

ABSTRACT

Title of Dissertation: ADVANCING A CULTURE OF HIGH
EXPECTATIONS: ACADEMIC PRESS,
SCHOOL CONDITIONS AND STUDENT
ACHIEVEMENT

Shyrelle N. Eubanks, Doctor of Education, 2012

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Leadership

This study explores the extent to which an ethos of high performance for all students—also known as “Academic Press”—correlates with school conditions and student achievement in schools that have taken the National Education Association’s (NEA) Keys to Excellence in Your School (KEYS) Survey. This study uses KEYS survey results from over 300 schools to examine how Academic Press relates to school characteristics and conditions by conducting multiple linear regression analyses.

Results indicate significant correlations between Academic Press and certain school conditions. Regression results identified Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development as the most significant predictors of the two dimensions of Academic Press - School Academic Ethos and Teacher Press. The model is statistically significant ($p < .001$) accounting for 75% of the variance in School Academic Ethos and 51% of the variance for Teacher Press ($p < .001$). Elementary schools were more likely to have high School Academic Ethos (β

=.243, $p < .001$) and Teacher Press ($\beta = -.365$). The Percent of ESL population ($\beta = -.002$, $p < .05$) also had a small, statistically significant negative influence on School Academic Ethos only. Teacher Empowerment had a modest relationship to Teacher Press only ($\beta = .156$, $p < .05$). Finally, School Size, Teacher Experience and Teacher Stability were found to have no significant relationship to School Academic Ethos or Teacher Press.

ADVANCING A CULTURE OF HIGH EXPECTATIONS:
ACADEMIC PRESS, SCHOOL CONDITIONS AND STUDENT ACHIEVEMENT

by

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Dedication

To my husband, thank you for taking this journey with me.

In the end, it is always just you and me.

To Yasmin and Damani, I am blessed beyond measure to be your mother.

As with all things, we did this as a family.

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Chapter 1: Introduction

Defining what all students should know and be able to do in various subject areas at various stages of schooling has been a decades-long pursuit among federal and state policymakers. The basic skills curriculum to prepare students for a wide range of jobs in the 1960s and 1970s became inadequate as many jobs began disappearing from the American economy (McClure, 2005). The 1983 report, “A Nation at Risk” argued that to compete in the global economy, the United States would need to raise academic standards for students (National Commission on Excellence in Education, 1983).

Following the release of “A Nation at Risk,” the standards movement brought an emphasis on standards, testing and accountability as the path to improved student performance, which led to the 2001 passage of the No Child Left Behind Act (NCLB) (Hanushek & Raymond, 2005). NCLB requires states to develop statewide accountability systems, content standards aligned to assessments, annual testing in grades three through eight in reading and math and reporting of disaggregated data on student performance for all schools. A school’s failure to make Adequate Yearly Progress (AYP) for any group of students is followed by sanctions, which include school improvement, restructuring or both. A primary goal of NCLB is for all students to reach AYP proficiency targets in reading and math by 2014.

Since its passage, NCLB has remained controversial for a variety of reasons, including assertions that it has distorted school curricula in undesirable ways, led to

manipulation of performance goals by states, resulted in unintended outcomes for children and schools, and ultimately, will not accomplish the objective of improving student achievement as envisioned (Darling-Hammond, 2007, Hanushek & Raymond, 2005).

Education systems can assert academic press through national and state policies, school practices, teacher expectations and classroom norms, which socialize the behaviors of the teachers, students and other school personnel (Murphy, Weil, Philip, & Mitman, 1982). NCLB can be viewed as one approach to academic press because it “presses” schools to raise achievement based on uniform standards for all students, without regard to race, ethnicity or socioeconomic status.

Academic press is a multidimensional concept that: (1) can represent an “ethos,” or characteristic of a school’s climate and (2) is demonstrated through increased expectations by teachers, increased time on task, rigorous course taking and testing (Lowe, 2006). Academic press, characterized by learning environments in which teachers and students set high standards of academic performance, is a dimension of school culture. Schools with high academic press send a strong message to teachers and students that academic endeavors are important. Such a message helps to create a culture in which teachers provide academically challenging content using instructional practices that promote student achievement. Students in high academic press schools also take responsibility for their learning. The theoretical foundation for this study is based on research identifying academically oriented school environments as a key characteristic of effective schools (Edmonds, 1979; Goddard, Sweetland & Hoy, 2000; Lezotte, 1980; Lee, Bryk & Smith, 1993; Newmann & Whelage; 1995; Purkey & Smith, 1983). An

academic orientation shapes the normative environment of a school, will have a strong influence over teacher behavior and consequently, student achievement. The result is a school climate in which teachers hold high expectations for students and accept responsibility for student achievement and students respond to and meet those expectations.

Another important feature of academic press is that the teachers within a school hold shared expectations and take mutual responsibility for the academic success of all students in the school (Goddard, Tschannen-Moran, & Hoy, 2001; Lee & Smith, 1996). The theory linking teachers' shared expectations with responsibility for student achievement rests on the assumption that an atmosphere of shared responsibility promotes mutual support for academic objectives, supports a sense of community among education professionals at the school, and leads to high quality instruction. This suggests a theoretical framework in which teachers' shared responsibility for student learning creates a climate of high expectations which in-turn influence instructional content and practices that promote student achievement. For example, a teacher having worked in a school with a lower set of academic expectations and beliefs may exert more effort upon joining the staff at a school with a high press for academic success.

Several studies have demonstrated that academic press improves student performance in reading, math, social studies and science (Edmonds, 1979, Lee & Smith 1999; Phillips, 1997; Purkey & Smith 1983; Shouse, 1996). At least one study, (Lee & Bryk, 1989) found a link between a school's academic focus and student achievement, regardless of student socioeconomic status (SES) or student minority status. There is empirical evidence linking high academic press environments to other positive student

outcomes like greater student effort and more time spent on academic tasks (Lee, Bryk & Smith, 1993).

For purposes of this study, Academic Press is defined to encompass (1) School Academic Ethos and (2) Teacher Press. School Academic Ethos represents a philosophical and cultural ethos of achievement within a school based on high expectations. Teacher Press represents common policies and practices that school personnel must adopt to ensure that students meet expectations and achieve at optimum levels.

As American schools strive to increase equity and effectiveness, the challenge for NCLB and similar reforms is to raise the bar for schools and students— to “press” for higher expectations, curricula that are more challenging and higher levels of student performance without causing harm to the children whom the increased challenges and expectations are intended to help. Without adequate support for students and schools, however, higher standards and more “press” will fail to break the strong links in a chain of interconnected problems in American schools (McDill, Natriello, & Pallas, 1986).

Overview

The wide variation in student achievement among U.S. students has numerous causes. Beginning in the late 1970’s, the effective schools movement produced a flurry of research (Edmonds, 1979; Lezotte, 1980; Lee & Smith, 1996, 1999; Lee, Smith, Perry, & Smylie, 1999) in reaction to the Coleman Report (1968) on inequality. The Coleman Report found that much of academic achievement is dependent on family variables upon which schools have no influence. Research on school effectiveness identifies factors that

make schools effective. Research by Edmonds (1979) on effective schools was one of first to offer evidence linking specific school characteristics to achievement. According to Edmonds, five factors contribute to a school's effectiveness: strong leadership, high expectations for student achievement, purposeful school atmosphere, a focus on developing basic skills, and evaluating student improvement. Additional studies (Brophy & Good, 1986; Lee, Bryk, & Smith, 1993; Lezotte, 1980; Purkey & Smith, 1983; Weber, 1971, Newmann and Whelage, 1995) identified the importance of an "academic ethos" in which teachers hold high expectations of all students as a characteristic of effective schools. This study explores the extent to which an ethos of high performance for all students—also known as "academic press"—correlates with certain school conditions in schools that have taken the National Education Association's (NEA) Keys to Excellence in Your School (KEYS) Survey. This study uses KEYS survey results from over 300 schools to (1) examine how academic press relates to school characteristics and conditions by (2) conducting correlational analyses to explore the relationships.

Schools and school districts use the KEYS survey instrument to provide school profiles based on six categories of qualities identified as characteristics of effective schools:

- Shared understanding and commitment to high goals
- Open communication and collaborative problem solving
- Continuous assessment for teaching and learning
- Personal and professional learning
- Resources to support teaching and learning
- Curriculum and instruction

(NEA, 2009).

