) were computed using individual API scores, means of the sub-scales from both the high and the low group, and demographic data to predict which indexes were most likely to be evidenced in a school with a high or a low API score.

Selection bias was controlled by offering the survey to all teachers in Oklahoma who were representative of each group being studied. Interactive combination of factors, affected validity that might occur in combination, were controlled by using data only from surveyed teachers with more than one year of experience in each group. Because there was no guarantee that every principal who agreed to allow teachers to participate in the survey followed through, self-selection bias was not controlled.

The OCDQ-RE used six sub-scales to measure the dependent measures of supportive principal behavior, directive principal behavior, restrictive principal behavior, collegial teacher behavior, intimate teacher behavior, and disengaged teacher behavior. Two second-order factor analysis dimensions were Teacher and Principal Openness (Research Instruments, 2007, OCDQ-RE section).

These were also dependent measures. The three elements of Social Identity Theory examined were: (a) identification – bolstering oneself by identifying with the group, (b) categorization – labeling oneself as part of the group, and (c) comparison – the perception of a favorable bias toward the group to which one belongs.

Identification was measured positively using the sub-scale items of supportive principal, who encourages teachers to feel better about themselves; collegial teacher, who enjoys working with colleagues; and, intimate teacher, where there are strong relations among teachers who enjoy one another. Categorization and comparison were measured positively using the sub-scale items of supportive principal, who encourages teachers to want to be part of the group; and collegial teacher, where teachers are proud of their school (Hoy & Forsyth, 1986).

Identification, categorization, and comparison were measured by the dimensions of Teacher Openness and Principal Openness. Principal Openness was derived from adding directive and restrictive principal sub-scales, then subtracting this total from the supportive index. Teacher Openness was calculated by adding the collegial index and the intimate index, then subtracting the disengaged index from this total.

Identification was measured positively using the sub-scale items of supportive principal, who encourages a teacher to feel better about him or herself; collegial teacher, who enjoys working with colleagues; and intimate teacher, where there are strong relations among teachers who enjoy one another. Items on the OCDQ-RE that measured the theory element of identification are 4, 9, 15, 16, 22, 23, 28, 29, 42 for supportive principal behavior; 1, 6, 12, 19, 26, 32, 37, 40 for collegial teacher behavior, and 2, 7, 13, 20, 27, 33, 38 for intimate teacher behavior.

Categorization and comparison were measured positively using the sub-scale items of supportive principal, who encourages teachers to want to be part of the group, and collegial teacher, where teachers are proud of their school. Items on the OCDQ-RE

that measure the theory element of categorization were 4, 9, 15, 16, 22, 23, 28, 29, 42 for supportive principal behavior; 1, 6, 12, 19, 26, 32, 37, 40 for collegial teacher behavior.

Ethical Considerations

All data from the survey were confidential and anonymous and were sent directly by the teacher to the server at Oklahoma State University. There were no markers identifying the teacher. Teachers were asked to identify their school by name and location. Group one, teachers from high poverty/high performing schools, and group two, teachers from high poverty/low performing schools, were identified by creating two web sites to which surveys were returned. Every attempt was made to create a non-threatening atmosphere for responding teachers, so that teachers gave candid responses. Teachers were assured their personal responses would not be shared with other teachers or with the principal at their school.

The ability to generalize or represent findings of the study to other comparable situations, external validity, was considered. The reactive effects of testing, that those being surveyed might be sensitized to the survey questions, were controlled by guaranteeing confidentiality to all teachers. Teachers needed not be concerned that individual results of the survey would be shared with the building principal. Interaction effects of selection bias, assurance that the samples were representative of the larger nationwide population, were controlled by offering the survey to all teachers representative of the groups being studied. Reactive effects of experimental arrangements are the circumstances that the experience of participating in the survey may create artificiality to limit the possibility that results can be generalized. For example, a teacher

might respond to the survey according to the way that he/she "thinks" appropriate rather than the way he/she truly believes. Reactive effects would be a concern only if teachers attempted to portray a group relationship/attitude that was not adequately representative of the mood of the teacher group. For instance, if a teacher was upset with a peer teacher or the principal while taking the survey, the teacher's responses could be skewed.

IRB Approval

Application for review of research with human subjects was submitted to the Oklahoma State University Institutional Review Board pursuant to 45 CFR 46. Approval was granted to pursue this study by the Office of University Research Compliance on November 5, 2007 (see Appendix A).

CHAPTER IV

RESULTS

The purpose of this chapter is to describe and analyze the data collected through an online instrument sent to teachers working at low performing and high performing Title I elementary schools in Oklahoma. Demographic data from teachers who responded to the survey are presented first, followed by data on school climate provided through The Organizational Climate Description Questionnaire for Elementary Schools (OCDQ-RE) (Research Instruments, 2007). Schools with an Academic Performance Index (API) of 1400 or greater were considered high performing, and were evaluated and compared to schools with an API of 1000 or less that were considered low performing (Academic Performance Index, 2007).

Data analysis was repeated through means, standard deviations, and standardized scores for each of the six surveyed sub-scales representing the climate profile of the school and second-factor scores that were a combination of the six sub-scales. An analysis of variance comparing means of the high group, the low group, and the total group, and the six climate profile standardized means of schools was conducted. An analysis of variance compared the demographic data, the six climate profiles, and the Teacher and Principal Openness means. Post hoc tests, the Tukey HSD, were calculated where appropriate. A stepwise regression analysis was calculated using Academic Performance Index scores (API) as the factor variable for individual schools to predict

which of the climate profile scores was most likely to be evidenced in a school with high API. API is an academic index score that is determined annually for every school in Oklahoma and can range from 0-1500, with 1500 being representative of a school with highest achievement (Academic Performance Index, 2007).

The academic success of students was studied as it relates to how a group of teachers work together within the school climate as framed within Social Identity Theory (Brown, 2000).The individual identity of a person recedes into the background as individual group identity membership becomes more dominate (Brown, 2000). Individuals alter their personal behavior to adapt to group norms and values while seeking group consensus (Korte, 2007). Cognition, comparison, and self-enhancement work together as groups make decisions that directly or indirectly influence the success of a group (Brown, 2000).

Statement of Problem

Although some students living in poverty score well on the requisite state assessments mandated by No Child Left Behind (NCLB), the majority of students living in poverty score lower than students coming from more affluent schools (Barr & Parrett, 2007). Teachers who work in high poverty/high achievement schools may interact differently with one another and with the principal than teachers from high poverty/low achievement schools, and this possible difference in interaction may result in measurable differences in the academic performance of students. Finally, demographics may play a significant role in the success of a high poverty/high achievement school. However, these issues need further examination.

Research Questions

The research questions underlying the study are as follows:

1. What demographic differences exist between a high poverty/high achievement school and a high poverty/low achievement school when teacher attitudes are compared using the climate profiles of the high and low groups?
2. What teacher attitudes toward colleagues and the principal affect achievement in a high poverty/high achievement school?
3. What teacher attitudes toward colleagues and the principal affect academic achievement in a high poverty/low achievement school?
4. How useful is Social Identity Theory when explaining the relationship between principal and teacher attitudes and achievement?

Analysis of Demographic Data

Demographic data in the form of descriptive statistics were collected through the first five questions of the online survey: teacher in his/her present school (first year, 2-5 years, more than 5 years), size of school enrollment (1-135, 136-235, more than 235), tenure of the principal at the school (first year, 2-5 years, more than 5 years), school location (rural or urban), and percent of students at the Title I school free/reduced lunches (40-60%, 61-79%, 80% or more).

The Oklahoma State Department of Education reported that in 2006 of 1789 public schools in Oklahoma, 1192 were Title I schools, and of these 743 were elementary schools. The API scores earned in 2006 for all Title I elementary schools reflect 55 Title I elementary schools with an API of 1000 or less, and 60 with an API of 1400 or more.

These schools, 15% of Title I elementary schools, were chosen to represent the high and low performance groups studied in Oklahoma (Academic Performance Index, 2007).

Each of the 115 schools was contacted by phone to gain permission from the principal for the researcher to e-mail the survey to the principal. Once permission was granted, the online survey was sent to the principal of each school during the third week in December of 2007. Principals agreed to forward the survey link to the teachers in their buildings. A follow up reminder with the survey link was sent to all schools in early January 2008. Responses from low performing schools were fewer than those from high performing schools, so a third reminder with a survey link was e-mailed to low performing schools the second week of January of 2008. The total number of participants from the surveys was 534 teachers. Fifty-three first year teachers, 30 from high performing and 23 from low performing schools were eliminated. Four hundred eighty-one participants remained as part of the study. At least one teacher in 24 (44%) of the 55 low performing schools responded, and at least one teacher in 46 (77%) of the high performing schools responded.

The response rate to the demographic questions was not a problem. If a responding teacher felt uncomfortable answering any one question, it was acceptable for that teacher to skip the question and move to the next consecutive question. With 481 responses possible to each of the 5 demographic questions (a total of 2,405 responses), there were only 13 unanswered questions.

As shown in the Table 2, a total of 481 participants responded to the question of how long have you been at your school. Twenty-six percent of participants were from low performing schools, and 74% of participants were from high performing schools.

From low-performing schools, the response rate was almost equal relative to tenure. However, from high performing schools almost twice as many teachers with tenure of more than five years responded than did teachers with tenure of 2-5 years.

Table 2

Response Rate Relative to Teacher Tenure

Teacher Tenure	2-5 Years		> 5 years		Total	
	n	%	n	%	n	%
Low Performing	66	54	57	46	123	100
High Performing	124	35	234	65	358	100
Total Participants	190	40	291	60	481	100

To the question of how many students are in your school, 476 of 481 teachers responded. While response from small schools (1-135) represented 6% from high performing and 11% of teachers from low performing, responses from teachers in large schools (235 or >) represented about 70% of teachers in each group.

Table 3

Response Rate Relative to School Size

School Size	1-135		136-235		235 or >		Total	
	n	%	n	%	n	%	n	%
Low Performing	13	11	22	18	86	71	121	100
High Performing	21	6	92	26	242	68	355	100
Total Participants	34	7	114	24	328	69	476	100

When teachers were asked how long their principal had been at their school, 481 teachers responded. For low-performing schools, 11 teachers (9%) had a principal with tenure of more than five years. In stark contrast, 173 principals (48%) from high performing schools had tenure of more than five years. Ninety-one percent of low performing schools had principals with five or less years of tenure.

Table 4

Response Rate Relative to Principal Tenure

Principal Tenure	First Year		2-5 Years		5 Years or >		Total	
	n	%	n	%	n	%	n	%
Low Performing	36	29	76	62	11	09	123	100
High Performing	48	13	137	38	173	48	358	100
Total Participants	84	17	213	44	184	39	481	100

When teachers were asked about the size of their community, 479 of a possible 481 teachers responded. Almost four times as many responses from low performing schools were from urban schools. For high performing schools almost twice as many teachers responded from rural schools.

Table 5

Response Rate Relative to Rural/Urban Setting

Rural / Urban	Rural		Urban		Total	
	n	%	n	%	n	%
Low Performing	27	22	95	78	122	100
High Performing	234	66	123	34	357	100
Total Participants	261	54	218	46	479	100

To the question of what percent of students at your school qualify for free/reduced lunch, 475 of 481 teachers responded. Eleven times as many teachers from low performing schools were from schools with a student population of 80% or more free/reduced when compared to schools with lesser free/reduced counts. In contrast, one-third of teachers from schools with 80% or more free/reduced represented high-performing schools.

Table 6

Response Rate Relative to Free/Reduced Category

Free / Reduced Lunch	40-60%		61-79%		80% or >		Total	
	n	%	n	%	n	%	n	%
Low Performing	1	1	10	08	111	91	122	100
High Performing	108	31	135	38	110	31	353	100
Total Participants	109	23	145	30	221	47	475	100

The Organizational Climate Description Questionnaire

For Elementary Schools (OCDQ-RE)

Six subtests and two openness measures (dimensions) used to represent the climate profile of the high and low groups in this study were calculated from the OCDQ-RE. This survey consists of 42 questions with dimensions measuring: supportive principal behavior (S), directive principal behavior (D), restrictive principal behavior (R), collegial teacher behavior (C), intimate teacher behavior (Int), and disengaged teacher behavior (Dis) (Research Instruments, 2007). Climate emphasizes teacher expectations and administrative leadership (Johnson & Johnson, 1996), and is linked to achievement (Hayes, Emmons, & Ben-Avie, 1997).

The mean and standard deviation for each of these measures were calculated from the total surveyed responses and are detailed in Table 7. Supportive (S) behavior and Directive (D) behavior were each calculated using nine of the surveyed questions.

Restrictive (R) was a combination of five questions, Collegial (C) was a combination of eight questions, Intimate (Int) was a combination of seven questions, and Disengaged (Dis) was a combination of four questions. Every question was used to compute only one sub-scale. If a teacher chose to leave any one question unanswered, that teacher did not have a score for that particular sub-scale. For example, for the supportive sub-scale, 29 teachers did not have a score, meaning that 29 teachers left at least one of the nine questions for this dimension unanswered. There were 50 participants who failed to answer one of the questions for directive behavior, 14 who failed to answer one of the questions for restrictive behavior, 15 who failed to answer one of the questions for collegial behavior, 17 who failed to answer one of the questions for intimate behavior, and 11 who failed to answer one of the question for disengaged behavior.