School administrators, staff and parents use KEYS survey data to inform school improvement efforts. This study is based on the hypothesis that there are measurable differences between schools that have high levels of academic press and schools that do not—and that such differences vary in accordance with school characteristics and could affect student achievement differentially.

Research Question

The study question is:

Are the conditions in schools with high academic press different from conditions in schools with schools with low academic press?

In order to answer this question, it is necessary to develop a measure of academic press that is coherent and consistent with the literature using items from the KEYS Survey. The measure of academic press developed for this study consists of nine questions representing two dimensions (School Academic Ethos and Teacher Press) of academic press. Table 6 summarizes the KEYS questions comprising each dimension of academic press. With Cronbach's Alpha scores of 0.964 and 0.966 both measures demonstrate strong internal consistency and construct validity. The development of a robust measure of academic press is a key contribution of this study and will be described in detail in Chapter 5.

Significance of Study

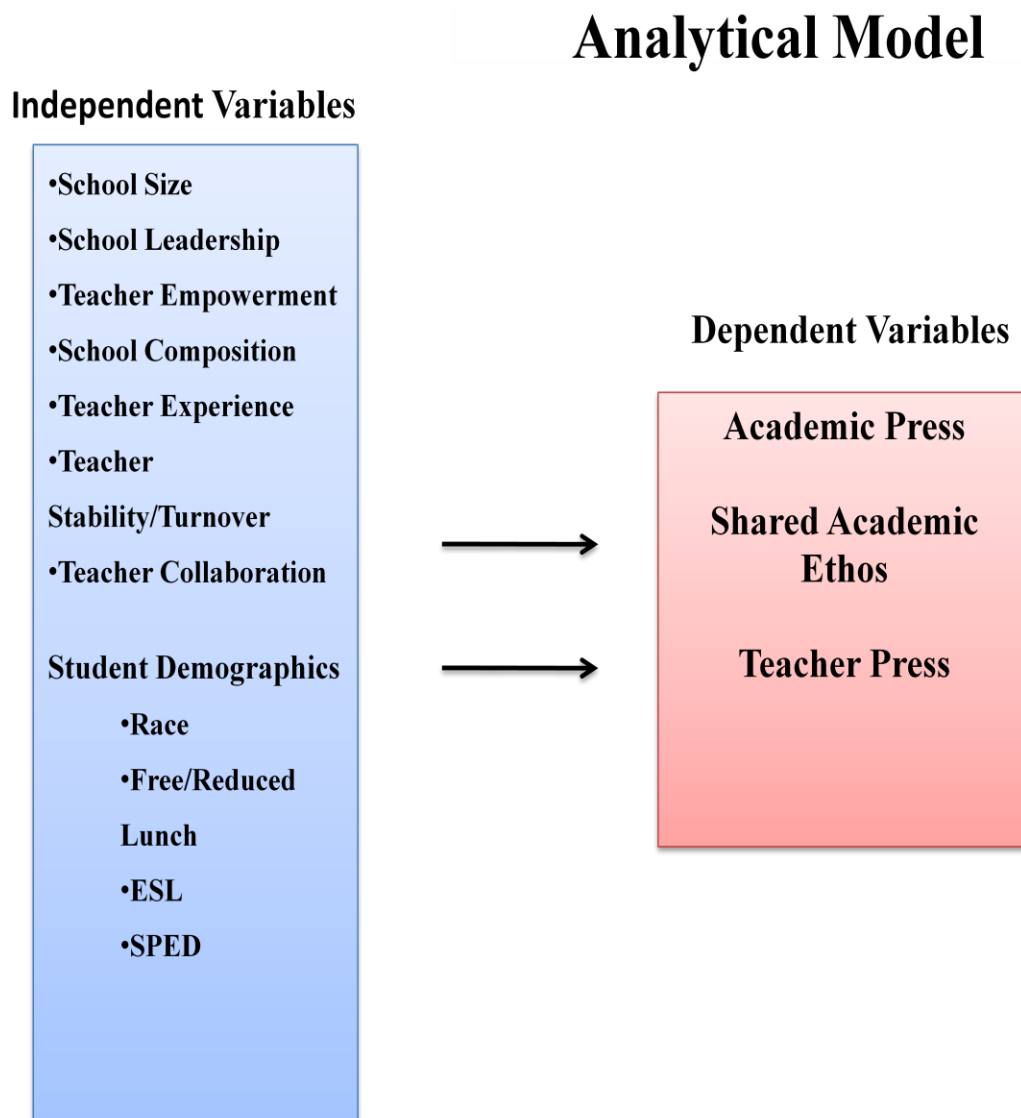
This study examines the relationship between academic press and the characteristics of schools with high and low levels of academic press. The study is

significant in three ways: first, it develops a definition of key aspects of academic press. Second, this study is part of a unique program at the University of Maryland in which a cohort of doctoral students examines education policy issues for prominent education policy and advocacy organizations. In this case, the KEYS dissertation team is analyzing KEYS survey data provided by the National Education Association, the nation's largest union, which represents more than 3 million teachers and other school personnel. The KEYS survey is an instrument that NEA provides to schools that employ its' members. This study is one of three studies examining various aspects of the KEYS survey data. With regard to academic press and the KEYS survey, this study constructs a method for measuring academic press, which future KEYS survey users could use to assess academic press in schools. Therefore, this study could provide NEA and KEYS survey users a valuable tool for their school improvement efforts. Finally, this provides guidance to develop and sustain high levels of academic press within schools.

Analytical Model

The model below represents the dependent and independent variables for the proposed study of academic press and school conditions.

Figure 1



Chapter 2: Literature Review

Academic press is extent to which school members, including teachers, students and administrators are motivated by achievement-oriented goals, values and norms (Shouse, 1996). While literature on academic press does not have a common definition, some general features appear consistently:

- Teachers and administrators hold high expectations for students and take responsibility for student learning (Edmonds, 1979; Lee and Smith, 1996, 1999).
- Teachers, administrators and students experience a normative climate of high academic demand (Shouse, 1996).
- Teachers utilize instructional practices that promote student achievement (Murphy, Weil, Philip, & Mitman, 1982).
- Teachers have confidence in their students' abilities, and students respect and respond to the academic norms of the school (Goddard, Tschannen-Moran & Hoy 2001).

This chapter presents literature on the concept of academic press that appear most often in the research literature (teacher expectations, teachers' shared responsibility for student learning, intellectual demand and rigor of course content, availability of challenging curriculum for all students, and use of instructional strategies that promote high levels of student performance). For purposes of this study, Academic Press is defined to encompass (1) School Academic Ethos and (2) Teacher Press.

School Academic Ethos represents a philosophical and cultural ethos of achievement within a school that is based on high expectations. Teacher Press represents

common policies and practices that school personnel must adopt to ensure that students meet expectations and achieve at optimum levels. This review presents only the research on academic press based on how it is defined for this study.

Teacher Expectations and Shared Responsibility for Student Learning

Pace & Stern (1958) defined academic press as the pressures in a school's external environment that lead it to focus on high academic standards. Shouse (1996) describes academic press as the extent to which teachers and students experience an environment that emphasizes academic excellence. Educators may exert academic press in schools through the level and amount of homework assigned, the degree of challenge in instructional content, specific standards for student achievement, the amount of class time devoted to instruction, the types of instructional strategies employed and measures that hold teachers and students accountable for their performance (Lee, Smith, Perry & Smylie, 1999). Lee, Smith, Perry and Smylie describe at least two factors that motivate schools to press students toward higher academic achievement: (1) teachers' expectations for student performance; and (2) standards imposed by the district, state or other external sources. NCLB is an external source of pressure on schools because it focuses on the attainment of high academic performance by all students and sets uniform standards, without regard to students' socioeconomic status or prior achievement. NCLB's requirement that schools make AYP or face sanctions places tremendous pressure on schools and districts. The fact that NCLB has applied pressure on schools and districts is undisputed, but the extent to which NCLB raises academic standards or increases student achievement remains the topic of much debate.

High expectations for all students.