Table 7

Descriptive Statistics for the Organizational Climate Description Questionnaire for Elementary Schools

Sub-Scales	n	M	SD
Supportive	452	27.91	6.54
Disengaged	431	18.61	5.34
Restrictive	467	10.46	3.20
Collegial	466	24.35	3.70
Intimate	464	18.58	4.18
Disengaged	470	06.46	2.09

Average scores and standard deviations for each climate dimension were computed from the surveyed population. The mean is the average score from all participants, and the standard deviation is how closely most participants cluster around the mean. The smaller the standard deviation, the closer the participant is to the typical school (Research Instruments, 2007). The number of participants varies among dimensions because teachers had the option to leave unanswered any question they did not want to answer.

After standardizing these six scores, three of the scores were used to compute each of the two openness measures, Principal Openness and Teacher Openness. Collegial, intimate, and disengaged subtests defined the degree of openness in teacher behavior, and directive, supportive, and restrictive subtests defined the degree of openness in principal behavior.

Results from the demographic questions relative to principal and Teacher Openness are outlined in Table 8, and can be interpreted as follows:

Table 8

OCDQ-RE Responses by Demographic Data Compared to Openness Scales

	API	Principal Openness	Teacher Openness
Teachers with 2-5 years of experience	High	513.07	502.98
	Low	403.80	337.80
Teachers with more than 5 years of experience	High	493.55	513.57
	Low	387.35	433.39
School size of 1-135	High	507.60	525.72
	Low	417.21	397.66
School size of 136-235	High	494.64	513.27
	Low	403.09	325.77
School size over 235	High	502.81	507.76
	Low	389.33	339.75
First Year Principal	High	474.31	474.03
	Low	395.21	341.98
Principal with 2-5 years of experience	High	507.51	506.83
	Low	398.27	335.73
Principal with more than 5 years experience	High	502.33	521.75
	Low	392.95	359.24
Rural Schools	High	396.64	405.76
	Low	412.53	365.54
Urban Schools	High	516.96	503.97
	Low	392.37	332.36
Free/reduce rate of 40-60%	High	516.60	518.00
	Low	396.09	337.13
Free/reduced rate of 61-79%	High	497.99	516.45
	Low	405.96	349.63
Free/reduced rate of 80%+	High	413.08	398.22
	Low	396.09	337.13

Note: Above 600, Very High; 551-600, High; 525-550, Above Average; 490-510, Average; 476-489, Slightly Below Average; 450-475, Below Average; 400-449, Low

Comparing the high academic (API ≥1400) to the low academic (API ≤ 1000) participants relative to demographic data and using Principal Openness and Teacher Openness from the OCDQ-RE, with the average scoring being 490-510 (Research Instruments, 2007), the following is suggested from Table 8: From high performing schools, Teacher and Principal Openness was average or above for 10 of the 13 demographic sub-groups. In contrast, for low-performing schools, all 13 demographic sub-groups had scores in Principal and Teacher Openness that were below average.

Principal Openness from total participants from all low performing participants was 417.89. Total participants from all high performing schools for this same indicator scored 592.59. An average score for Principal Openness is 490-510 (Research Instruments, 2007). Principal Openness represents a principal that is concerned for teachers, gives praise, is open to suggestions, is competent and respected, and is professional.

Teacher Openness represents a teacher group that is cohesive, has common goals, proud of their school, respectful of one another, and productive. This measure for all participants from low performing schools was 289.82. For all participants from high performing schools, the measure was 565.86. An average score for this index is 490-510.

A computerized program, SPSS 15.0, processed data using the analysis of variance, and comparing the means of the dependent variables, that is the six sub-scales of the survey suggesting the climate profile of a group, and the Principal Openness and Teacher Openness dimensions that are a statistical combination of the six sub-scales to a high and low Academic Performance score, the factor variable. Also, ANOVAs were

used to compare the six sub-scales of the survey and the Principal and Teacher Openness dimensions to the demographic data.

Analysis of Variance

ANOVAs comparing the means of the scales from the OCDQ-RE survey to the means of the demographic data, suggested significance: teacher tenure when compared to restrictive, collegial, Principal Openness, and Teacher Openness; free/reduced when compared to supportive, directive, collegial, intimate, Principal Openness, and teachers openness; school size only when compared to restrictive; rural/urban when compared to directive, intimate, Principal Openness, and Teacher Openness; principal tenure when compared to directive, restrictive, collegial, intimate, disengaged, Principal Openness, and Teacher Openness; and, rural/urban when compared to directive, intimate, Principal Openness, and Teacher Openness.

Table 9 outlines the comparison of API to the climate dimensions surveyed for all teachers surveyed.

Table 9

One-way ANOVA Comparing Academic Performance Index (API) to Climate Profile Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Supportive Principal	88817.87	1	88817.87	9.03	.02	**.00**
Within group error	4427177.50	450	9838.17			
Collegial Teacher	338311.08	1	338311.08	36.33	.02	**.00**
	4320332.00	464	9311.06			
Intimate Teacher	78179.43	1	78179.43	7.93	.02	**.01**
	4556192.40	462	9861.888			
Disengaged Teacher	67526.61	1	67526.61	6.86	.01	**.01**
	4604722.40	468	9839.15			
Teacher Openness	151382.10	1	151382.10	26.59	.06	**.00**
	2488423.8	437	5694.33			

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Between the means of the high and low academic groups, significance was suggested at .05 for the following dimensions: supportive principal $F_{(1, 450)} = 9.03$, $p = .00$, collegial teacher $F = _{(1, 464)} = 36.33$, $p = .00$, intimate teacher $F = _{(1, 462)} = 7.93$, $p = .01$, disengaged teacher $F = _{(1, 468)} = 6.86$, $p = .01$, and Teacher Openness $F_{(1, 437)} = 26.59$, $p = .00$. No significant difference was found between the high and low academic groups on the dimensions of directive principal, restrictive principal, or Principal Openness. Because significant differences were found on all three of the teacher scales when compared to API, it is suggested that the difference in student performance may be attributed less to principal behavior and more to teacher behavior (Garrison, 2004; McCombs, 2000).

Table 10

One-way ANOVA Comparing Teacher Tenure for All Participants to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Restrictive Principal	194594.37 4411615.20	1 462	194594.37 9548.95	20.38	.04	**.00**
Collegial Teacher	71904.13 4559033.60	1 461	71904.13 9889.44	7.27	.02	**.01**
Principal Openness	34211.34 1593643.70	1 394	34211.34 4044.78	8.46	.02	**.00**
Teacher Openness	32615.42 2598527.90	1 434	32615.42 5987.39	5.45	.01	**.02**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Teacher tenure had two means, so there was no need for a post hoc comparison. Teachers at a building for 2-5 years and teachers at a building more than 5 years were the two groups. As outlined on Table 10, significance was noted for teachers with more than 5 years of experience when compared to teachers with 2-5 years of experience on restrictive principal behavior $F_{(1, 462)} = 20.38$, $p = .00$, collegial teacher behavior $F = _{(1, 461)} = 7.27$, $p = .01$, Principal Openness $F = _{(1, 394)} = 8.46$, $p = .00$, and Teacher Openness $F_{(1, 434)} = 5.44$, $p = .02$.

Teachers with more than five years of tenure perceived their principal to be the most restrictive, followed by teachers with 2-5 years of tenure. Teachers of more than five years perceived their school to be more collegial than did teachers of 2-5 years. Teachers of 2-5 years thought the principals in their building were more open than did

teachers of more than five years. Teachers of more than 5 years thought the teacher groups were more open than did teachers with 2-5 years of tenure (Table 11).

Table 11

Means of Dimensions for Participating Schools

	High Performing Schools					Low Performing Schools					All Participating Schools					API
	Teacher Tenure	School Size	Principal Tenure	Rural/ Urban	Free/ Reduced	Teacher Tenure	School Size	Principal Tenure	Rural/ Urban	Free/ Reduced	Teacher Tenure	School Size	Principal Tenure	Rural/ Urban	Free/ Reduced	High/ Low
Supportive	504	501	517	508	523	475	411	460	**421**	**226**	502	468	493	499	**521**	**508**
Principal	516	499	494	508	502	478	449	486	**492**	**443**	499	490	491	501	**498**	**476**
		512	516		499		492	458		**484**		507	513		**491**	
Directive	503	495	**547**	**527**	**476**	492	489	**505**	515	0	494	493	**529**	**526**	**475**	501
Principal	495	517	**471**	**444**	**511**	502	495	**477**	489	487	503	513	**473**	**464**	**509**	497
		493	**508**		**517**		498	**597**		499		494	**514**		**508**	
Restrictive	**516**	472	**550**	503	**490**	**463**	**414**	503	**452**	392	**475**	**449**	**529**	497	489	504
Principal	**481**	501	**493**	502	**498**	**518**	**481**	476	**497**	464	**517**	**497**	**486**	502	496	488
		505	**499**		**526**		**504**	531		493		**505**	**501**		509	
Collegial	522	528	**473**	517	**533**	450	**387**	454	434	410	**484**	474	**464**	508	**531**	**516**
Teacher	502	525	**509**	514	**520**	459	**448**	453	459	437	**510**	511	**489**	490	**515**	**454**
		511	**532**		**492**		**467**	458		455		499	**528**		**473**	
Intimate	511	500	**471**	**515**	**517**	472	462	475	484	462	490	486	**472**	**512**	**517**	**508**
Teacher	498	497	**506**	**492**	**519**	484	434	475	475	494	506	485	**495**	**484**	**518**	**478**
		513	**518**		**481**		492	504		475		507	**517**		**478**	
Disengaged	492	454	521	489	492	531	**596**	525	**561**	574	506	510	**522**	497	493	**493**
Teacher	493	482	495	495	491	508	**508**	520	**506**	540	495	487	**504**	500	494	**521**
		499	483		497		**511**	511		519		502	**484**		508	
Principal	**496**	509	**473**	**494**	**521**	507	505	**489**	484	0	**513**	507	**479**	**493**	**521**	503
Openness	**515**	496	**510**	**524**	**499**	486	503	**512**	503	497	**494**	497	**511**	**514**	**498**	498
		506	**507**		**487**		495	**433**		498		503	**502**		**493**	
Teacher	516	524	**474**	516	**526**	463	**412**	466	452	432	**491**	482	**471**	**509**	**525**	**512**
Openness	505	515	**507**	507	**516**	477	**458**	471	475	470	**508**	505	**495**	**492**	**513**	**469**
		510	**526**		**491**		**470**	467		469		503	**523**		**480**	

Legend for order of means:

Teacher Tenure
More than 5 years
2-5 years

School Size
1-135 students
136-235 students
More than 235 students

Principal Tenure
First year
2-5 years
More than 5 years

Rural/Urban
Rural
Urban

Free/Reduced
40-60%
61-79%
More than 80%

API
High
Low

Significant relationships in bold

Realizing the importance of a teacher gaining experience at a school, and the fact that student achievement will benefit from the experience, it must be noted that schools are concerned about teacher retention (Hill & Barth, 2004). This ANOVA suggests that the longer a teacher is in building, the more collegial he/she perceives the climate. Collegial behavior is when teachers encourage professional interaction among colleagues, and is a factor in Teacher Openness. When the climate of a school encourages teachers to want to continue teaching at that school, student academic achievement will increase (Teel, 2003; Turan, 1998; Baughman, 1995; Alexander, 1977).

When teacher tenure for high performing schools was compared to the surveyed dimensions, one sub-scale and one dimension were significant (Table 12).

Table 12

One-way ANOVA Comparing Teacher Tenure for High Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Restrictive Principal	97267.59	1	97267.59	9.15	.03	**.00**
	3625246.30	341	10631.22			
Principal Openness	26166.67	1	26166.67	6.02	.02	**.02**
	1265546.70	291	4348.96			

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Significance was noted for tenured teachers from high performing schools for the restrictive principal $F = {}_{(1, 341)} = 9.15$, $p = .00$ and for Principal Openness $F = {}_{(1, 291)} = 6.02$, $p = .02$. Teachers with more than 5 years of tenure perceived the principal as being more

restrictive than did teachers with 2-5 years of tenure. Teachers of 2-5 years of tenure perceived the principal as being more open than did teachers of more than 5 years.

Table 12 shows that teacher tenure for low performing schools was significant only at the restrictive principal dimension $F = {}_{(1, 119)} = 14.00$, $p = .00$. Teachers with 2-5 years of tenure perceived their environment as more restrictive than did teachers with five or more years of tenure (Table 11).

Table 13

One-way ANOVA Comparing Teacher Tenure for Low Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Restrictive Principal	90875.04 772406.21	1 119	90875.04 6490.81	14.00	.11	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Between the means of free/reduced and the surveyed dimensions (Table 14), a level of significance at the .05 level was suggested for the following dimensions: supportive principal $F_{(2, 441)} = 3.08$, $p = .05$; directive principal $F_{(2, 420)} = 4.22$, $p = .015$; collegial teacher $F_{(2, 454)} = 15.23$, $p = .00$; intimate teacher $F_{(2, 452),}$ 9.14, $p = .00$; Principal Openness $F_{(2, 388),}$ 6.33, $p = .00$; Teacher Openness $F_{(2, 428),}$ 14.59, $p = .00$, indicating that there was a difference between free/reduced for each of these dimensions.

Teachers at schools with a lower free/reduced rate felt their principal was more supportive and less directive. This same group of teachers evaluated their peers as most intimate and open. The lower the free/reduced rate the more open the principal was perceived (Table 11).