As an observable organizational characteristic within a school, high academic press begins with teachers holding high expectations for students. Academic press matures as staff assumes responsibility for student learning, and it becomes normative when schools and teachers adopt specific policies and practices to support it (Murphy, Weil, & Mitman, 1982). Schools whose teachers and administrators communicate high expectations with regard to academics, discipline, instructional practices and school policies tend to produce higher levels of student achievement than schools that do not (Walberg & Paik, 2000). Communication of high expectations among teachers engenders mutual support for academic objectives. In fact, a climate of low expectations may cause teachers to abandon an academically oriented agenda (Lee & Smith, 1999). “The level of expectations held by a school’s teachers for students is a brick upon which the structure of academic press for (or relaxation of) academic goals is built,” according to Lee and Smith, 1999, p. 913.

Examination of the impact of teacher expectations on student achievement is rooted in the concept of self-fulfilling prophecy. Merton (1948) defines self-fulfilling prophecy as an inaccurate characterization of a situation, which evokes a new behavior and turns the original conception into a reality. In other words, once an expectation is set, people tend to act in ways that are consistent with it. In 1966, Rosenthal and Jacobson conducted the landmark study, “Pygmalion in the Classroom” to test the theory of self-fulfilling prophecies and they concluded that teacher expectations could influence how much children learn. They administered the Test of General Ability (TOGA), which is designed to measure a student’s intelligence quotient (IQ), to all students at the

elementary school where Jacobson was teaching (Jussim & Harber, 2005). Teachers were informed that the purpose of the test was to identify children likely to “bloom” or show dramatic intellectual growth over the upcoming school year. Rosenthal and Jacobson then told the teachers which students met that description based on the test results and identified those students as “late bloomers.” Unbeknownst to the teachers, the researchers had actually selected those students randomly. Rosenthal and Jacobson proceeded to administer the TOGA test for two years. They reported that teacher expectations for the “late bloomers” had created a self-fulfilling prophecy: in both year one and year two, the so-called “bloomers” gained more IQ points than the control students.

For more than three decades, the findings of the original Pygmalion study have been argued, tested and retested with varying conclusions. The principal areas of contention reflected in the research literature are: whether self-fulfilling prophecies have an effect on intelligence; the accuracy and power of teacher expectations; the relative effects of positive versus negative expectations and whether self-fulfilling prophecies accumulate or dissipate over time.

The Pygmalion effect and IQ.

One of the most frequently questioned findings of the Pygmalion study is whether and to what extent experimentally induced, erroneous teacher expectations have self-fulfilling effects on intelligence and achievement. There are several arguments against the proposed effects of Pygmalion on IQ: First, intelligence results from the interplay of genetic and non-genetic factors. It has been difficult for research to successfully and consistently identify the environmental factors that lead to changes in intelligence

(Jussim & Harber, 2005). Second, IQ test scores have been used to predict many important life outcomes, including high school and college graduation rates, future income and occupational success. In this context, it is difficult for many researchers (Thorndike, 1968; Elashoff & Snow, 1971; Detterman & Thompson, 1997) to believe that teacher expectations can induce lasting changes in IQ scores when dozens of experimental education programs aimed at reducing educational disadvantage have not had a lasting effect on IQ scores (Jussim & Harber, 2005). A third argument is that reviews of follow-up studies that focused exclusively on intelligence have produced conflicting results. For example, in a review of 18 experiments, Raudenbush (1984) concluded that teacher expectations do influence IQ. Studies conducted by Elashoff and Snow (1971), Snow (1969) and Wineburg, (1987) found weak-to-nonexistent effects on IQ. Thus far, the issue of whether or not teacher expectations have much influence on IQ remains unresolved.

The accuracy and power of self-fulfilling prophecies.

Jussim and Eccles (1992) sought to assess the extent to which teacher expectations are accurate and to what extent they impact student achievement through self-fulfilling prophecies or bias teachers' evaluations of students' achievement in a study examining data relating 98 sixth grade teacher's expectations to 1,731 students' performance.

In the case of this study, accuracy entails successfully predicting achievement without influencing it. As in the Rosenthal and Jacobson study, teachers evaluated individual students' talent, effort, and performance in math. Questionnaires given to students assessed their perceptions, the value they place on math, their effort spent on

math, and the amount of time spent on math. This study offered several valuable findings. First, it found that teacher expectations were accurate, based on appropriate factors such as previous grades and standardized test scores. Second, it found small self-fulfilling prophecy effects on math performance on standardized tests and a somewhat larger expectancy effect on students' grades (Jussim & Eccles, 1992). The authors also reported that 45 to 65 percent of the correlations between teacher expectations and grades showed predictive validity without influence from teacher expectations, and about 35 to 55 percent reflected teachers' expectations. Jussim (1989) supports the notion that, on average, teacher expectations are accurate and based on student grades and test scores.

Do self-fulfilling prophecies accumulate or dissipate?

In a related strand of research, Smith, Jussim and Eccles (1999) examined whether self-fulfilling prophecies accumulate, dissipate, or remain stable over time. Accumulation means that a self-fulfilling prophecy triggered at one time exerts an increasingly large influence over a student over time. In contrast, dissipation means a perceiver's expectations have less and less of an impact on a student over time. Stability refers to the steady persistence of a self-fulfilling prophecy over time.

Smith, Jussim and Eccles used data from more than 500 sixth through twelfth grade students in public school math classes in Michigan. It assessed the extent to which teacher perceptions predicted student's final math grades and standardized test scores. The study found that teacher perceptions had long-lasting effects on student achievement. However, the strength of the relationship between sixth grade teacher perceptions and student math achievement in high school initially diminished and remained steady through the twelfth grade (Smith, Jussim, & Eccles, 1999). As one might expect,

seventh-grade students who were subject to relatively high expectations in seventh grade took a greater number of non-remedial high school math courses than students for whom teachers held lower expectations. The fact that the relationship between teacher perceptions and student achievement declined over time leaves hope that subsequent teachers who hold high expectations may undo the damage inflicted on students by one teacher's low expectations.

Effects of positive verses negative expectations.

High teacher expectations for student learning are a necessary component of academic press. Studies (Rosenthal & Jacobson 1968; Rosenthal & Rubin 1978; Brophy, 1983; Harris & Rosenthal, 1985) on how expectations affect teachers, students and school achievement consistently find that positive teacher expectations can improve student performance and negative expectations can damage children's school success (Goldenberg, 1992).

In a review of literature on self-fulfilling prophecy effects, Brophy (1983) suggests that teachers behave differently toward students for whom they hold higher expectations. Specifically, teachers tend to provide higher quality instruction to students from whom they expect greater results (Mckown & Weinstein, 2008). For example, teachers are more likely to praise such students and give them useful feedback. Brophy (1983) identifies teacher behaviors that tend to minimize the learning among students for whom they have low expectations. These behaviors include:

- providing less time for low-expectancy students to answer questions;

- telling low-expectancy students the answer rather than probing an inaccurate answer;
- rewarding low-expectancy students for inappropriate or incorrect responses;
- paying less attention to low-expectancy students;
- calling on low-expectancy students less frequently;
- seating low-expectancy students further from the teacher;
- smiling less often and making eye contact less frequently with low expectancy students; and
- offering fewer learning materials to low-expectancy students.

Stereotype threat is another consequence of negative teacher expectations.

Stereotype threat refers to the threat people feel when they are at risk of confirming a negative stereotype targeted at their group of affiliation (Steele & Aronson, 1995). In essence, stereotype threat applies the concept of self-fulfilling prophecies to social groups. The theory behind stereotype threat suggests that after a lifetime of exposure to negative stereotypes regarding one's group of affiliation (female, liberal, White or African American male); one begins to internalize the stereotype. One does not have to think long to find a negative stereotype associated with a gender, racial or ethnic group that could have the potential of profoundly and negatively impacting members of that group.

Steele and Aronson (1995) conducted a series of four experiments to prove that African American students are vulnerable to stereotype threat. To do so, 117 male and female, Black and White undergraduates at Stanford University were recruited through

campus advertisements offering \$10.00 for students to participate in the study for one hour. Participants were randomly assigned to one of three experimental test conditions:

1. The test was described as diagnostic of intellectual ability.
2. The test was described as a laboratory problem solving exercise that was non-diagnostic of student ability.
3. The test was presented as non-diagnostic and as a “challenge.”

Steele and Aronson hypothesized that Black participants would underperform relative to White participants in the diagnostic condition where there was stereotype threat.

In the first study, Black participants in the diagnostic condition performed significantly worse than Black participants in either non-diagnostic conditions as well as significantly worse than White participants in the diagnostic . These findings supported Steele and Aronson’s hypothesis but yield only marginal significance $F(1, 107) = 3.27, p < .08$.

In the second study, 20 Black and 20 White female students from Stanford University were randomly assigned to the same test as the first study with slightly modified conditions (fewer questions, less time provided, administered via computer). The study found Black students completed fewer items, with less accuracy when they believed the test was intellectually diagnostic as compared to Whites and both groups of students (Black and White) who believed the purpose of the test was not diagnostic. The authors’ suggest that test diagnosticity impaired not only the accuracy of the work of the Black participants but the rate of test completion as well.

In the third study, Steele and Aronson induced stereotype threat by presenting students (Black and White) with words associated with negative stereotypes of African Americans under the appearance of testing verbal skills. Compared to students taking the test under non-diagnostic conditions, Black students showed greater reluctance to have their racial identity linked to their performance, tended to avoid racially stereotyped test preferences and caused a strong sense of apprehension regarding the test. Finally, in the fourth study, the authors' required the students to record their race prior to taking the test whereas; it had been optional in previous experiments. The study purported that even this act produced stereotype threat in the Black students who believed the test was diagnostic of their intellectual ability and caused them to perform worse than students taking the test under other conditions. One limitation of this study is that all the experiments were conducted with college students verses varying the age range of the students to determine how stereotype threat affects younger students. The authors' offer the difficulty of the test itself as one potential alternate cause of poor Black performance other than stereotype threat for the students' performance

Rosenthal and Jacobson's seminal study demonstrated that experimental manipulation of teacher's beliefs about their students could influence student learning. Though wrought with controversy, the fundamental premise and conclusions of "Pygmalion in the Classroom" have been confirmed (Brophy, 1983; Raudenbush, 1984). Subsequent studies suggest that teachers' expectations are based primarily on valid criteria such as grades and achievement test scores and are typically accurate. Previously held low expectations for students can dissipate over time, and persistently held negative expectations influence teacher behaviors as well as student performance. The evidence of

the impact of teacher expectations on student learning is compelling. Students perform up to, or down to, the expectations and standards held for them (Lee & Smith, 1996).

Collective responsibility for learning.

Teacher expectations for student performance can also be examined as an organizational property of schools (Lee & Smith, 1999). Teachers' beliefs in their own collective ability to impact student performance may influence the degree of academic press within a school building (Goddard, Tschannen-Moran, & Hoy, 2001). High expectations communicated among teachers promote professionally supportive and collaborative school environments. The result is a norm of high expectations that is part of school's social context encouraging a "press" towards academic goals (Lee & Smith, 1999). Lee and Smith define teacher's collective expectations for learning as "responsibility for learning," and identify three components of this responsibility: (1) teachers' internalization of responsibility for student learning; (2) their willingness to adapt teaching practices to students' needs and (3) a sense of efficacy in their teaching practices. Collective responsibility not only represents a normative culture of beliefs but also entails demonstrating practices that are consistent with those beliefs.

Examinations of teachers' collective expectations for students suggest that achievement gains are significantly higher in schools where teachers take collective responsibility for student learning (Diamond, Randolph, & Spillane, 2004; Goddard, Tschannen-Moran, & Hoy, 2001; Lee & Loeb, 2000; Lee & Smith, 1996; Newmann, Rutter & Smith, 1989). In a study to investigate the link between teachers' work lives—as defined by their beliefs about students, the collaborative nature of staff relationships and teachers' perceived control in their schools and classrooms—and how much students

learn, Lee and Smith (1996) reported that in schools with high levels of collective responsibility for learning, students learned more in mathematics, reading, science and social studies. Schools where teachers generally shared positive attitudes about their students had higher achievement gains than schools where teachers did not share such attitudes. Interestingly, the study hypothesized that schools where teachers assumed responsibility for students' learning would have a more equitable distribution of learning in relation to students' socioeconomic background. The study reported, "schools where most teachers take responsibility for learning are environments that are both more effective and more equitable" with regard to students' social class" (p. 130). In other words, teachers' collective willingness to take responsibility for student learning can increase learning opportunities for all students regardless of their racial, ethnic or socioeconomic background. Subsequent research conducted by Lee and Loeb (2000) focused on collective responsibility as both a function of school organizational structure, in this case school size, and as an organizational property of schools that may directly influence learning. Lee and Loeb found that teachers had a more positive attitude about their responsibility for student's learning in schools enrolling fewer than 400 students and that, in turn, students learned more. With regard to collective responsibility, the researchers identified a continuum, ranging from schools where teachers show a high level of collective responsibility for the success or failure of their own teaching on one end and, on the other end, schools where teachers view potential hurdles between their own teaching and students' learning. In the latter, teachers consider the influence of student ability, family and economic background, and motivation as beyond their control.

Diamond, Randolph, and Spillane (2004) examined the connection between race, class and teachers' expectations in urban elementary schools with high populations of low-income African American students. They argue that teachers' sense of responsibility for student learning is connected with their beliefs about student's abilities through organizationally embedded expectations, which they term "organizational habitus". Organizational habitus is defined as "class based dispositions, perceptions, and appreciations transmitted to individuals in a common organizational culture" (pg. 76). In practice, organizational habitus is a pervasive stream of beliefs, expectations and practices that flow throughout a school, like a current guiding teacher expectations and sense of responsibility in a particular direction. With regard to teacher expectations of students and sense of responsibility for student learning, Diamond et al. examined the relationship between teachers' sense of responsibility for student performance and their beliefs about student ability, with the assumption that collective responsibility is reduced when teachers view student backgrounds as barriers to instruction. The authors found that the racial and social class composition of schools is associated with teachers' sense of responsibility for student learning. Diamond et al., point out that teachers' responses to students' perceived deficits were aligned with the continuum outlined by Lee and Loeb (2000), with some teachers willing to take personal responsibility for the success or failure of their own teaching. Other teachers see student ability, family background or student motivation as impediments to their teaching and impediments to student learning. Teachers who have such a view are likely to believe it absolves them of responsibility when students do not learn.

Expectations for student work are also a reflection of collective teacher beliefs. Lee, Smith, Perry and Smylie (1999) found that in schools with high levels of academic press, collective beliefs about what students were capable of producing directly influenced the quality and quantity of work assigned. In a study of the organizational factors that affect a school's sense of community, efficacy and expectations, Newmann, Rutter and Smith (1989) examined collective teacher efficacy and found that a school's expectations for its students seemed to be determined largely by the students' ability. The direction in which teachers' expectations influence student work or vice versa was unclear. What was clear, however, is that schools in which students tend to perform at relatively high levels tend to have relatively high levels of collective teacher expectations. The authors identified four organizational features to be closely associated with a strong sense of efficacy and community among teachers: (1) orderly behavior of students, (2) innovation and experimentation in teaching, (3) teachers' coordination of curriculum and collaboration and (4) administrators who are responsive to teachers.

Collective responsibility describes the extent to which a school's entire faculty feels teaching is worth the effort (LoGerfo, 2008). It is a feature of the school's social organization and culture. Collective responsibility emerges from shared values, beliefs and goals among school administrators and teachers. Taking collective responsibility for student learning tends to increase average reading and math achievement scores of secondary students while reducing differences in student learning associated with students' social and academic backgrounds. Teacher responsibility implies teachers' willingness to accept responsibility for their students' outcomes. Some teachers are willing to take personal responsibility for the success or failure of their own teaching.

Other teachers allow student ability, family background or student motivation to impede to their teaching. Collective responsibility emerges from shared values, beliefs and goals among school administrators and teachers. It is a key characteristic of schools with high academic press.

Summary of Research on Key Aspects of Academic Press

Academic press is extent to which school staff and students experience a school culture that emphasizes high academic achievement. Academic press has been defined and operationalized in education research in a number of ways however, some common features include:

- Teachers and administrators hold high expectations for students and take responsibility for student learning (Edmonds, 1979; Lee & Smith, 1996, 1999).
- Teachers, administrators and students experience a normative climate of high academic demand (Shouse, 1996).
- Teachers utilize instructional practices that promote student achievement (Murphy, Weil, Philip, & Mitman, 1982).
- Teachers have confidence in their students' abilities, and students respect and respond to the academic norms of the school (Goddard, Tschannen-Moran & Hoy 2001).