Table 14

One-way ANOVA Comparing Free/Reduced Rate for All Participants to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Supportive Principal	60190.14 4315395.80	2 441	30095.07 9785.48	3.08	.01	**.05**
Directive Principal	80765.74 4022221.70	2 420	40382.87 9576.72	4.22	.02	**.02**
Collegial Teacher	286545.82 4271982.90	2 454	143272.91 9409.66	15.23	.06	**.00**
Intimate Teacher	176342.43 4358364.90	2 452	88171.22 9642.40	9.14	.04	**.00**
Principal Openness	50421.55 1545217.60	2 388	25210.78 3982.52	6.33	.03	**.00**
Teacher Openness	165720.17 2430063.30	2 428	82860.08 5677.72	14.59	.06	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

A Tukey HSD was computed to find the direction of the differences displayed in the ANOVA. Means were also calculated for the six sub-scales and the two openness dimensions relative to the demographic data

Schools with 80% or greater free/reduced perceived their principals as the least supportive, and most directive. Teachers in schools with 80% or greater free/reduced perceived their peers as the least collegial and the least intimate. Principal Openness and Teacher Openness was also perceived as the lowest in schools of 80% of more free/reduced, when compared to schools with 61-79% free/reduced and 40-60% free/reduced (Table 11).

Significance for the free/reduced rate in high performing schools was found for four sub-scales and two dimensions (Table 15).

Table 15

One-way ANOVA Comparing Free/Reduced Rate for High Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Directive Principal	100140.56 3208996.80	2 311	50070.28 10318.32	4.85	.03	**.01**
Restrictive Principal	73636.06 3612919.10	2 336	36818.03 10752.74	3.42	.02	**.03**
Collegial Teacher	93605.60 3112092.00	2 337	46802.80 9234.69	5.07	.03	**.01**
Intimate Teacher	102279.16 3218663.50	2 336	51139.58 9579.36	5.34	.03	**.01**
Principal Openness	54236.44 1206217.40	2 286	27118.22 4217.54	6.43	.04	**.00**
Teacher Openness	63266.85 1754452.60	2 318	31633.43 5517.15	5.73	.04	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Directive principal $F_{(2, 311)} = 4.86$, $p = .01$, restrictive principal $F_{(2, 336)} = 3.42$, $p = .03$, collegial teacher $F_{(2, 337)} = 5.07$, $p = .00$, intimate teacher $F_{(2, 336)} = 5.34$, $p = .01$, Principal Openness $F_{(2, 286)} = 6.43$, $p = .00$, and Teacher Openness $F_{(2, 318)} = 5.73$, $p = .00$ were each significant indicators when free/reduced rate in high performing schools was compared to the dimensions surveyed. In comparison, free/reduced rate for low performing schools was significant on only one dimension, supportive principal $F_{(2, 112)} = 3.58$, $p = .03$ (Table 15).

Teachers perceived that the most directive principals came from high performing schools with an 80% free/reduced rate, followed by a rate of 61-79%, followed by a rate of 40-60%. The most restrictive principals were in schools with 40-60% free/reduced, and the least restrictive were in schools with 80% or greater free/reduced. Teachers perceived the most collegiality and intimate behavior among teachers in schools with 40-60% free/reduced, followed by 61-79%, followed by more than 80% free/reduced. Principal Openness was greatest for schools with 40-60% free/reduced, followed by 61-79% free/reduced, followed by 80% or greater free/reduced (Table 11).

Table 16

One-way ANOVA Comparing Demographics to OCDQ-RE Dimensions Free/Reduced Rate for Low Performing Schools (Reduced)

	SS	df	MS	F	η^2	*p*
Supportive Principal	77535.18	2	38767.59	3.58	.06	**.03**
Within group error	1211345.30	112	10815.58			

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Supportive principal was the only sub-scale significant (Table 16) relative to the free/reduced demographic in low performing schools. In low performing schools, teachers working in 80% or greater free/reduced environments, perceived their principal as most supportive, followed by the 61-79% free/reduced schools, followed by the 40-60% free/reduced schools (Table 11).

Table 17

One-way ANOVA Comparing Principal Tenure for All Participants to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Directive Principal	233566.11 3961105.10	2 426	116783.05 9298.37	12.56	.06	**.00**
Restrictive Principal	107031.19 4499374.20	2 462	53515.60 9738.91	5.50	.02	**.00**
Collegial Teacher	266552.53 4358286.00	2 460	133276.26 9474.54	14.07	.06	**.00**
Intimate Teacher	115832.72 4454891.30	2 458	57916.36 9726.84	5.95	.03	**.00**
Disengaged Teacher	89644.09 4355460.10	2 464	44822.04 9386.77	4.78	.02	**.01**
Principal Openness	51773.79 1576416.20	2 394	25886.89 4001.06	6.47	.03	**.00**
Teacher Openness	156087.16 2465272.00	2 433	78043.58 5693.50	13.71	.06	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Principal tenure had three means: First year principals, those principals serving 2-5 years, and those serving more than 5 years were included. Significance at an alpha of .05 was suggested on all indexes except supportive principal behavior (Table 17). Directive principal behavior when compared to principal tenure was significant $F_{(2, 426)} = 12.56$, $p = .00$, restrictive principal behavior $F_{(2, 462)} = 5.50$, $p = .00$, collegial teacher behavior $F_{(2, 460)} = 14.07$, $p = .00$, intimate teacher behavior $F_{(2, 458)} = 5.95$, $p = .00$, disengaged teacher behavior $F_{(2, 464)} = 4.78$, $p = .01$, Principal Openness $F_{(2, 394)} = 6.47$, $p = .00$, and Teacher Openness $F_{(2, 433)} = 13.71$, $p = .00$ all indicated significance at the .05 level.

For this analysis, first year principals were most directive, followed by principals of more than five years, followed by principals of 2-5 years. First year principals were most restrictive, followed by principals of more than five years, followed by principals of 2-5 years. Teachers were most collegial and intimate with a principal of more than five years, and less disengaged. Principals of more than five years were perceived as the most open. Teachers working with a principal of more than five years perceived themselves as most open (Table 11).

The principal is the most important single determinate of effective learning resulting in student academic achievement. Principals have the power and position to impact school climate. This data suggests that the longer a principal works in a building, the more successful he/she is in influencing school climate (Teel, 2003: Chirichello, 1997; Famularo, 1996).

Table 18

One-way ANOVA Comparing Principal Tenure for High Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Directive Principal	216650.71 3174326.00	2 316	108325.36 10045.34	10.78	.06	**.00**
Restrictive Principal	117070.67 3605764.40	2 341	58535.34 10574.09	5.54	.03	**.00**
Collegial Teacher	138179.12 3131835.00	2 342	69089.56 9157.41	7.55	.04	**.00**
Intimate Teacher	82084.54 3251184.10	2 341	41042.27 9534.26	4.31	.02	**.01**
Principal Openness	46880.44 1245222.10	2 291	23440.22 4279.11	5.48	.04	**.01**
Teacher Openness	95934.74 1740193.10	2 322	47967.37 5404.33	8.88	.05	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Principal tenure for high performing schools was significant on three sub-scales and two dimensions (Table 18); directive principal $F_{(2, 316)} = 10.78$, $p = .00$, restrictive principal $F_{(2, 341)} = 5.54$, $p = .04$, collegial teacher $F_{(2, 342)} = 7.55$, $p = .00$, Principal Openness $F_{(2, 291)} = 5.48$, $p = .01$, and Teacher Openness $F_{(2, 322)} = 8.88$, $p = .00$. In contrast (Table 19), principal tenure for low performing schools was significant on one sub-scale and one dimension, directive $F_{(2, 107)} = 10.16$, $p = .00$, and Principal Openness $F_{(2, 100)} = 10.65$, $p = .00$.

The strongest indicator for directive behavior was among first year principals, followed by principals of more than five years. Principals with 2-5 years of tenure were the least directive. First year principals were also the most restrictive, followed by

principals of more than 5 years, then by principals of 2-5 years. Teachers indicated that faculty with a principal of more than 5 years was the most collegial, followed by a principal of 2-5 years and a first year principal. Principal Openness was strongest for principals of 2-5 years, followed by principals of more than 5 years, followed by first year principals. Teacher Openness was highest for principals of more than 5 years, followed by principals of 2-5 years, followed by first year principals (Table 11).

Table 19

One-way ANOVA Comparing Principal Tenure for Low Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Directive Principal	128103.88 674585.94	2 107	64051.94 6304.54	10.16	.16	**.00**
Principal Openness	58606.05 275203.86	2 100	29303.03 2752.04	10.65	.18	**.00**

Note: Significant relationships (α = .05) are shown in bold; The complete table can be found in Appendix E

Table 19 shows that principal tenure was significant for low performing schools for directive principal $F_{(2, 107)} = 10.16$, $p = .000$, and Principal Openness $F_{(2, 100)} = .072$, $p = .000$. Principals of more than 5 years were the most directive, followed by first year principals, followed by principals of 2-5 years. Principal Openness was greatest for principals with 2-5 years of tenure, followed by first year principals, followed by principals with more than 5 years of tenure (Table 11).

Table 20

One-way ANOVA Comparing Rural/Urban Setting for All Participants to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Directive Principal	399304.53 3737316.00	1 424	399304.53 8814.43	45.30	.10	**.00**
Intimate Teacher	82577.69 4488884.90	1 457	82577.69 9822.51	8.41	.02	**.00**
Principal Openness	44410.61 1553497.20	1 392	44410.61 3963.00	11.21	.00	**.00**
Teacher Openness	28918.29 2591220.80	1 432	28918.29 5998.20	4.82	.01	**.03**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Table 20 shows that rural/urban demographic was significant when compared to directive principal behavior $F_{(1, 424)} = 45.30$, $p = .00$, the intimate teacher behavior $F_{(1, 457)}$, 8.40, $p = .00$, Principal Openness $F_{(1, 392)} = 11.21$, $p = .001$, and Teacher Openness $F_{(1, 432)} = 4.82$, $p = .03$. Teachers perceived rural schools as superior to urban on the dimensions of directive principal, intimate teacher behavior, and Teacher Openness. Principal Openness was higher for urban schools. Children who attend urban schools in low-income areas consistently show the lowest academic achievement. Overall school climate can influence children's academic achievement (Esposito, 1999).

Rural/urban demographic was significant on two sub-scales and one dimension for high performing schools (Table 21), and was significant on two sub-scales for low performing schools (Table 22).

Table 21

One-way ANOVA Comparing Rural/Urban Setting for High Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Directive Principal	479636.08 2878424.00	1 315	479636.08 9137.86	52.46	.14	**.00**
Intimate Teacher	39858.83 3295891.10	1 341	39858.83 9665.37	4.124	.01	**.04**
Principal Openness	55725.17 1217395.90	1 290	55725.17 4197.92	13.27	.04	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

High performing schools were significant on the dimensions of directive principal $F_{(1, 315)} = 52.46$, $p = .00$, intimate teacher $F_{(1, 341)} = 4.12$, $p = .04$, and Principal Openness $F_{(1, 290)} = 13.27$, $p = .00$.

Teachers from a rural environment perceived their school to be more directive than did teachers from an urban. Rural teachers also perceived their schools are more intimate than urban. However, Principal Openness for urban schools was higher than for rural (Table 11).

Table 22

One-way ANOVA Comparing Rural/Urban for Low Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Supportive Principal	100589.09 1251262.80	1 113	100589.09 11073.12	9.08	.01	**.00**
Restrictive Principal	41163.79 798386.99	1 118	41163.79 6765.99	6.08	.05	**.02**
Disengaged Teacher	63615.25 1033606.20	1 117	63615.25 8834.24	7.20	.06	**.01**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

Rural/urban for low performing schools was significant for supportive principal $F_{(1, 113)} = 9.08$, $p = .00$. Urban teachers perceived their principals as being more supportive than did rural teachers. Rural teachers perceived their peers as being more disengaged than did urban teachers (Table 11).

Table 23

One-way ANOVA Comparing School Size for Low Performing Schools to OCDQ-RE Dimensions (Reduced)

	SS	df	MS	F	η^2	*p*
Supportive Principal	85335.83 1260876.40	2 111	42667.91 11359.25	3.76	.06	**.03**
Directive Principal	1016.28 790217.29	2 105	508.14 7525.88	.07	.00	.94
Restrictive Principal	93820.25 751735.16	2 116	46910.12 6480.48	7.24	.11	**.00**
Collegial Teacher	72578.19 932686.17	2 113	36289.09 8253.86	4.40	.07	**.01**
Disengaged Teacher	83668.93 1070926.90	2 115	41834.47 9312.41	4.49	.07	**.01**
Teacher Openness	53790.88 575537.37	2 106	26895.44 5429.59	4.95	.09	**.01**

Note: Significant relationships ($\alpha = .05$) are shown in bold; The complete table can be found in Appendix E

School size (small, medium, large) was significant for the total population for the restrictive dimension $F_{(2, 456)} = 4.78$, $p = .00$ (Table 11). There were no significance differences on any dimension for high performing schools relative to school size.

However, as outlined in the Table 23, size was significant for four sub-scales and one dimension in low performing schools; supportive principal $F_{(2,111)} = 3.76$, $p = .03$, restrictive principal $_{(2, 116)} = 7.24$, $p = .00$, collegial teacher $F_{(2, 113)} = 4.40$, $p = .02$, disengaged teacher $F_{(2, 115)} = 4.50$, $p = .01$, and Teacher Openness $F_{(2, 106)} = 4.95$, $p = .01$.

Low performing schools with more than 235 students had the most supportive and restrictive principals. Schools with 1-135 had the most collegial behavior, followed by

schools with 136-235 students, followed by schools with more than 235 students. Low performing schools with more than 235 students had the most disengaged teacher behavior, followed by schools with 135-235 students, followed by schools with 1-135 students. For low performing schools, Teacher Openness was greatest for school with 1-135 students, followed by schools with 136-235 students followed by schools with more than 235 students (Table 11).

Regression Analysis

A step-wise regression analysis adding only variables that were statistically meaningful was used with API as the dependent variable and including 13 independent variables. The independent variables were the six subscales and the two dimensions from the OCDQ-RE survey and the demographic data. Results of this analysis are presented in Table 24.

Table 24

Results of Step-Wise Regression Analysis Predicting API

	B	SE	β	t	Sig.
Free/Reduced	-120.82	14.87	-.38	-8.13	**.00**
Rural/Urban	-159.00	24.33	-.31	-6.53	**.00**
Principal Tenure	70.18	16.07	.20	4.37	**.00**
Collegial Subscale	.39	.13	.15	3.14	**.00**
Restrictive Subscale	.38	.12	.14	3.14	**.00**
Disengaged Subscale	-.24	.12	-.10	-2.01	**.04**

Note: Significant relationships ($\alpha = .05$) are shown in bold

Important predictors of the dependent variable, API, account for approximately 44.7% of the variance in API ($R^2 = .45$). When each predictor was assessed individually, the partial regression coefficients for free/reduced ($t \approx -8.13$; $p < .00$), for rural/urban ($t \approx -6.53$; $p < .00$), for principal tenure ($t \approx 4.37$; $p < .00$), for collegial subscale ($t \approx 3.14$; $p < .00$), for restrictive subscale ($t \approx 3.14$; $p < .00$), and for disengaged subscale ($t \approx -2.01$; $p < .04$) were significant predictors. The following predictor equation was generated by this study:

Y' = 1357.43 – 120.82 (Free/Reduced)-159.00 (R/U) + 70.18 (Principal Length) + 0.39 (SdCollegial) + 0.38 (SdRestrictive) - 0.24 (SdDisengaged),

This equation may be used by educators who wish to estimate API. It is important to mention that the predictors of free/reduced, rural/urban, and principal tenure will influence the predicted API the most, followed by restrictive principal behavior, collegial

teacher behavior, and disengaged teacher behavior. The variables of supportive principal, directive principal, intimate teacher, Principal Openness, Teacher Openness, teacher tenure, and school size do not significantly impact API level.

A hierarchical regression was computed with level one being step-wise and using the demographic data and level two being step-wise and using the sub-scales from the survey tool. Table 16 in the appendix shows the results of this analysis. The only difference between these results and the results outlined in Table 24 (step-wise analysis with all variables), is the school size variable. It should be noted that school size was only significant on the ANOVAs for low performing schools.

Social Identity Theory

Social Identity Theory is a theory of group behavior as it relates to membership. The theory extends to address the individual and the sociological aspects of behavior (Hogg, Terry, & White, 1995). The climate profile of a group of teachers can be framed within the three elements of this theory. This study has surveyed and analyzed the individual perceptions of teachers relative to the school climate in which they teach. Teacher's responses have been analyzed and compared to the academic achievement of students with whom these teachers work. Demographic groups have also been compared to the climate indexes (sub-scales and dimensions) surveyed.

Identification, categorization, and comparison are the three elements of Social Identity Theory (Tajfel & Turner, 1979). Social identity is a combination of both organizational climate and culture. While cultures are deep and stable within an environment, climate is a recurring pattern of attitudes and feelings (Lambert, 2002). The

theory elements are positive measures that contribute to a teacher's ability to shape and change the nature of the environment in which they work (Varghese, 2005). Teacher groups with similar views about the goals of the group perform better than groups with dissimilar views (Jordan, Field, & Armenkis, 2002). This study surveyed teachers about the environment in which they teach, then compared the environment to the academic achievement of the students within that environment. Teachers working in high poverty/low achieving schools and teachers working in high poverty/high achieving schools were surveyed.

Categorization and comparison are two elements of the theory. Categorization is labeling oneself as part of the group, and comparison is the perception of a favorable bias toward the group to which one belongs. These elements were measured by the supportive principal and collegial teacher sub-scales of the OCDQ-RE survey. Identification, bolstering oneself by identifying with the group, was measured by supportive principal, collegial teacher, and intimate teacher sub-scales on the same survey.

Social Identity Theory states that group effectiveness is most efficient when there are feelings about similarity, closeness, and bonding within the team and the focus is on the goal of the group (Chang & Bordia, 2001). The measures for climate profile used in this study suggested the extent to which this goal of the group, academic excellence, had been achieved. The indicators of Social Identity Theory were analyzed as to significance of intensity and compared to academic achievement and to demographic groups surveyed.

Summary

Teachers from low income schools were surveyed and initially categorized into high and low academic performance groups. Data were sorted and analyzed according to five demographic variables, six sub-scales surveyed, Principal and Teacher Openness and a high group, a low group, and the total group.

Standardized means from the dimensions surveyed and measured on the OCDQ-RE suggested that demographics play an important role relative to academic performance in both the high and the low groups. The surveyed means of the high and low groups showed a difference on the Principal and Teacher Openness measures. Principal Openness (417.89) and Teachers Openness (289.82) for low performing schools was in the very low range (Research Instruments, 2007). For high performing schools, Principal Openness was in the average range (500.31), and Teacher Openness (509.90) was in the slightly above average range. These same measures showed that all 13 demographic sub-groups from low performing schools scored in the very low range below 449. On the other hand, only 3 of 13 demographic sub-groups from high performing schools scored in the low range.

A regression analysis using all demographic data and all dimensions surveyed on the ODCQ-RE, as compared to high and low academic performance, predicted that the higher the free/ reduced rate, the lower the academic achievement. Rural schools implied higher academic performance than urban schools. The length of time that a principal had worked at a school suggested higher academic performance for a school with a principal of 2-5 years of tenure surpassing a first year principal, and with principals with more than 5 years of tenure surpassing principals with 2-5 years of experience.

Schools with higher scores on collegial teacher behavior had corresponding higher academic performance. The mean for collegial behavior in all high performing schools was 515.87, and the mean for collegial in all low performing schools was 453.94. This is behavior which is supportive and evidences professional interaction among teachers. Collegial groups are groups in which teachers are proud, enthusiastic, accepting, and respectful of one another.

Surprisingly, restrictive principal behavior, that is behavior that burdens teachers with extra duties and responsibilities, was associated with slightly higher academic performance. The mean for restrictive behavior in high performing schools was 504.05, and the mean for restrictive in low performing schools was 488.47. The higher mean for what is considered a negative index in which the principal burdens teachers with paper work, committee requirements, and other demands that interfere with teaching, may be a result of the demands of No Child Left Behind (Neill, 2008; Popescu, 2008; Stover & Hardy, 2008). The accountability associated with high test scores results in paperwork and committee demands placed on classroom teachers.

The mean for supportive principal in high performing schools was 508.29, while the mean for this index in low performing schools was 476.20. Directive principal behavior for high performing schools had a mean of 501.25, while this same index for low performing schools had a mean of 496.77. Intimate teacher behavior had a mean of 507.67 for high performing schools, and 477.78 for low performing schools.

Disengaged teacher behavior, where teachers lack focus, also predicted lower academic performance. The mean for disengaged behavior in low performing schools was 520.65, and the mean for disengaged in high performing schools was 493.16.

Disengaged teachers have no goals, and their behavior is negative and critical of colleagues.

ANOVA analyses substantiated the significance of free/reduced relative to academic performance for six sub-scales surveyed suggesting that the higher the free/reduced rate the lower the API score. Three sub-scales and one dimension were significant when compared to the rural/urban demographic and to the teacher tenure demographic. Significant to rural/urban were directive, intimate, principal and Teacher Openness. Significant to teacher tenure were restrictive, collegial, principal and Teacher Openness. Five sub-scales and two dimensions were significant compared to principal tenure: directive, restrictive, collegial, intimate, disengaged, and Principal and Teacher Openness.

In conclusion, in the Oklahoma Title I elementary schools surveyed, rural schools with lower free/reduced rates where a principal had been in the building for more than five years, and where teachers had a sense of collegiality and intimacy, with some restrictive principal behavior had the highest Academic Performance Index scores. Table 25 summarizes the comparison of means (represented as levels of significance) between the dimensions of the OCDQ-RE survey as compared to high and low API and as compared to the demographic data surveyed.

Table 25

Significance of Survey Dimensions for Participating Schools

	High Performing Schools					Low Performing Schools					All Participating Schools					API
	Teacher Tenure	School Size	Principal Tenure	Rural/ Urban	Free/ Reduced	Teacher Tenure	School Size	Principal Tenure	Rural/ Urban	Free/ Reduced	Teacher Tenure	School Size	Principal Tenure	Rural/ Urban	Free/ Reduced	High/ Low
Supportive Principal	.29	.49	.11	1.00	.13	.90	**.03**	.44	**.00**	**.03**	.74	.05	.09	.81	**.05**	**.00**
Directive Principal	.47	.20	**.00**	**.00**	**.01**	.54	.94	**.00**	.17	.68	.34	.26	**.00**	**.00**	**.02**	.69
Restrictive Principal	**.00**	.42	**.00**	.83	**.03**	**.00**	**.00**	.06	**.02**	.30	**.00**	**.01**	**.00**	.65	.20	.14
Collegial Teacher	.07	.43	**.00**	.80	**.01**	.61	**.01**	.99	.22	.77	**.01**	.18	**.00**	.06	**.00**	**.00**
Intimate Teacher	.24	.41	**.01**	**.04**	**.01**	.56	.06	.67	.71	.85	.08	.10	**.00**	**.00**	**.00**	**.01**
Disengaged Teacher	.92	.07	.05	.61	.87	.21	**.01**	.09	**.01**	.70	.23	.31	**.01**	.76	.28	**.01**
Principal Openness	**.02**	.52	**.01**	**.00**	**.00**	.06	.77	**.00**	.15	.96	**.00**	.70	**.00**	**.00**	**.00**	.5
Teacher Openness	.22	.68	**.00**	.31	**.00**	.34	**.01**	.93	.19	.90	**.02**	.32	**.00**	**.03**	**.00**	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold

CHAPTER V

CONCLUSION

A nation-wide challenge for all students, rich and poor, to achieve academic potential has resulted in forced accountability for teachers and principals in public schools. Federal legislation in 2002 of No Child Left Behind (NCLB) resulted in performance standards determining academic goals for students in each state (Guilfoyle, 2006). With the implementation of NCLB, the quality of a school is judged by that school's test scores (Camille, 2006).

Students from low income schools often do not perform as well academically on these tests as their counterparts in more affluent schools (Payne, 2001), but some low income school students perform better than others. This study examined the climate profile of high poverty/high performing schools and high poverty/low performing schools, and considered the effect that demographics have on these schools. Climate and demographics are evaluated relative to the academic achievement of students.

Although some students living in poverty score well on the requisite state assessments mandated by NCLB, the majority of students living in poverty score lower than students coming from more affluent schools (Barr & Parrett, 2007). The problem is do teachers who work in high poverty/high achievement schools interact differently with one another and with the principal than teachers from high poverty/low achievement schools, and does this difference in interaction result in attitudes that result in measurable

differences in the academic performance of students? Finally, do demographics play a significant role in the success of a high poverty/high achievement school?

Research Questions

1. What demographic differences exist between a high poverty/high achievement school and a high poverty/low achievement school when teacher attitudes are compared using the climate profiles of the high and low groups?
2. What teacher attitudes toward colleagues and the principal affect achievement in a high poverty/high achievement school?
3. What teacher attitudes toward colleagues and the principal affect academic achievement in a high poverty/low achievement school?
4. How useful is Social Identity Theory when explaining the relationship between principal and teacher attitudes and achievement?

Social Identity Theory was used as the framework for this study addressing group behavior. It is a unifying theory of organizational behavior because what and how people think as members of a group influence the outcomes of those groups (Korte, 2007). It originated as a European theory dealing with conflicts between groups, but has been extended to address individuals in a group (Tajfel & Turner, 1979). Social identity is a combination of both culture which is stable within an environment, and organizational climate which is recurring attitudes and feelings (Lambert, 2002). In this study attitudes of individual teachers from both high poverty/high achieving and high poverty/low achieving schools have been framed within the three elements of the theory;

identification, categorization, and comparison, as evaluated with the OCDQ-RE survey (Tajfel, 1978).

Identification is feeling better about oneself by identifying with a group. OCDQ-RE sub-scales measuring the theory element of identification were supportive principal, collegial teacher, and intimate teachers. Categorization, labeling oneself as part of a group, and comparison, the perception that the group to which one belongs is superior to other groups, were measured by the sub-scales of supportive principal and collegial teacher.

According to Social Identity Theory, group effectiveness is achieved when individual members of the group have feelings of closeness and focus on the goal of the group (Chang & Bordia, 2001). Teacher Openness measured this effectiveness as it related to student achievement in high poverty schools. Principal Openness was evaluated as the behavior that influenced the academic performance of students (Baughman, 1995; Famularo, 1996; Hoy & Forsyth, 1986).

Data for this study were collected online from high poverty Title I elementary schools in Oklahoma. Achievement was measured by the Academic Performance Index score (API) calculated yearly for every public school in Oklahoma (Academic Performance Index, 2007). From a total of 743 Title I elementary schools in Oklahoma, 55 were considered low performing and 60 were considered high performing. These schools constituted 15% of all Title I elementary schools.

API scores in Oklahoma range from 1-1500. For purposes of this study, schools with an API of 1000 or below were considered low performing, and schools with an API of 1400 or better were considered high performing. Information listing all API scores for

Oklahoma Title I elementary schools in 2006 showed a natural break for scores above 1400 and below 1000. These scores included 15% of all Title I elementary schools, and excluded the remaining 85% of schools from the study. Schools with scores at or above 1400 can be recognized for awards, while schools with scores at or below 1000 can be considered for the needs improvement list.

Each of these schools was first contacted by phone for permission from the school principal for teachers to participate. Once verbal permission was granted, a link to the online survey was sent to the principal of each school. Principals agreed to forward the confidential and anonymous survey to teachers in their building.