For the purpose of this study, academic press is based on a theory in which increased student achievement results from an ethos of high expectations for all students, teachers' willingness to take responsibility for student learning, and an academic and instructional focus that supports high levels of student achievement. Academic press

affects schools and students in at least two ways. First, it can provide a specific direction for student work and academic achievement. Second, academic press motivates students and teachers to achieve at higher levels (Lee & Smith, 1999). “Press” for higher academic achievement can be exerted outside school by district reform efforts and accountability measures in federal mandates such as those in NCLB.

What School Conditions are Associated with Academic Press?

This study aims to examine the relationship between academic press and the characteristics of schools with high and low levels of academic press. This section of the literature review examines literature on school characteristics that education research shows to be related to effective schools, high academic press and can be measured by the KEYS survey. Measures of school characteristics include the following: School Size and Level, School Leadership, school composition/student demographics, Teacher Experience, Teacher Stability and Turnover, Teacher Collaboration, Teacher Professional Development, Academic and Instructional Focus and Teacher Empowerment.

School size and Academic Press.

The relationship between school size and student achievement has been debated for at least a decade in education research and policy circles. On the one hand, smaller schools, especially private schools, have been associated with higher school performance (Thuele-Lubienski, Lubienski, & Crawford-Crane, 2008). On the other hand, initiatives to reduce the sizes of high schools have achieved mixed results. There are two streams of research related to school size. One stream examines how school size influences school culture and other organizational properties. The other stream investigates the economic benefits of consolidating school resources. For purposes of this study, the literature on

the relationship between school size, school culture and organization is summarized as follows.

Organizational research on school size focuses on the academic and social aspects of school culture. School climate research suggests that small schools, especially high schools, have higher average student achievement regardless of socioeconomic and minority status of the students. In a study of whether teachers and students are influenced by school size in inner city Chicago elementary schools, Lee and Loeb (2000) found that social relations were more positive in schools enrolling fewer than 400 students. The researchers used survey and standardized test score data from almost 5000 teachers and 23,000 sixth and eighth grade students in 264 K-8 Chicago schools. Teachers' attitudes and responsibility for student learning were a central focus of the study. The authors' concluded that school size influences teachers and students indirectly by providing more personalized social interactions between both teachers and students at the school. Smaller schools often provide teachers with more opportunities to interact with fewer students. The study found that teachers in smaller schools were more willing to take collective responsibility for student learning, which is an important feature of academic press.

Fowler and Walberg (1991) examined the effects of school size in high schools, based on social, organizational and financial variables and on about 23 learning outcomes in 293 public high schools in New Jersey. School size was the most consistent variable associated with learning after district socioeconomic status and the percent of low-income families in the school. Increased school size had negative effects on student participation, satisfaction and attendance. Not surprisingly, students that are dissatisfied

disengaged and frequently absent achieve less on standardized assessments and are less likely to attend college. The study's findings for small schools were similar to those of Lee and Loeb (2000): smaller schools were friendlier and exhibited better social interactions between staff and students.

Lee and Smith (1997) also examined the relationship between high school size and student learning. Interestingly, they set out to identify the “optimal size” of high schools using data from public, Catholic and independent private schools collected from the NELS: 88 study. The study found that the “optimal high-school size,” defined in terms of students’ learning in reading comprehension and math over the course of high school, is between 600 and 900 students. Students learn less in high schools with fewer than 600 or more than 900 students regardless of socioeconomic status and racial and ethnic background. These findings are significant because low-income and minority students are more likely to attend either very large or very small schools.

A recent study of New York City’s efforts to reform high schools through the creation of small, academically nonselective public high schools serving approximately 100 students per grade found positive effects on both student achievement and graduation rates (Bloom, Levy- Thompson, Unterman, Herlihy, & Payne, 2010). The lottery-like admissions process, whereby students were assigned to a Small Schools of Choice (SSC) high school or another type of high school within the reform initiative, provided an opportunity to study two randomized groups of students who wished to attend SSC — those who “won” assignment by lottery and those who did not. Bloom et al. found that after the first year of high school, 58.5 percent of SSC enrollees were on track to graduate, compared to 48.5 percent of their counterparts enrolled in another type of high

school. In addition, the study found that SSC students have a 68.7 percent graduation rate, which is 6.8 percentage points higher than the 61.9 percent rate for students who attended other reform high schools. The authors point out that SSCs were not only small, but were also purposefully organized into “personalized units of adults and students, where students had a better chance of being known and noticed, and where teachers knew enough about their charges to provide appropriate academic and socio-emotional supports” (Bloom et al., p. 9).

Research on school size primarily points to evidence suggesting that high schools should be smaller, but just how small they should be remains inconclusive (Lee & Smith, 1999). There is little research on the effect of school size in elementary schools, but one could suggest that younger children also benefit from environments that promote personalized relationships, socio-emotional support, collective teacher responsibility, student engagement and satisfaction.

School level and Academic Press.

In terms of school level, studies have shown that increased academic press at both the middle and high school level improves academic achievement (Lee & Smith, 1996, 1999; Lee, Smith, Perry & Smylie, 1999; Shouse, 1996). Although school level is not an independent variable in the research reviewed for this literature review, there are a number of plausible explanations for examining academic press in the middle and high school context. First, efforts to increase academic expectations for students often occur in middle and high school reform efforts. During the middle and high school years, curriculum and the organization of schools becomes more intensely focused on academic work. Academic press is commonly defined in the research literature as involving access

to courses and course selection patterns among certain student groups, which pertains primarily to high schools. There appears to be a lack of research that explicitly examines school level in relation to academic press.

Teacher experience.

Research (Hanushek, Kain & Rivkin, 1998; Sanders & Rivers, 2006) has demonstrated the positive and cumulative effects that teaching can have on student achievement. Hanushek (1992) has estimated that the difference between a student having a good teacher and having a bad teacher can be more than one grade-level equivalent in test performance in a given year. The question of which characteristics most influence teacher effectiveness continues to be heavily debated. Teaching experience and the distribution of novice and experienced teachers is an important policy issue. In addition to mandating a basic level of qualifications for teachers of core academic subjects, a lesser known provision of NCLB requires states to develop and implement equity plans to eliminate disparities in the distribution of non-highly qualified, inexperienced and out of field teachers across districts and schools (DeAngelis, White, & Presley, 2010).

Beyond the conventional wisdom associating years of teaching experience with teaching effectiveness, research has found a difference in effectiveness between teachers with less than five years of experience and teachers with more than five years (Barton, 2009; Hanushek, Kain & Rivkin, 1998; King-Rice, 2003). In a review of literature on five categories of teacher quality including teacher experience, King-Rice (2003) points out that there is a positive relationship between teacher experience and student achievement in quasi-experimental studies designed to test the causal relationship. In

fact, studies suggest student performance increases at the elementary school level with each year of teacher experience, up to five years, but drops off after that. At the high school level, estimates of the effect of teacher experience suggest that teacher experience has a more sustained effect, continuing later into teachers' careers.

There is no research specifically related to teacher experience and academic press however, the issue of teacher experience could be related to a school's ability to create the conditions conducive to high levels of academic press. For example, schools serving primarily low-income and minority students disproportionately employ teachers with three or fewer years of experience (Barton, 2009). Research confirms that teachers with no prior experience are on average less effective than other teachers therefore, schools with large numbers of new teachers may lack the skills and capacity to encourage, support or sustain high levels of academic press (Clotfelter, Ladd & Vigdor, 2004).

Teacher stability and turnover.

Teacher stability and turnover affect both students and staff within a school. When teachers leave schools before the end of the school year, students may experience discontinuity in instruction, particularly if they encounter multiple substitute teachers or if there is a lag in obtaining a permanent replacement (Barton, 2009). Effective teaching requires interaction, cohesion and commitment among employees. High academic press environments require instructional and program coherence (Newmann et al, 2001). High levels of teacher turnover negatively influence student achievement, school staffing and the overall atmosphere of the school.

Most research on teacher turnover has sought to explain it in relation to the characteristics of individual teachers. Few studies have examined teacher turnover as a function of the organizational condition of schools. Richard Ingersoll (2001) conducted a study to examine the role of school characteristics and organizational conditions in teacher turnover using nationally representative data from the U.S. Department of Education's National Center for Education Statistics (NCES), Schools and Staffing Survey (SASS). In general, the study found that although high-poverty public schools have moderately higher-than-average rates of teacher turnover, large schools, public schools in large school districts, and urban schools do not have especially high rates of teacher turnover. Surprisingly, small private schools have especially high rates of turnover and there is no difference in teacher turnover between urban and suburban schools.

Ingersoll (2001) also focused on four particular organizational conditions in schools that have consistently been identified in prior research as being related to teacher turnover: (1) compensation structure, (2) level of administrative support, (3) the degree of conflict and strife within the organization and (4) the degree of employee input and influence regarding organizational policies. The data revealed that inadequate support from administration, student discipline problems, limited faculty input into school decision making and, to a lesser degree, low teacher salaries are all associated with elevated rates of teacher turnover.

Guin (2004) examined the characteristics of elementary schools that experience chronic teacher turnover and the impact of such turnover on school climate. Using a mixed methods design—which included staff climate surveys, case studies and state

staffing data—Guin was able to identify the characteristics of schools with chronic turnover and gain a better understanding of the day-to-day impact of teacher turnover on individual schools. Many of Guin’s findings were consistent with previous research, including the following: (1) there is a significant and positive correlation between teacher turnover and the percentage of minority students; (2) student performance is highly correlated with teacher turnover, because schools with high rates of turnover have fewer students meeting state standards in reading and math and (3) high teacher turnover is negatively correlated with the six climate variables (school climate, teacher climate, principal leadership, teacher influence, feeling respected and teacher interactions) measured in the study.

Regarding the impact of high teacher turnover on the daily operations of schools, Guin found that schools with high rates of turnover are not likely to have high levels of trust and collaboration among teachers. High teacher turnover requires schools to restart their instructional focus annually, which results in a less comprehensive and unified instructional program. High turnover requires schools to repeat professional development activities, and teachers find it difficult to collaborate when they have new co-workers every year.

In a review of the empirical literature on teacher recruitment and retention, Guarino, Santibanez and Daley (2006) included an examination of studies of the characteristics of schools and school districts that were successful in recruiting and retaining teachers. Guarino et al. found that “size, location, wealth, student composition, school grade level, and school type” appeared to play a role in teacher recruitment and retention, with the relationships varying from study to study (p. 189). Specifically,

schools with higher proportions of minority, low-income and low-performing students tended to have high rates of teacher turnover. The majority of studies examined by Guarino et al. found that urban districts had higher attrition rates than suburban and rural districts. Private schools had higher attrition rates than public schools.

Most research on teacher turnover suggests that urban schools and schools with high percentages of minority and low-income students experience high levels of teacher turnover. Surprisingly, private schools experience higher rates of teacher turnover than one might expect. Although numerous studies look at issues of teacher recruitment and retention, few examine the issue as it relates to the day-to-day functions of schools. The studies on the topic of teacher turnover as an organizational feature of schools identify high teacher turnover as detrimental to collegiality among teachers and disruptive to the instructional program.

Effectiveness and Supportiveness of Leadership.

Schools that make measurable differences in student learning tend to be led by principals who make significant and measurable contributions to the effectiveness of their staff (Hallinger & Heck, 1998). Different forms of leadership are described in the literature using adjectives such as, “instructional,” “transformational,” “constructivist,” “moral” and “strategic.” Instructional leaders coordinate the school-wide educational program to ensure consistency in policies and practices within classrooms (Hallinger & Murphy, 1986). Specifically, instructional leaders develop a clear school mission, systematically monitor student progress, actively coordinate curriculum, maintain high standards for teachers and protect instructional time from interruptions. Although these practices are not the sole responsibility of the principal, research on effective schools

identifies the principal as instrumental in promoting instructional effectiveness by developing school wide norms that reflect high expectations for student learning. Transformational leadership involves: (1) identifying and sustaining a vision of the school as an organization, (2) intellectually stimulating the organization's members and (3) considering the needs of individuals, which supports the development of people and relationships (Ross & Gray, 2006). Hoy and Miskal (2001) have described transformational leadership as an approach that connotes ideal leadership. For the purpose of this study, effective leadership is defined in terms of principal behaviors identified in KEYS survey questions (see Table 6) that are supported by research and a factor analysis described in Chapter 3: Methodology.

Regardless of the adjective used to describe style of leadership, Leithwood, Louis, Anderson and Wahlstrom (2004), suggest there are three over-arching leadership behaviors and practices essential to effective school leadership: setting the directions, developing people and redesigning the organization. Setting directions is aimed at helping one's colleagues develop a shared understanding about the organization and its goals (Leithwood et al., 2004). Developing people involves engaging in practices that motivate teachers to improve the quality of teaching and learning. Redesigning the organization involves developing a school as an effective organization that supports and sustains the performance of teachers and students.

Research on the effects of educational leadership on student outcomes is inconclusive. Whereas some researchers have found that school principals matter to student achievement, others have found no effects of school leadership on student achievement (Witziers, Bosker, & Kruger, 2003). Studies consider the direct, indirect

and reciprocal effects of leadership on school outcomes. Direct effect models suggest that leaders' practices can affect school outcomes in ways that can be measured apart from other variables. Indirect effect models assume that school leaders achieve their effect on school outcomes indirectly through teachers, school culture and other organizational factors. Reciprocal effect models suggest that relationships between school leadership, school features and the environment are interactive.

Witziers, Bosker and Kruger (2003) conducted a meta-analysis of research on educational leadership to determine whether educational leadership really matters. The meta-analysis of 37 studies found that in studies that sought evidence of direct effects of leadership on student achievement, the amount of effect was found to be small (.10). Among specific leadership behaviors, the behavior with the largest effect is "defining and communicating mission" (.30-.38). An analysis of the five studies investigating the indirect effects of educational leadership on student achievement also found that principals' efforts had a small but significant direct effect on the learning climate. The analysis also found that principals' instructional efforts had a moderate indirect effect on student outcomes.

A related strand of research has identified leadership differences between effective high-SES and low-SES schools. Hallenger and Murphy (1986) found three characteristics that stood out among the effective principals viewed as instructional leaders: (1) a strong results orientation, (2) a concern for systematically monitoring student progress and (3) a preference for high visibility and informal supervisory strategies. However, the research found dramatic SES-related differences in the instructional leadership exercised in low-SES in comparison with high-SES schools.

Principals in effective low-SES schools asserted considerably more control over the selection, development and implementation of curriculum and instructional programs than principals in effective high-SES schools. Hallenger and Murphy also found a difference in the balance of one-way versus two-way communication between principals and staff. Principals in effective low-SES schools were more directive in their communication with staff than were principals in effective high-SES schools. These findings suggest that a range of leadership behaviors can be effective depending on the context. In other words, effective leadership in one school may not necessarily be as effective in another.

McGuigan and Hoy (2006) sought to identify aspects of school leadership that affect academic optimism, a concept similar to academic press as defined in this study. Academic optimism reflects three elements: (1) Academic emphasis, sometimes called “academic press” (2) Collective efficacy, a group sense of teacher efficacy, and (3) Faculty trust in parents and students. The authors’ conclude that there are specific actions that principals can take to increase the academic optimism within schools. First, principals can ensure that teachers have opportunities to engage in serious-minded collaboration with regard to instructional practice. Specifically, principals must make time available for joint planning and view professional development as an integral part of the school’s academic goals. Second, principals should do everything possible to foster teachers’ collective efficacy. This includes assigning teachers according to their skills and professional developmental needs, dealing with ineffective teachers promptly and celebrating classroom successes. Finally, principals should model and expect respectful interactions with students and parents. School leaders should look for opportunities to

engage teacher and parents involved in collaborative activities linked to better academic performance and improved student achievement. Though the sample size is small, this study reinforces effective leadership behaviors cited in other contexts. At the very least, the recommendations have intuitive appeal and echo the persist calls for effective school leadership by teachers, parents, community leaders and scholars.

Teacher collaboration.

Traditionally, teachers have experienced both autonomy and isolation from their colleagues. Research demonstrates that teachers generally avoid seeking opportunities to share or communicate in ways that impose on other teachers (Levine & Marcus, 2007). However, many have called for teachers to work more collegially and collaboratively to realize shared goals and improve student achievement. Education research and practice literature has referred to this collaboration as “communities of practice,” “professional learning communities” and “teacher learning communities”.