Of the 55 low performing schools surveyed, 24 or 44% responded. 60 high performing schools were surveyed, 77% or 46 responded. All first year teacher responses were eliminated from the study. Demographic data along with climate profile data were surveyed. School name was requested, but not required, from each participant. Demographic data included school size, principal tenure, teacher tenure, free/reduced rate, and if the school was urban or rural. Sub-scales surveyed on the OCDQ-RE were supportive principal behavior, in which principals show a basic concern for teachers; directive principal behavior, where supervision is close and rigid; restrictive principal behavior which hinders rather than facilitates teacher work; collegial teacher behavior, which is supportive and professional; intimate teacher behavior, which represents strong social connections; and disengaged teacher behavior, which represents a lack of focus and meaning.

Data were collected during a four week period in December of 2007 and January of 2008. Once collected means, standard deviations, standardized scores for the surveyed

dimensions, ANOVA analyses, and a regression analysis were calculated from the data. Results of these comparisons and analyses between demographics, dimensions of the survey, and the high and low schools are outlined in the (Table 11 and Table 25).

Findings and Conclusions

Climate profile scores for all dimensions of the OCDQ-RE for high poverty/high achieving schools were average or above. They were below average for all high poverty/low achieving schools. A positive climate within a school is associated with improved academic achievement (Alexander, 1977; Barr & Parrett, 2007; Baughman, 1995; Cartwright & Zander, 1956; Hoy & Forsyth, 1986). These results suggest that poverty and low achievement go hand in hand. The lower the free/reduced rate (poverty rate), the greater the predicted academic performance index (academic achievement). The lower the surveyed climate profile index (OCDQ-RE), the lower the academic performance index.

Poverty is hard to overcome, and must be recognized as one of the most important variables in a low performing school (Marzano, 2003). However, poverty does not have to dictate academic achievement. Elements in some high poverty schools create an environment where poor students can achieve as well or better than affluent students. Schools must make a conscious effort to develop climate elements that contribute to a positive environment. When a student from poverty learns persistence within a positive and encouraging environment, academic excellence will be the end product and will begin to level the playing field in life. Leadership, ambitious instruction, and a student-centered school climate contribute significantly to student performance (Gewertz, 2006).

Teachers must place emphasis on the role of positive and high expectations for students when the goal is academic excellence (Rubie-Davies, 2006).

A one-step regression analysis and a hierarchical regression analysis predicted that a higher free/reduced rate for a school predicted a lower API. One-way Analysis of Variance found the free/reduced rate significant on six of eight surveyed indexes for high poverty/high achieving schools. The higher the poverty rate, particularly when the rate was 80% or more, the lower the predicted API. Two variables that profoundly influence student achievement are teacher quality and leadership quality (Cushman, 2007). It can be concluded that students in high poverty/low achieving schools need the best teachers under the leadership of a superior leader (Marzano, 2003). This study found the highest percent of inexperienced teachers and principals, those with less than 5 years of experience, at high poverty/low achieving schools.

Principal tenure of five years or more predicted a higher API. Principal tenure is positively related to a higher API. If districts want high API scores from all schools, they must retain principals at high poverty schools/low achieving schools. Low performing schools need to have committed and long term experienced leadership. The longer a principal is in a high poverty school, the greater the likelihood that the API will increase. Leader identification seems to have a contagious effect on teachers, which in turn influences teacher attitudes and behaviors (Van Dick, Hirst, & Grojean, 2007).

A one-step regression analysis and a hierarchical regression analysis predicted that more collegiality and less disengaged behavior would be found in high achieving schools. While unexpected, restrictive principal behavior was present in high achieving schools. An ANOVA analysis suggested that restrictive behavior was significant for three

of six sub-scales in high performing schools. For high performing schools the behavior was significant when compared to teacher tenure, principal tenure, and free/reduced lunch rate.

For schools to raise API scores, the principals must closely monitor teacher behavior and student progress while creating a collegial environment void of negativity. One negative influence in a school can bring negativity to an entire staff (Wellen & Neale, 2006), and careful monitoring is required and characteristic of high performing schools (Barr & Parrett, 2007).

Implications for Theory

Social Identity Theory helps explain the success of high poverty/high achieving schools. This theory explains psychological and sociological group behavior as it relates to membership. Values and emotions of teachers were surveyed and measured by the attitude scales on the OCDQ-RE. This was the psychological aspect of the theory. When the dimensions surveyed were average and above as compared to other schools, the academic achievement of students was high. When the dimensions surveyed were low and below average, the academic achievement for students was low. Academic achievement was the sociological aspect of the theory, or the difference made in student achievement when individuals (teachers) affected group (student) performance.

Identification, categorization, and comparison are the three elements of the theory. Identification was measured by the sub-scales of collegial, intimate teacher, and supportive principal. Teachers identify with a faculty, and this encourages the group to perform more efficiently than any individual teacher.

Categorization was measured by the sub-scale of collegial teacher and the dimension of supportive principal. Teachers labeled themselves as a part of the group. This resulted in encouragement within the group, and pride in their school and its students.

Perceiving a favorable bias for the group to which one belongs is comparison. This was measured on the OCDQ-RE by the sub-scales of supportive principal and collegial teacher. According to the theory, in-group bias contributes to the success of a group's goal. This study found that when schools had high indicators of supportive principal and collegial teacher, which indicated a favorable bias for one's group, that API scores were high. It can be concluded that the perception by teachers that a school was superior, identifying as part of a faculty, and labeling oneself as a member of the group was associated with higher student achievement.

Implications for Research

This study found a strong relationship between positive school climate and high academic achievement for elementary school students. Because this study was quantitative and involved only elementary schools, a second quantitative study involving middle schools is recommended. If there is a weaker relationship between positive school climate and high academic achievement at middle schools, what factors might be responsible? A longitudinal study examining high performing students at the elementary level as compared to the performance of these same students at the middle school level with the constant being a positive school climate is recommended. Does high performance continue for these students? If not, why not?

A second part of this same study should be qualitative. Ten to 12 middle school students should be surveyed. Half of these students should be students that were high performing at both the elementary and the middle school level. Half of these students should be students that were high performing at the elementary level, but were low performing after moving to the middle school. These students should be surveyed to find what factors might have contributed to their decrease in achievement, in spite of the fact that the students were still in buildings with a positive climate.

This study found significance between academic achievement for the 80% and above free/reduced level as compared to the 61-79% free/reduced, with an 80% or greater free/reduced rate predicting the lowest API score. Qualitative research should address the specific student factors and climate indicators within the 80% free/reduced environment that contribute to the low achievement. Are student behaviors and attitudes present in these schools that are different from those present in schools with less poverty, or in schools with equal poverty that are high performing.

This quantitative study addressed the attitudes of the adults in a building. Further study should address attitudes of students in both high and low performing buildings. These attitudes could be categorized into areas that enhance or hinder academic achievement in a building. When these attitudes and behavior are identified, then structures and supports could be put in place to begin to equalize the school experience for these students.

Schools where principal tenure was more than 5 years had the highest predicted academic index scores. What skills do these principals practice that can be shared and taught to younger principals that will improve their performance? Are these skills

communication, organizational, and/or instructional (Helterbran, 2008; Johnson, 2007; Shirvani, 2007)?

A qualitative study surveying and analyzing the communication, organization, and instructional beliefs of these tenured principals could identify procedures and attitudes that contribute to high poverty/high performing school environment. Once identified, these principal characteristics could be shared and practiced with new and less experienced principals.

Implications for Practice

Principal tenure of five years or more was a significant indicator among the sub-scales of directive, restrictive, collegial, intimate, and disengaged behavior, as they apply to high academic performance. The practices of these principals need to be evaluated both quantitatively and qualitatively and applied to leadership situations. Seasoned principals need to mentor principals with less experience. Principals with five or more years of tenure would be most capable of leading teachers toward the goal of increasing academic achievement.

Leaders must be directive and provide close and constant supervision for teachers while developing professional interactions among teachers. Goal setting must be evident and meaningful. A strong leader is the first step toward changing teacher behavior and finally teacher attitude. Positive teacher attitude equals a positive school climate resulting in higher academic performance.

Because teachers from high performing schools display higher levels of collegial and intimate teacher behavior than teachers from low performing schools, the elements of

this behavior need to be identified and explained qualitatively. Once identified, these elements should be implemented, and practiced among teachers from lower performing schools whose goal is to raise academic performance. This could be accomplished through professional development followed by guided evaluations of groups as collegial and intimate behaviors are identified, encouraged, and practiced. Low performing and high performing schools should develop partnerships that would allow teachers and the principal to share instructional practices, community building activities, and philosophical beliefs about students and achievement.

Teachers working at a school need to be cognizant that their attitudes and behaviors toward one another, the principal, and the students do influence academic achievement. They also need to know that negativity about their school environment has an adverse affect on academic achievement. Teachers and the principal need to set aside time to talk from the heart about what is going on within their school. A focus needs to be on resolving issues of concern. Negativity must be recognized for what it is – a poison to the school environment.

To implement these findings, recent research has identified Professional Learning Communities (PLCs) as one avenue that can be used to develop or improve a supportive and trusting school environment (DuFour, 2005; DuFour, 2004; Eaker, 2002). PLCs are programs that reflect the potential for all schools to achieve academic success through the development of a positive school environment. The programs are respectful of teachers, students, parents, and the community. PLCs help teachers and administrators develop positive ways to increase academic achievement. Positive teacher and principal behaviors

and attitudes can translate into a positive school climate, resulting in higher academic achievement.

Where the negative index of disengaged teacher behavior is evident in lower performing schools, these schools need to be aware of the behaviors and attitudes that are part of this behavior. Teachers also need to be made aware of the effects these negative behaviors and attitudes have on student achievement. Teachers and the principal should know the dramatic difference that the climate of a school can make in academic performance. Once the behaviors and attitudes have been identified and recognized by a group of teachers, professional development to implement, moderate, and adjust this behavior should be practiced.

Final Thoughts

A strong education is the key to future success for our students. Learning to value the hard work that results in knowledge is important. Students from areas of poverty are often short-changed at school. Teachers believe that being poor correlates to being less motivated or not as bright as students from affluence. The researcher's personal experience while teaching in five states, eight schools as a teacher, and two schools as an administrator has proven this.

Three students that the researcher taught as sixth graders – all of these students equally gifted cognitively – had different results in life. Two of these students went to college. One is a surgeon and one a family doctor. These students had the benefit of affluence. The third student, the boy from poverty, went to prison at 18 for a felony. As an administrator in Iowa, the researcher worked with a learning disabled student who

struggled with reading. His parents could afford special tutoring during elementary, middle, and high school. He is now a lawyer. Learning disabled students with similar disabilities in the low income school where the researcher presently works, go to middle school, maybe some to high school, and then drop out. School environments have the potential to provide support for children from poverty. This support can result in success at school that will translate into success in life.

Thanks to the legislation of No Child Left Behind, the rules of public education have changed since 2002. Test scores are important, and it behooves schools to identify and practice elements within the school environment that contribute to high test scores. Personal experience tells the researcher that when students are treated as valued and capable individuals, academic performance increases. When teachers cease to make excuses for students from poverty, and begin to demand constant and superior performance, students will rise to these expectations. Teachers working in high poverty schools should realize that they have the most challenging goals in education. The goal for potential to be realized for every child from poverty can be accomplished.

Circumstances and situations within a school that contribute to high tests scores should be identified, monitored, practiced, and encouraged. Poverty and demographics should be acknowledged as elements beyond the control of our schools. Although it is extremely difficult to address the issue of poverty within a school, it can be done. Whether a child attends an urban or rural school, a high or low poverty school, or a small or large school cannot be controlled. Elements within the school can be controlled. Because every child deserves to be part of a high performing school, the controllable issues surrounding poverty should be addressed.

This study suggested that poverty is a primary predictor of low academic achievement. Schools with 80% free/reduced had the lowest predicted API scores. Rural schools were predicted to be more successful academically than urban. Schools with a principal who had been in the building a minimum of five years were predicted to have highest test scores. Schools with collegial teachers and an absence of negativity were predicted to have higher scores. Finally, a school with a restrictive and directive principal was predicted to be most successful academically.

Every high poverty/low performing school should have a principal committed to staying at the school long enough to raise academic performance. Principals need to have a deeply imbedded belief that a student from poverty deserves an education equal to a student from affluence. Teachers must be committed to and believe in the capabilities of students from poverty. Principals will be most successful if they are directive and restrictive as defined within this study. Teachers and administrators in these schools should identify and practice the elements that create a positive school climate. A positive climate is a controllable factor and is significantly related to high academic performance.

Future research needs to identify qualitatively and quantitatively the elements within the school environment that contribute to high academic performance. This study surveyed teachers in a school. Future research should include students, parents, and the community. There are identifiable and manageable climate elements within a school that have the power to move every high poverty school into the high performing category. Children from poverty deserve the opportunity to receive an education equal to the education that affluent children receive. Until the playing field is equalized academically, generational poverty will continue to be an economic and sociological burden to society.

Differences between high poverty/high achieving and high poverty/low achieving schools are deeply embedded into the climate and demographics of each school. Because there is little control over demographics, the focus must be the identification and improvement of school climate elements that make a difference for all students.

REFERENCES

Abrams, D., Rutland, A., Lindsey, C., & Ferrel, J. (2007). Older but wilier: in-group accountability and the development of subjective group dynamics. *Developmental Psychology, 43*(1), 134-148.

Academic Performance Index (2007). *Oklahoma State Department of Education.* Retrieved July 8, 2007, from http://www.sde.state.ok.us.