Researchers have defined teacher collaboration as the sustained collegiality that leads teachers to become increasingly aware of their obligation to work together to resolve school-wide concerns as well as issues associated with their own teaching behaviors (Roberts & Pruitt, 2003). In the process of collaborating, teachers participate in faculty meetings, grade level meetings, lesson planning, workshops, peer observation and other joint activities to achieve individual and institutional goals (Leonard & Leonard, 2003). Teaching is more effective when teachers engage in collaborative dialogue, observe and react to one another’s teaching and assessment practices, and participate in joint planning and curriculum development (Newmann & Wehlage, 1995).

Collaborative teaching environments contribute to teachers' sense of collective responsibility for student learning. Collaborative and professional teaching communities provide teachers with useful instructional feedback and social support. Collaborative teaching environments also provide opportunities for experienced teachers to help inexperienced teachers improve instruction and classroom management. When teachers collaborate, the schools' knowledge base regarding effective policy, instruction and classroom management strategies expands.

Successful teacher collaboration requires supportive leadership (Gajda & Koliba, 2008). Effective teacher collaboration compels teachers to have regular face-to-face interaction. Therefore, teachers need support from school administrators to arrange the school day in ways that provide time to meet, conduct observations and review student data. Different schools focus on different issues in the collaborative teaching process. Ma and Rada (2005) suggest that setting boundaries to help teachers focus on activities identified as supporting the school's goals contributes to effective teacher collaboration.

Teacher empowerment.

School reform efforts have empowered teachers to varying degrees, ranging from nominal empowerment to full participation in school decision making. Teacher empowerment consists of improved status, increased knowledge and access to decision making (Bogler & Somech, 2004). Short and Rinehart (1994) identify and describe six dimensions of teacher empowerment: decision-making, professional growth, status, self-efficacy, autonomy and impact. Decision-making refers to teachers' participation in critical decisions that directly affect their work. This could include issues related to budgets, hiring teachers, scheduling and selecting curriculum. Professional growth refers

to teachers' perception that the school provides them with opportunities to grow and develop professionally. Self-efficacy refers to teachers' perception that they are equipped with the skills and knowledge to help students learn. Autonomy refers to teachers' feeling that they have control over important aspects of their work life, including scheduling, curriculum development, planning and instruction. Similar constructs like teacher organizational habitus (Diamond, Randolph & Spillane, 2004), collective responsibility (Lee & Loeb, 2000) and collective teacher beliefs (Lee, Smith, Perry & Smylie, 1999) appear in the education research literature. For the purposes of this study, teacher empowerment is defined as having influence or control in school policies related to teaching and learning.

Research syntheses (Conley, 1991; Malen, Ogawa & Kranz, 1990; Smylie, 1994) reveal mixed findings about the efficacy of teacher empowerment initiatives as a means of improving instructional practices and student achievement (Marks & Seashore Louise, 1997). Newmann (1995) contends that the most useful teacher empowerment focuses on the instructional vision of the school and professional collaborations within schools. Specifically, where research has documented a positive relationship between teacher empowerment and improvements in student achievement, teachers have worked collectively through site-based councils on issues of curriculum and instruction (Marks & Seashore Louise, 1997). Teachers feel more empowered when they have the individual and collective discretion to respond to students by diagnosing their learning needs and devising strategies to meet those needs. Teacher empowerment has also been linked to enhanced professional communities and collective responsibility for student learning.

Frequency and focus of professional development.

As students face higher standards for learning, teachers face increased pressure to help their students succeed (Smylie, Allensworth, Greenber, Harris, & Luppescu, 2001). Demands on teachers are heightened by the stakes associated with meeting AYP and the growing popularity of teacher evaluation systems that take into account student standardized test scores. Effective professional development is an important means to enhance teacher practice. However, traditional professional development consisting of workshops and trainings on relatively narrow instructional and curricula issues has longstanding reputation ineffectiveness (Wei R., Darling-Hammond, Andree, Richardson, & Orphanos, 2009). According to Smylie et al., a consensus view of effective professional development emerged in the 1990s, with the following common core elements: (1) Experiential, engaging teachers in concrete tasks of teaching, assessment, and observation. (2) Grounded in participants' questions, inquiry, and experimentation as well as research on effective practice. (3) Collaborative, involving sharing of knowledge among educators. (4) Connected to and derived from teachers' work with their students as well as connected to examinations of subject matter and teaching methods. (5) Sustained, intensive and supported by follow-up activities, and (6) Connected to other aspects of school improvement in a coherent manner.

There is a lack of research addressing teacher professional development and academic press. In the absence of such literature, this section will discuss research addressing the frequency and focus of professional development activities that have a positive influence on student achievement in effective schools. The amount of

professional development provided to teachers could be a reflection of a commitment to increase or maintain the level of academic press within a school.

A recent review of over 1,300 studies addressing the effect of professional development on student achievement conducted by Yoon, Duncan, Lee, Scarloss, and Shapely (2007) found only nine studies that met the What Works Clearing House evidence standards. With regard to the frequency of professional development, the nine studies indicated that teachers, who received substantial professional development—49 hours on average, boosted their students' achievement by as much as 21 percentile points. Studies that involved substantially fewer hours (5-14) of professional development showed no statistically significant effects on student achievement. All nine studies focused on elementary school teachers and students as well as a range of subjects (reading/language arts, math and science). The professional development activities consisted of workshops or summer institutes provided directly to teachers, rather than through a “train the trainer” format. This study highlights a troubling concern regarding the need for high quality research in the area of professional development. However, many have criticized the What Works Clearing House's criteria as placing too much stock in randomized controlled trials and not recognizing the value of high quality non-experimental research.

In 2000, The National Center for Education Statistics (NCES) administered the Fast Response Survey System (FRSS) to over 5,000 full and part-time time teachers across grade levels in all 50 states and the District of Columbia to provide a national profile of teacher quality, teacher preparation and qualifications. According to the survey, the number of hours teachers spend in professional development is related to the extent to

which teachers believe that participation in professional development activities will improve their teaching (Parsad, Lewis & Farris, 2001). Specifically, for every content area examined in the survey, teachers who participated in more than 8 hours of professional development were more likely than those who spend 1-8 hours to report that participation substantially improved their teaching. While adequate time for professional development is essential, this study and others demonstrate that the amount of time alone do not guarantee success. Professional development activities should be frequent, focused on the curriculum and materials teachers use in their classrooms and, adhere to evidence-based principals of effective professional development to support high levels of academic press.

Garet, et al., 2008 assessed the impact of professional development on teacher instruction and student achievement using a random experimental design to implement two variations of a comprehensive professional development program. The ninety-(90) schools representing 270 teachers and some 5,500 students that participated in the study were randomly assigned to three categories of professional development: professional development alone, professional development with coaching or no professional development. The study measured three potential intervention effects: teachers' knowledge about reading instruction, teachers' use of research-based instructional practices, and students' reading achievement. The study found that teacher knowledge showed statistically significant growth in schools that received professional development. However, teacher practice changed significantly in only one of the three variables measured. Interestingly, there were no statistically significant differences in student outcomes as a result of the professional development intervention. These findings

underscore the need for further research to identify new and or effective professional development approaches that lead to improved student achievement.

Academic and Instructional Focus

The literature on academic and instructional focus and academic press includes studies of the availability of challenging curriculum, instructional strategies that promote high levels of student achievement and curriculum articulation and organization.

The availability of challenging curriculum.

High academic press environments provide students with access to challenging curriculum. Research on college preparedness suggests that in most high schools, some students who wish to attend college do not have access to the courses they would need for admission into a four-year college. In 1999 and again in 2006, Clifford Adelman examined the predictive characteristics that contribute to student success in college. His analysis of the National Education Longitudinal Study, 1988 (NELS) data included a national sample of some 12,000 students. In this analysis, Adelman, concluded that “the intensity and quality of one’s secondary school curriculum was the strongest influence not merely on college entrance but more importantly on bachelor’s degree completions for students who attended a four-year college at any time”(p. 5). Adelman noted that for minority students in particular, the quality of the curriculum is very important.

Specifically, completing a high school mathematics course beyond Algebra 2 raised the likelihood of attaining a bachelor’s degree from 45 percent to 73 percent for African American students and from 61 percent to 79 percent for Latino students. Oakes (1990) found that fewer sections of college-preparatory, advanced math and science courses were offered in schools that primarily serve low-income and minority students.

Similarly, minority and low-income students are placed in advanced courses at a much lower rate than other students are.

Instructional approaches to promote high academic press.