Alexander, W. (1977). *Pupil achievement, attendance rate, and teacher attitudes toward pupils in differing organizational climates*. Paper presented at the meeting of Mid-South Sociological Association, (Accession Number 77S07284).

Asch, S. (1952). *Social psychology*. Englewood Cliffs, NJ: Prentice Hall.

Ashmore, R., Deaus, K., & McLaughlin-Volpe, T. (2004). An organizing framework for collective identity: Articulation and significance of multidimensionality. *Psychological Bulletin, 130*(1), 80-109.

Barr, W., & Parrett W. (2007). *The kids left behind, catching up underachieving kids of poverty.* Alexandria, Virginia: Solution Tree Publications.

Barth, R. (2006). Improving relationships within the schoolhouse. *Educational Leadership, 63*(6), 9-19.

Baughman, K. (1995). The contributing effect of organizational health to organizational climate in explaining public secondary school teacher job satisfaction. (Doctoral dissertation, State U New York at Albany, 1995). *Dissertation Abstracts International, 56*, 1589.

Bossche, P., Segers, M., & Kirschner, P. (2006). Small and cognitive factors driving teamwork in collaborative learning environments. *Small Group Research, 37*(5), 490-521.

Braxton, J., & Caboni, T. (2005). Using student norms to create positive learning environments. *About Campus*, 1-7.

Brown, O. (2001). The relationship between organizational climate and job satisfaction of selected urban middle school teachers in the clark count school district, nevada. (Doctoral dissertation, University of Nevada, 2001). *Dissertation Abstracts International, 62*, 1644.

Brown, R. (2000). *Group processes* (2nd ed.). Malden, MA: Blackwell Publishing.

Camille, M. (2006). Public law 107-110 no child left behind act of 2001; support or threat to education as a fundamental right? *Education, 126*(3), 449-461.

Capozza, D., & Brown, R. (2000). *Social identity processes.* Thousand Oaks, CA: SAGE Publications, Inc.

Cartwright, D., & Zander, A. (1956). *Group dynamics, research and theory.* White Plains, NY: Row, Peterson, and Company.

Chang, A., & Bordia, P. (2001). A multidimensional approach to the group cohesion-group performance relationship. *Small Group Research, 32*(4), 379-405.

Chirichello, M. (1997). A study of the preferred leadership styles of principals and the organizational climates in successful public elementary schools in New Jersey. (Doctoral dissertation, Seton Hall University, 1997). *Dissertation Abstracts International, 58,* 0659.

Costa, A. (2001). *Developing minds a resource book for teaching thinking (3rd ed.).* Alexandria, VA: ASCD.

Creswell, J. (2003). *Research design, qualitative, quantitative, and mixed methods approaches (2nd ed.).* Thousand Oaks, CA: SAGE Publications.

Cushman, G. (2007). Facing the culture shock of college. *Educational Leadership, 64*(7), 44-47.

Department of Education, United States of America. (2006). Designing Schoolwide Program. Retrieved May 8, 2007, from http://www.ed.gov/news/fedregister.

Dorsey, J. (1999). *Ending school violence solutions from america's youth.* Austin, TX: Golden Ladder Productions.

DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes. How professional learning communities respond when kids don't learn*. Bloomington, Indiana: Solution Tree.

DuFour, R., Eaker, R., & DuFour R. (2005). *On common ground.* Bloomington, Indiana: Solution Tree.

Eaker, R., DuFour, R., & DuFour, R. (2002). *Getting started reculturing schools to become professional learning communities*. Bloomington, Indiana: National Education Service.

Esposito, C. (1999). Learning in urban blight: School climate and its effect on the school performance of urban, minority, low-income children. *School Psychology Review, 28* (3), 365-377.

Famularo, D. (1996). A study of the relationship between elementary school climate and school achievement. (Doctoral dissertation, Temple University, 1996). *Dissertation Abstracts International, 59,* 3533.

Ford, C. (1996). Differences in organizational climate and decisional participation between schools that adopted and did not adopt a site-based decision-making structure. (Doctoral dissertation, Michigan State University, 1996). *Dissertation Abstracts International, 57*, 1926.

Garrett, S. (2007). Awards bestowed on teachers, schools. *Oklahoma State Department of Education Results in Class, 36*(4), 1-4.

Garrison, W. (2004). Profiles of classroom practices in u.s. schools. *School Effectiveness and School Improvement, 15,* 377-406.

Gewertz, G. (2006). School improvement. *Education Week, 26*(8), 13-15.

Green, S. (2004). Social Identity Theory and party identification. *Social Science Quarterly, 85*(1), 136-153.

Guilfoyle, C. (2006). NCLB: Is there life beyond testing? *Educational Leadership, 64*(3), 8-13.

Hall, R. (2004). Attaching self and other to social categories as an interactional historical achievement. *Human Development, 47,* 354-360.

Hammond, R., & Axelrod, R. (2006). The evolution of ethnocentrism. *Journal of Conflict Resolution,* 50(6), 926-936.

Hayes, M., Emmons, C., & Ben-Avie, M. (1997). School climate as a factor in student

adjustment and achievement. *Journal of Education and Psychological Consultation, 8* (3), 321-329.

Helterbran, V. (2008). Professional: teachers taking the reins. *The Clearing House,* 123-127.

Hill, D., & Barth, M. (2004). NCB and teacher retention: Who will turn out the lights? *Education and the Law, 16* (2-3), 173-181.

Hogg, M., Terry, D., & White, K. (1995). A tale of two theories: A critical comparison of identity theory with Social Identity Theory. *Social Psychology Quarterly, 58,* 255-269.

Homack, S. (2001). *Understanding what anova post hoc tests are, really*. Paper presented at the Annual Meeting of the Southwest Educational Research Association, New Orleans, LA.

Hombo, C. (2003). NAEP and no child left behind: Technical challenges and practical solutions. *Theory into Practice, 42*(1), 59-65.

Horwitz, M., & Rabbie, J. (1982). Individuality and membership in the intergroup system. In Tajfel. H. (Eds). *Social Identity and Intergroup Relations.* Cambridge University Press: Cambridge.

Hoy, W., & Forsyth, P. (1986). *Effective supervision theory into practice.* New York: Random House.

Ivanova, N. (2005). Social identity under various socio-cultural conditions. *Russian Education and Society, 47*(11), 71-87.

Jordan, M., Field, H.,& Armenkis, A. (2002). The relationship of group process variables and team performance. *Small Group Research, 33*(1), 121-150.

Johnson, S. & Donaldson, S. (2007). Overcoming the obstacles to leadership. *Educational Leadership, 65*(1), 8-13.

Johnson, W., & Johnson A. (1996). Addressing school climate priorities: a texas study. (Doctoral dissertation, Ambassador University, Big Sandy, Texas, 1995). *Academic Search Elite, OSU.*

Korte, R. (2007). A review of Social Identity Theory with implications for training and development. *Journal of European Industrial Training 31*(3), 166-180.

Lambert, L., Walker, D., Zimmerman, D., Cooper, J., Lambert, M., Gardner, M., & Szabo, M. (2002). *The constructivist leader (2nd Ed).* New York & London: Teachers College Press.

Land, R. (2001). Agency, context, and change in academic development. *The International Journal for Academic Development,* 1-19.

Lewin, K. (1952). *Field Theory in Social Science.* New York: Harper & Row.

Lawson, K. (2006). A band of sisters: The impact of long-term small group participation: forty years in a women's prayer and bible study group. *Religious Education, 101*(2), 180-203.

Louis, K., Holdswork, J., Anderson, M., & Campbell, E. (2007). Becoming a scientist: the effects of work group size and organizational climate. *The Journal of Higher Education, 78*(3), 311-336.

Marzano, J. (2003). *What works in schools.* Alexandria, VA: Association for Supervision and Curriculum Development.

Mays, C. (1997). *Anatomy of a leader – the internal structure of leadership.* Gatlinburg, TN: Creative Living, Inc.

McCombs, B. (2000). Reducing the achievement gap. *Society,* 29-30.

McDermott, K. (2003). What causes variation in states' accountability policies*? Peabody Journal of Education, 87*(4), 153-176.

McLeod, P. (2006). The evolving group: towards a prescriptive theory of intentional group development. *Journal of Management Development*, 25(7), 689-706.

Mead, G. (1934). *On social psychology*. Chicago, IL: University of Chicago Press.

Mikkelson, V. (1981*). The relationship between the administrative behavior of elementary principals and reading achievement*. Paper presented at the Annual Meeting of North Carolina Council of the International Reading Association, (Accession Number ED201994).

Murphy, J. (2004). *Leadership for literacy.* Thousand Oaks, CA: Corwin Press.

Neill, M. (2008). Accountability systems need many data sources. Education Week, 27(9), 25-26.

Neubert, M., Taggar, S., & Cady, S. (2006). The role of conscientiousness and extraversion in affecting the relationship between perceptions of group potency and volunteer group member selling behavior: an interactionist perspective. *Human Relations, 59*(9), 1235-1260.

No Child Left Behind. (2007). *Oklahoma State Department of Education.* Retrieved July 10, 2007, from http://www.sde.state.ok.us

Pacheco, M. (2003). Teacher's perceptions of school climate as a function of personality traits. (Doctoral dissertation, University of Texas, 2003). *Dissertation Abstracts International, 63,* 3475.

Payne, R. (2001). *A framework for understanding poverty.* Highlands, TX: Aha! Process, Inc.

Popescu, R. (2008). *No child outside the classroom. Newsweek, 151*(6), 12-13.

Reid, A., & Deaux, K. (1996). Relationship between social and personal identities: segregation or integration? *Journal of Personality and Social Psychology*, 71, 1084-1091.

Research Instruments. (2007). Wayne Hoy at University of Ohio. Retrieved July 19, 2007, from http://www.coe.ohio-state.edu/whoy/instruments

Robinson, J., & Biran, M. (2006). Discovering self relationships between African identity and academic achievement. *Journal of Black Studies, 37*(1), 46-48.

Rosenberg, S., & Gara, M. (1985). The multiplicity of personal identity. *Review of Personality and Social Psychology, 6,* 87-113.

Rubie-Davies, C. (2006). Teacher expectations and student self-perceptions: exploring relationships. *Psychology in the Schools, 43*(5), 537-551.

Scherer, M. (2006). The nclb issue. *Educational Leadership, 64*(3), 7.

Sclafani, S. (2002). *No child left behind. Issues in Science and Technology, 19*(2), 43-47.

Sherif, M. (1936). *The psychology of social norms.* New York: Harper & Row.

Shirvani, H. (2007). Effects of teacher communication on parents' attitudes and their children's behaviors at schools. *Education*, *128(*1), 34-47.

Smith, E. (2005). Raising standards in american schools: the case of no child left behind. *Journal of Educational Policy, 20,* 507-524.

Social Identity Theory. (2007). *Social Identity.* Retrieved July 5, 2007, from http://www.sikipedia.org/wiki/Social_Identity.

Stover, D., & Hardy, L. (2008). As tutoring becomes a billion-dollar industry, are you doing what it takes to make a difference for your students? *American School Board Journal*, *195(1),* 21-23.

Sullivan, E., & Johns, R. (2002). Challenging values and inspiring attitude change: Creating an effective learning experience. *Social Work Education, 21*(2), 217-231.

Tajfel, H. (1978). Social categorization, social identity, and social comparisons. In Henri Tajfel, (Eds.), *Differentiation Between Social Groups*. London: Academic Press.

Tajfel, H., & Turner, J. (1979). An integrative theory of inter-group conflict. In W.G. Austin and S. Worchel (eds), *The Social Psychology of Intergroup Relations* (33-47). Monterey, CA: Brooks/Cole.

Teel, S. (2003). Relationships among perceived organizational support, teacher efficacy, and teacher performance. (Doctoral dissertation, Alliant International University, San Diego, 2003). *Dissertation Abstracts International, 64,* 2428.

Timar, T. (2003). The new accountability and school governance in california. *Peabody Journal of Education, 78*(4), 177-200.

Turan, S. (1998). A study of organizational climate and organizational commitment in human organizations. (Doctoral dissertation, Ohio University, 1998). *Dissertation Abstracts International, 59,* 1038.

Turner, J., & Onorato, R. (1991). Social identity, personality, and the self-concept: A self-categorization of perspective. In Tyler, Kramer, and John (eds). *The Psychology of the Social Self* (pp. 11-46). Mahwah, NJ: Lawrence Erlbaum Associates.

US Department of Education. (2002, September). *No child left behind, a desktop reference 2002,* Washington, DC: Office of the Under Secretary.

Van Dick, R., Hirst, G., & Grojean M. (2007). Relationships between leader and follower organizational identification and implications for follower attitudes and behaviour. *The British Psychological Society, 80,* 133-150.

Varghese, M., Morgan, B., Johnston, B., & Johnston, K. (2005). Theorizing language teacher identity: three perspectives and beyond. *Journal of Language, Identity, and Education, 4*(1), 21-44.

Weaver, R. (2006). A positive agenda for esea. *Educational Leadership, 64*(3), 43-47.

Wellen, J., & Neale, M. (2006). Deviance, self-typicality, and group cohesion. The corrosive effects of bad apples on the barrel. *Small Group Research, 37*(2), p. 165-186.

Yee, M. (1992). Self-evaluations and inter-group attitudes in children aged three to nine. *Child Development, 63*, 619-629.

Zellmer, M., Frontier, A., & Pheifer, D. (2007). What are NCLB's instructional costs? *Educational Leadership, 64*(3), 43-46.

APPENDICES

APPENDIX A

Institutional Review Board Approval

Oklahoma State University Institutional Review Board

Date:	Monday, November 05, 2007
IRB Application No	ED0794
Proposal Title:	Teacher Attitudes, Achievement, Poverty, and Academic Index
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 11/4/2008

Principal Investigator(s)

Cindy Machado
10660 S. 587 Road
Miami, OK 74354

Ken Stern
311 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. 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.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

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 protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sue C Jacobs

Sue C. Jacobs, Chair
Institutional Review Board

APPENDIX B

Permission to Survey

http://fp.okstate.edu/coe-ses/machado1
(hit control and click the mouse to access this link)

Dear Principal and Teachers,

I am a doctoral student at Oklahoma State University. I am doing research on attitudes of teachers relative to the achieved Academic Performance Index score at the Title I elementary school in which they work. I know you and your teachers are very busy, but I would really appreciate it ***if you would forward this letter, along with the link to the survey to your teachers.***

I am using the Organizational Climate Description Questionnaire authored by Wayne K. Hoy and associates at Rutgers University. Additionally, I have added several demographic questions to the survey. From these demographic questions I hope to see if there are any contributing variables that affect teacher perceptions of their school climate.

The data collected from these surveys will remain anonymous and confidential. All information will be gathered by a web site that is based on a server at Oklahoma State University. No names or other identifying markers, other than the API of the school, will be recorded. Responses will be gathered into two groups – schools with APIs of over 1400, and schools with lower APIs.

Participation in this survey is voluntary. All teachers are encouraged to complete this survey. It will take about ten minutes. This study is not sponsored by your school.

I have attached a link for the survey to this e-mail. If you agree to participate, double-click on the link, and the survey will appear. Once the survey has been completed, the teacher just needs to hit submit. The completed survey will go directly (and without an identifying marker) to the server at Oklahoma State University.

I appreciate the value of your time. Please help with what I consider to be valuable research related to the state's measure of academic performance for your school. Be accessing the website and completing the survey form, you are providing your consent to participate in this survey. There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

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APPENDIX C

Questionnaire

OCDQ-RE

DIRECTIONS:
THE FOLLOWING ARE STATEMENTS ABOUT YOUR SCHOOL. PLEASE INDICATE THE EXTENT TO WHICH EACH STATEMENT CHARACTERIZES YOUR SCHOOL BY CIRCLING THE APPROPRIATE RESPONSE.

R0=RARELY OCCURS
SO=SOMETIMES OCCURS
O=OFTEN OCCURS
VFO=VERY FREQUENTLY OCCURS

1. The teachers accomplish their work with vim, vigor, and pleasure.....….	RO SO O VFO
2. Teachers' closest friends are other faculty members at this school.....	RO SO O VFO
3. Faculty meetings are useless.....	RO SO O VFO
4. The principal goes out of his/her way to help teachers.....	RO SO O VFO
5. The principal rules with an iron fist.....	RO SO O VFO
6. Teachers leave school immediately after school is over.....	RO SO O VFO
7. Teachers invite faculty members to visit them at home.....	RO SO O VFO
8. There is a minority group of teachers who always oppose the majority.....	RO SO O VFO
9. The principal uses constructive criticism.....	RO SO O VFO
10. The principal checks the sign-in sheet every morning.....	RO SO O VFO
11. Routine duties interfere with the job of teaching.....	RO SO O VFO
12. Most of the teachers here accept the faults of their colleagues.....	RO SO O VFO
13. Teachers know the family background of other faculty members.....	RO SO O VFO
14. Teachers exert group pressure on non-conforming faculty members.....	RO SO O VFO
15. The principal explains his/her reasons for criticism to teachers.....	RO SO O VFO
16. The principal listens to and accepts teachers' suggestions.....	RO SO O VFO
17. The principal schedules the work for the teachers.....	RO SO O VFO
18. Teachers have too many committee requirements.....	RO SO O VFO
19. Teachers help and support each other.....	RO SO O VFO
20. Teachers have fun socializing together during school time.....	RO SO O VFO
21. Teachers ramble when they talk at faculty meetings.....	RO SO O VFO
22. The principal looks out for the personal welfare of teachers.....	RO SO O VFO
23. The principal treats teachers as equals.....	RO SO O VFO
24. The principal corrects teachers' mistakes.....	RO SO O VFO
25. Administrative paperwork is burdensome at this school.....	RO SO O VFO
26. Teachers are proud of their school.....	RO SO O VFO
27. Teachers have parties for each other.....	RO SO O VFO
28. The principal compliments teachers.....	RO SO O VFO
29. The principal is easy to understand.....	RO SO O VFO
30. The principal closely checks classroom (teacher) activities.....	RO SO O VFO
31. Clerical support reduces teachers' paperwork.....	RO SO O VFO
32. New teachers are readily accepted by colleagues.....	RO SO O VFO
33. Teachers socialize with each other on a regular basis.....	RO SO O VFO
34. The principal supervises teachers closely.....	RO SO O VFO
35. The principal checks lesson plans.....	RO SO O VFO
36. Teachers are burdened with busy work.....	RO SO O VFO
37. Teachers socialize together in small, select groups.....	RO SO O VFO
38. Teachers provide strong social support for colleagues.....	RO SO O VFO
39. The principal is autocratic.....	RO SO O VFO
40. Teachers respect the professional competence of their colleagues.....	RO SO O VFO
41. The principal monitors everything teachers do.....	RO SO O VFO
42. The principal goes out of his/her way to show appreciation to teachers.....	RO SO O VFO

Added demographic questions

43. What percent of students at your school receive free/reduced lunch/breakfast?
    A. 40%-59%
    B. 60%-79%
    C. 80% or more
44. How long have you been teaching in your present school?
    A. This is my first year
    B. 1-5 years
    C. 6 years or more
45. How many students are enrolled in your school?
    A. 1-135
    B. 136-235
    C. More than 235
46. How long has your principal been at your school?
    A. This is my principal's first year
    B. 1-5 years
    C. More than 5 years
47. Is your school considered
    A. Rural (less than 20,000 people)
    B. Urban (more than 20,000 people
48. What is the name of your school? _____
49. What is the location of your school? _____

APPENDIX D

How to Score the Survey

The Organizational Climate Description Questionnaire for Elementary Schools (OCDQ-RE)

Sub-Scales

Supportive Principal Behavior reflects a concern for teachers. The principal listens and is open to teacher suggestions. Praise is given genuinely and frequently, and criticism is handled constructively. The competence of the faculty is respected, and the principal exhibits both a personal and professional interest in teachers.

Directive Principal Behavior is rigid, close supervision. The principal maintains constant monitoring and control over all teacher and school activities, down to the smallest detail.

Restrictive Principal Behavior is behavior that hinders rather than facilitates teacher work. The principal burdens teachers with paper work, committee requirements, routine duties, and other demands that interfere with their teaching responsibilities.

Collegial teacher behavior supports open and professional interactions among teachers. Teachers are proud of their school, enjoy working with their colleagues, and are enthusiastic, accepting, and mutually respectful of their colleagues.

Intimate teacher behavior is cohesive and strong social relations among teachers. Teachers know each other well, are close personal friends, socialize together regularly, and provide strong social support for each other.

Disengaged teacher behavior signifies a lack of meaning and focus to professional activities. Teachers are simply putting in time in non-productive group efforts; they have no common goals. In fact, their behavior is often negative and critical of their colleagues and the school.

Principal Openness Index has three sub-scales that define it. These sub-scales are supportive, directive, and restrictive. An index of the degree of openness in principal-teacher relations is computed by first standardizing the school/group scores on the three dimensions, and then subtracting the sum of the directive and restrictive scores from the supportive score.

Teacher Openness Index has three sub-scales that define it. These sub-scales are collegial, intimate, and disengaged. An index of the degree of openness in teacher behavior can be computed by standardizing the school/group scores, the subtracting the disengagement score from the sum of the collegial and the intimate teacher scores.

Scoring

Responses vary along a four-point scale defined by the categories of "rarely occurs", "sometimes occurs", "often occurs", and "very frequently occurs".

Average School Scores are calculated as follows:

Supportive Behavior (S) = 4+9+15+16+22+23+28+29+42

Directive Behavior (D) = 5+10+17+24+30+34+35+39+41

Restrictive Behavior (R) = 11+18+25+31+36

Collegial Behavior (C) = 1+6+12+19+26+32+37+40

Intimate Behavior (Int) = 2+7+13+20+27+33+38

Disengaged Behavior (Dis) = 3+8+14+21

The six scores represent the climate profile for the group.

Step 1: Score each item for each teacher with the appropriate number (1, 2, 3, 4). Reverse score items 6, 31, 37.

Step 2: Calculate an average school/group score for each item. Round to the nearest hundredth. This score represents the average school/group item score. There should be 42 average school/group scores since the survey has 42 questions.

Average scores and standard deviations for the surveyed population for each climate index are summarized below. Standard deviations tell us how close most schools are to the average; the smaller the standard deviation, the closer most schools are to the typical school.

	Mean	Standard Deviation
Supportive Behavior (S)	27.91	6.54
Directive Behavior (D)	18.06	5.34
Restrictive Behavior (R)	10.46	3.20
Collegial Behavior (C)	24.35	3.70
Intimate Behavior (Int)	18.58	4.18
Disengaged Behavior (Dis)	6.46	2.09

Step 3: Standardize Scores

First, convert the school subtest scores to standardized scores with a mean of 500 and a standard deviation of 100. These scores are called SdS

SdS for Supportive Behavior = 100 X (S-23.34)/4.85+500

SdS for Directive Behavior = 100 X (D-19.34)/3.20+500

SdS for Restrictive Behavior= 100 X (R-12.98)/1.55+500

SdS for Collegial Behavior = 100 X (C-23.11)/2.69+500

SdS for Intimate Behavior = 100 X (Int-17.23)/2,14+500

SdS Disengaged Behavior = 100 X (Dis-6.98)/1.26+500

Step 4:

If your score is 200, it is lower than 99% of other groups

If your score is 300, it is lower than 97% of other groups

If your score is 400, it is lower than 84% of other groups

If your score is 500, it is average

If your score is 600, it is higher than 84% of other groups

If your score is 700, it is higher than 97% of other groups

If your score is 800, it is higher than 99% of other groups

Step 5: Second-order factor analysis

$$\text{Principal Openness} = \frac{(\text{SdS for S})+(1000-\text{SdS for D})+(1000-\text{SdS for R})}{3}$$

$$\text{Teacher Openness} = \frac{(\text{SdS for C})+(\text{SdS for Int})+(1000-\text{SdS for Dis})}{3}$$

Interpretations for these sub-scales are:

600 is Very High

551-600 is High

525-550 Above Average

490-510 Average

476-489 Slightly Below Average

450-475 Below Average

400-499 Low

APPENDIX E

Tables

Table 9

One-way ANOVA Comparing Academic Performance Index(API) to Climate Profile Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	88817.87	1	88817.870	9.03	.02	**.00**
Within group error	4427177.50	450	9838.172			
Directive Principal	1646.51	1	1646.509	.16	.00	.69
	4299489.20	429	10022.119			
Restrictive Principal	21772.06	1	21772.058	2.19	.00	.14
	4626682.20	465	9949.854			
Collegial Teacher	338311.08	1	338311.083	36.33	.02	**.00**
	4320332.00	464	9311.060			
Intimate Teacher	78179.43	1	78179.426	7.93	.02	**.01**
	4556192.40	462	9861.888			
Disengaged Teacher	67526.61	1	67526.606	6.86	.01	**.01**
	4604722.40	468	9839.151			
Principal Openness	1904.07	1	1904.07	.46	.01	.50
	1645088.10	396	4154.26			
Teacher Openness	151382.10	1	151382.10	26.59	.06	**.00**
	2488423.8	437	5694.33			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 10

One-way ANOVA Comparing Teacher Tenure for All Participants to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	1072.71	1	1072.71	.11	.00	.74
Within Group Error	4493132.90	447	10051.75			
Directive Principal	9013.67	1	9013.67	.92	.00	.34
	4185657.50	427	9802.48			
Restrictive Principal	194594.37	1	194594.37	20.38	.04	**.00**
	4411615.20	462	9548.95			
Collegial Teacher	71904.13	1	71904.13	7.27	.02	**.01**
	4559033.60	461	9889.44			
Intimate Teacher	29797.20	1	29797.20	3.01	.01	.08
	4550848.90	459	9914.70			
Disengaged Teacher	14073.13	1	14073.13	1.48	.00	.23
	4435148.90	465	9537.96			
Principal Openness	34211.34	1	34211.34	8.46	.02	**.00**
	1593643,70	394	4044.78			
Teacher Openness	32615.42	1	32615.42	5.45	.01	**.02**
	2598527.90	434	5987.39			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 12

One-way ANOVA Comparing Teacher Tenure for High Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	10256.52	1	10256.52	1.12	.00	.29
Within group error	3043295.00	331	9184.25			
Directive Principal	5547.89	1	5547.89	.52	.00	.47
	3385428.90	317	10679.59			
Restrictive Principal	97267.59	1	97267.59	9.15	.03	**.00**
	3625246.30	341	10631.22			
Collegial Teacher	30445.38	1	30445.38	3.22	.01	.07
	3244823.80	343	9560.13			
Intimate Teacher	13285.12	1	13285.12	1.37	.00	.24
	3327769.90	342	9730.32			
Disengaged Teacher	86.90	1	86.90	.01	.00	.92
	3218743.50	345	9329.69			
Principal Openness	26166.67	1	26166.670	6.02	.02	**.02**
	1265546.70	291	4348.96			
Teacher Openness	8578.06	1	8578.06	1.51	.00	.22
	1835406.90	323	5682.37			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 13

One-way ANOVA Comparing Teacher Tenure for Low Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	195.59	1	195.59	.02	.00	.90
	1351754.90	114	11857.50			
Directive Principal	2754.58	1	2754.58	.37	.00	.54
	79935.24	108	7406.81			
Restrictive Principal	90875.04	1	90875.04	14.00	.11	**.00**
	772406.21	119	6490.81			
Collegial Teacher	2336.00	1	2336.00	.27	.00	.61
	1022741.10	116	8816.73			
Intimate Teacher	3526.23	1	3526.23	.35	.00	.56
	1159979.10	115	10086.78			
Disengaged Teacher	15151.30	1	15151.30	1.57	.01	.21
	1142312.30	118	9680.61			
Principal Openness	11679.31	1	11679.31	3.66	.03	.06
	322130.59	101	3189.41			
Teacher Openness	5286.27	1	5286.27	.91	.01	.34
	630459.96	109	5784.04			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 14

One-way ANOVA Comparing Free/Reduced Rate for All Participants to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	60190.14 4315395.80	2 441	30095.07 9785.48	3.085	.01	**.05**
Directive Principal	80765.74 4022221.70	2 420	40382.87 9576.72	4.22	.02	**.02**
Restrictive Principal	31895.52 4521379.30	2 456	15947.76 9915.31	1.61	.01	.20
Collegial Teacher	286545.82 4271982.90	2 454	143272.91 9409.66	15.23	.06	**.00**
Intimate Teacher	176342.43 4358364.90	2 452	88171.22 9642.40	9.14	.04	**.00**
Disengaged Teacher	24379.66 4396182.80	2 459	12189.83 9577.74	1.27	.01	.28
Principal Openness	50421.55 1545217.60	2 388	25210.78 3982.52	6.33	.03	**.00**
Teacher Openness	165720.17 2430063.30	2 428	82860.08 5677.72	14.59	.06	**.00**

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 15

One-way ANOVA Comparing Free/Reduced Rate for High Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	37062.02	2	18531.01	2.03	.01	.13
Within group error	2976141.00	326	9129.27			
Directive Principal	100140.56	2	50070.281	4.85	.03	**.01**
	3208996.80	311	10318.32			
Restrictive Principal	73636.06	2	36818.03	3.42	.02	**.03**
	3612919.10	336	10752.74			
Collegial Teacher	93605.60	2	46802.80	5.07	.03	**.01**
	3112092.00	337	9234.69			
Intimate Teacher	102279.16	2	51139.58	5.34	.03	**.01**
	3218663.50	336	9579.36			
Disengaged Teacher	2610.10	2	1305.50	.14	.00	.87
	3193273.20	340	9391.98			
Principal Openness	54236.44	2	27118.22	6.43	.04	**.00**
	1206217.40	286	4217.54			
Teacher Openness	63266.85	2	31633.43	5.73	.04	**.00**
	1754452.60	318	5517.15			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 16

One-way ANOVA Comparing Free/Reduced Rate for Low Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	77535.18	2	38767.59	3.58	.06	**.03**
Within group error	1211345.30	112	10815.58			
Directive Principal	1285.75	1	1285.75	.17	.00	.68
	790979.77	107	7392.33			
Restrictive Principal	17342.72	2	8671.36	1.22	.02	.30
	829459.04	117	7089.39			
Collegial Teacher	4745.10	2	2372.55	.27	.00	.77
	1016213.50	114	8914.15			
Intimate Teacher	3342.11	2	1671.05	.17	.00	.85
	1128901.70	113	9990.28			
Disengaged Teacher	7005.99	2	3503.00	.35	.01	.70
	1148622.1	116	9901.92			
Principal Openness	8.01	1	8.01	.00	.00	.96
	333743.39	100	3337.43			
Teacher Openness	1293.41	2	646.71	.11	.00	.90
	625298.54	107	5843.91			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 17

One-way ANOVA Comparing Principal Tenure for All Participants to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	47830.95	2	23915.47	2.40	.01	.09
Within group error	4445906.00	446	9968.40			
Directive Principal	233566.11	2	116783.05	12.56	.06	**.00**
	3961105.10	426	9298.37			
Restrictive Principal	107031.19	2	53515.60	5.50	.02	**.00**
	4499374.20	462	9738.91			
Collegial Teacher	266552.53	2	133276.26	14.07	.06	**.00**
	4358286.00	460	9474.54			
Intimate Teacher	115832.72	2	57916.36	5.95	.03	**.00**
	4454891.30	458	9726.84			
Disengaged Teacher	89644.09	2	44822.04	4.78	.02	**.01**
	4355460.10	464	9386.77			
Principal Openness	51773.79	2	25886.89	6.47	.03	**.00**
	1576416.20	394	4001.06			
Teacher Openness	156087.16	2	78043.58	13.71	.06	**.00**
	2465272.00	433	5693.50			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 18

One-way ANOVA Comparing Principal Tenure for High Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	40987.16	2	20493.58	2.24	.01	.11
Within group error	3014614.50	330	9135.20			
Directive Principal	216650.71	2	108325.36	10.78	.06	**.00**
	3174326.00	316	10045.34			
Restrictive Principal	117070.67	2	58535.34	5.54	.03	**.00**
	3605764.40	341	10574.09			
Collegial Teacher	138179.12	2	69089.56	7.55	.04	**.00**
	3131835.00	342	9157.41			
Intimate Teacher	82084.54	2	41042.27	4.31	.02	**.01**
	3251184.10	341	9534.26			
Disengaged Teacher	55010.99	2	27505.50	2.99	.02	.05
	3161101.20	344	9189.25			
Principal Openness	46880.44	2	23440.22	5.48	.04	**.01**
	1245222.10	291	4279.11			
Teacher Openness	95934.74	2	47967.37	8.88	.05	**.00**
	1740193.10	322	5404.33			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 19

One-way ANOVA Comparing Principal Tenure for Low Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	19385.87 1332564.60	2 113	9692.93 11792.61	.82	.01	.44
Directive Principal	128103.88 674585.94	2 107	64051.94 6304.54	10.16	.16	**.00**
Restrictive Principal	39323.26 823958.00	2 118	19661.63 82.70	2.82	.05	.06
Collegial Teacher	218.27 1024858.80	2 115	109.13 8911.82	.01	.00	.99
Intimate Teacher	8204.05 1155301.30	2 114	4102.03 134.22	.41	.01	.67
Disengaged Teacher	1405.74 1156057.80	2 117	702.87 9880.84	.07	.00	.93
Principal Openness	58606.05 275203.86	2 100	29303.03 2752.04	10.65	.18	**.00**
Teacher Openness	846.80 634899.43	2 108	423.40 5878.70	.07	.00	.93

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 20

One-way ANOVA Comparing Rural/Urban Setting for All Participants to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	570.14 4487913.90	1 446	570.14 10062.59	.06	.00	.81
Directive Principal	399304.53 3737316.00	1 424	399304.53 8814.43	45.30	.10	**.00**
Restrictive Principal	1994.65 4560192.50	1 460	1994.65 9913.46	.20	.00	.65
Collegial Teacher	36434.30 4606028.40	1 459	36434.30 10034.92	3.63	.01	.06
Intimate Teacher	82577.69 4488884.90	1 457	82577.69 9822.51	8.41	.02	**.00**
Disengaged Teacher	867.49 4315745.70	1 463	867.49 9321.27	.09	.00	.76
Principal Openness	44410.61 1553497.20	1 392	44410.61 3963.00	11.21	.00	**.00**
Teacher Openness	28918.29 2591220.80	1 432	28918.29 5998.20	4.82	.01	**.03**

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 21

One-way ANOVA Comparing Rural/Urban Setting for High Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	.09 3051279.50	1 331	.09 9218.37	.00	.00	1.00
Directive Principal	479636.08 2878424.00	1 315	479636.08 9137.86	52.46	.14	**.00**
Restrictive Principal	513.40 3698385.50	1 340	513.40 10877.61	.05	.00	.83
Collegial Teacher	601.50 3280651.20	1 342	601.50 92.55	.06	.06	.80
Intimate Teacher	39858.83 3295891.10	1 341	39858.83 9665.37	4.12	.01	**.04**
Disengaged Teacher	2366.03 3150868.00	1 344	2366.03 9159.50	.26	.00	.61
Principal Openness	55725.17 1217395.90	1 290	55725.17 4197.92	13.27	.04	**.00**
Teacher Openness	5894.27 1829420.20	1 322	5894.27 5681.43	1.04	.00	.31

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 22

One-way ANOVA Comparing Rural/Urban Setting for Low Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	100589.09 1251262.80	1 113	100589.09 11073.12	9.08	.01	**.00**
Directive Principal	13823.38 762857.56	1 107	13823.38 7129.51	1.94	.02	.17
Restrictive Principal	41163.79 798386.99	1 118	41163.79 6765.99	6.08	.05	**.02**
Collegial Teacher	13346.73 101358.90	1 115	13346.73 8785.73	1.52	.01	.22
Intimate Teacher	1424.68 1155567.60	1 114	1424.68 10136.56	.14	.00	.71
Disengaged Teacher	63615.25 1033606.20	1 117	63615.25 8834.24	7.20	.06	**.01**
Principal Openness	6657.02 316625.08	1 100	6657.02 3166.25	2.10	.02	.15
Teacher Openness	9896.70 624123.77	1 108	9896.70 5778.92	1.71	.02	.19

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 23

One-way ANOVA Comparing School Size for Low Performing Schools to OCDQ-RE Dimensions

	SS	df	MS	F	η^2	*p*
Supportive Principal	85335.83	2	42667.91	3.76	.06	**.03**
	1260876.40	111	11359.25			
Directive Principal	1016.28	2	508.14	.07	.00	.94
	790217.29	105	7525.88			
Restrictive Principal	93820.25	2	46910.12	7.24	.11	**.00**
	751735.16	116	6480.48			
Collegial Teacher	72578.19	2	36289.09	4.40	.07	**.01**
	932686.17	113	8253.86			
Intimate Teacher	57945.70	2	28972.85	2.95	.05	.06
	1099935.10	112	9820.85			
Disengaged Teacher	83668.93	2	41834.47	4.49	.07	**.01**
	1070926.90	115	9312.41			
Principal Openness	1730.93	2	865.46	.26	.01	.77
	324132.61	98	3307.48			
Teacher Openness	53790.88	2	26895.44	4.95	.09	**.01**
	575537.37	106	5429.59			

Note: Significant relationships ($\alpha = .05$) are shown in bold

Table 26

Results of Hierarchical Regression Analysis Predicting API

(Constant)	B	SE	β	t	Sig.
Free/Reduced	-123.31	14.91	-.38	-8.27	**.00**
Rural/Urban	-171.75	25.73	-.33	-6.67	**.00**
Principal Tenure	68.24	16.09	.20	4.24	**.00**
Collegial Subscale	.36	.13	.14	2.83	**.01**
Restrictive Subscale	.34	.12	.13	2.74	**.01**
Disengaged Subscale	-.25	.12	-.10	-2.07	**.04**

Note: Significant relationships ($\alpha = .05$) are shown in bold

VITA

Cindy Louise Machado

Candidate for the Degree of

Doctor of Education

Thesis: TEACHER ATTITUDES, ACHIEVEMENT, POVERTY, AND ACADEMIC PERFORMANCE INDEX

Major Field: EDUCATIONAL ADMINISTRATION

Biographical:

Personal Data: Married for 37 years. Mother of three children and grandmother of five grandchildren.

Education: East Central University, Ada, BS in Education, 1971; Oklahoma State University, 1973, MS in Special Education; Western Illinois University, 1995, Specialist Degree in Administration; University of Iowa, 1999, Coursework for Superintendent Certification; Completed the requirements for the Doctor of Education degree with a major in Educational Administration at Oklahoma State University, Department of Educational Studies in July 2008.

Experience: Principal at Wilson Elementary School in Oklahoma for nine years,1999- Present (250 students); Principal at a private elementary/middle school in Iowa for four years, 1989-1995 (500 students); Teacher of elementary and middle school students in Iowa, Kansas, California, Oklahoma, and Illinois for 23 years, 1971-1995.

Name: Cindy Louise Machado Date of Degree: July, 2008

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: TEACHER ATTITUDES, ACHIEVEMENT, POVERTY, AND ACADEMIC PERFORMANCE INDEX

Pages in Study: 144 Candidate for the Degree of Doctor of Education

Major Field: EDUCATIONAL ADMINISTRATION

Scope and Method of Study: This study tested Social Identity Theory by identifying, comparing, and contrasting attitudes of elementary school teachers at Title I elementary schools in Oklahoma categorized as high poverty/high achieving and high poverty/low achieving. An on-line survey was sent to building principals who then forwarded the survey to elementary school teachers for completion. The Organizational Climate Description Questionnaire for Elementary Schools (Hoy, 1986) was used to evaluate climate indexes within each school and within the high and low performing groups.

Findings and Conclusions: Poverty is hard to overcome, and must be recognized as one of the most important variables in a low performing school. Poverty does not have to dictate academic achievement. Elements in some high poverty schools create an environment where poor students can achieve as well or better than affluent students. Schools must make a conscious effort to develop climate elements that contribute to a positive environment. Leadership, ambitious instruction, and a positive student-centered school climate contribute significantly to student performance. Teachers must place emphasis on high expectations for students when the goal is academic excellence. The higher the poverty rate, particularly when the rate was 80% or more, the lower the predicted Academic Performance Index (API). Two variables that influence student achievement are teacher quality and leadership quality. It can be concluded that students in high poverty/low achieving schools need the best teachers under the leadership of an effective and experienced leader. Principal tenure of five years or more predicted a higher API. A regression analysis predicted that more collegiality and less disengaged behavior would be found in high achieving schools. Restrictive principal behavior was predicted to be present in high achieving schools.

ADVISER'S APPROVAL: Dr. Kenneth Stern