Recent commentary and research has emphasized the importance of teaching for higher order thinking in all academic subjects, for all students (Raudenbush, Rowen, & Cheong, 1993). Instructional strategies that promote higher order thinking and high levels of student achievement are central to the concept of academic press as it is not enough to hold high expectations for students, teachers must act in ways that insure students meet those expectations. The conception of academic press put forth in this study emphasizes both the ethos of high expectations and the strategies employed by those responsible for students meeting those expectations.

In a study of a school effectiveness program in Santa Clara County, California, Murphy, Weil, Hallinger and Mitman (1982) included classroom practices in their theoretical framework of academic press. In their model of academic press in schools, Murphy and his colleagues contend that it is important that teachers implement the following instructional practices that promote student achievement:

- devoting time to clear, complete explanations of new material;
- providing sufficient opportunities for teacher directed, structured practice before students work on their own;
- giving students corrective feedback if their responses are incorrect, providing sufficient practice in new material;
- closely monitoring students' work;

- assessing frequently; and
- implementing cooperative goal structures.

Instructional program coherence.

Students of all ages are more likely to learn when their experiences are interconnected and build upon one another (Newmann, Smith, Allensworth, & Bryk, 2001). Newman et al. define instructional program coherence as a “set of interrelated programs for students and staff that are guided by a common framework for curriculum, instruction, assessment, and learning climate and that are pursued over a sustained period” (p. 297). Instructional program coherence benefits both students and teachers.

For students at the secondary school level, a planned, purposeful program of courses is more academically beneficial than an approach that offers several electives and few requirements (Purkey & Smith, 1983). In a study of whether Chicago elementary schools working to improve instructional coherence showed improvements in student achievement, Newmann et al. reported significant gains in students’ reading and math scores in the schools that improved their program coherence. Conversely, less coherent schools were characterized by individual teacher autonomy over curriculum materials, instructional strategies and assessment, while more highly coherent schools adopted or developed school-wide, coordinated instructional programs that emphasized shared instructional strategies and assessments. High coherence schools also sustained staff development geared towards consistent implementation of the frameworks.

Having a coherent instructional program increases the likelihood that a school’s teachers have common academic expectations for students, agree on clear and specific goals, collaborate and take collective responsibility for student learning (Newmann et al.,

2001). However, high instructional coherence is seemingly characterized by relatively low teacher autonomy. Teacher autonomy is often cited as an important factor in teacher job satisfaction. Schools must balance instructional coherence with opportunities for teachers' to take individual initiative.

Student Characteristics

Meeting the educational needs of students from diverse backgrounds, abilities and interests is a fundamental dilemma for American schools. There is a huge body of research examining the relationship between student characteristics and academic outcomes on topics ranging from racial composition to social class composition and the distribution of student ability (Lee, Bryk, & Smith, 1993). The Coleman Report (1968) was one of the first to establish that the achievement of minority students is lower than that of white students. Using a large, nationally representative sample, the Coleman Report found that most variation in student achievement occurs within a single school rather than across schools, and that family characteristics are the strongest predictor of academic achievement. Coleman and his colleagues also reported that the most measureable school inputs, such as class size, are weakly correlated with student outcomes, which has left many to conclude that schools have a limited role in influencing the achievement levels of some students, particularly minority students.

Other researchers paint a similar, yet less pessimistic, view of the achievement differences among subgroups of the population, which include both in school and out of school factors (Barton, 2003; Barton, 2004; Barton & Cooley, 2009; 2010; Rothstein, 2004). For example, Barton (2003) identifies 14 correlates of elementary and secondary school achievement that includes "school" factors (rigor of curriculum, teacher

preparation and class size) and “before and beyond” factors (student mobility, hunger and nutrition, parent participation). Barton and Cooley (2009) expanded Barton’s original 14 correlates to 16 by adding fear and safety at school and the availability of instructional technology. Rothstein (2006) urges policy makers to consider the influence of income, health, safety and other issues affecting students as they move through school.

Regardless of which challenges facing poor and minority students are identified as obstructing or negatively influencing their achievement, the contemporary view is that the gap in achievement begins in early childhood and continues through high school (Barton, 2003). Achievement differences are often discussed in terms of Black versus White achievement. However, Hispanic American, Native American and economically disadvantaged students also have significantly lower achievement levels than their White, Asian American and wealthier peers (Reardon, 2008). Strategies to remedy the problem cannot focus solely on the school but must include other societal reforms. The implications of differential outcomes among groups of students reach well beyond schools and often have negative social and economic consequences racial and ethnic minorities and low-income groups.

Researchers have found important differences in the level of academic press and schools with different racial and ethnic compositions. Lee and Smith (1999b) explored the relationship between social support and student learning. Their research drew on data from the Consortium on Chicago School Research and consisted of some 30,000 sixth and eighth graders from 304 Chicago public elementary schools. Social support refers to the support students receive from their parents, peers, neighbors and teachers. The study explored whether the social support students received is related to how much they learned

in reading and math. This study had several interesting findings. First, the authors found that the relationship between social support and learning is contingent on the academic press of the school students attend. Specifically, when schools were divided into three groups based on the level of academic press (low, medium, high), the researchers found important differences in the level of academic press between schools with differing racial and ethnic student populations. For example, there were more Black students in medium-press than low-press schools; the fewest are in high-press schools. Schools serving predominantly Hispanic students were more likely to be in the low-press than medium-press category. Second, the study found the proportions of Asian and White students increased as the level of academic press increased. Integrated schools were more likely to be high press schools and least likely to be in the low-press category. Finally, Lee and Smith found in schools with high academic press, students with high levels of social support learned more. In schools with low academic press, even students with high levels of social support did not learn. Not surprisingly, students without adequate support did not learn much in schools with high levels of academic press. Lee and Smith point out the importance of considering school racial and ethnic composition when assessing the effect of academic press on student achievement. (pg. 926). Lee and Smith suggest that reforms focused on raising the level of academic press for students be accompanied with “a learning environment that at once communicates high expectations for achievement and offers consistent help for students to meet those expectations” (p. 936). This is consistent with the conception of academic press suggested in this study.

Summary of School Conditions and Academic Press

Effective schools research is grounded in the assumption that differences among schools have an effect on student achievement. These studies have typically examined the characteristics of especially “good” schools or compared the characteristics of “high-scoring” and “low-scoring” schools to identify “effective or successful” strategies (Purkey & Smith, 1983). Studies and reviews of effective schools research have generated various lists of “ingredients” for an “effective school.” For example, Edmonds (1979) identifies strong administrative leadership, high expectations for children’s achievement, an orderly atmosphere conducive to learning, an emphasis on basic-skill acquisition, and frequent monitoring of pupil progress as characteristics of effective schools. Brookover et al. (as cited in Purkey & Smith, 1983) identified several differences between one high-achieving school and a low-achieving school: time spent on instruction, commitment to student achievement, use of competitive games in instruction, expectations for student achievement, ability grouping procedures, use of appropriate reinforcement practices and the leadership role of the principal. Despite the differences in the findings of various studies, there are some consistent themes across the effective schools literature.

Each of the school conditions described in this literature review is identified in research as being a characteristic more common to high-achieving, “effective” schools than to low-achieving schools. School size is associated with increased levels of student achievement and collective responsibility (Lee & Loeb, 2000; Newmann & Wehlage, 1995). Staff stability impacts student achievement and staff cohesion and collaboration (Purkey & Smith 1983; Barton, 2009). The quality of the leadership impacts the every

aspect of a school. Effective school leaders develop a clear school mission, systematically monitor student progress, actively coordinate curriculum, maintain high standards for teachers and protect instructional time from interruptions (Murphy, Weil, Philip, & Mitman, 1982). Collaborative planning and collegial relationships improve teacher practice and program coherence, and those characteristics have effects student achievement (Newmann & Whelage, 1995; Purkey & Smith, 1983).

In keeping with the concept that “schools matter” and the quality of some key features within a school influences student achievement, this study examines the relationship between academic press and the characteristics of schools with high and low levels of academic press. The goal is not to create a recipe for school success but to inform KEYS survey issuers of the conditions within their schools that are conducive to high academic press.

Chapter 3: Research Methodology

The purpose of this study was to examine the relationship between academic press and the conditions in schools with high and low levels of academic press. Specifically, the study question posed in Chapter One is:

Are the conditions in schools with high academic press different from conditions in schools with schools with low academic press?

This chapter presents the methodology and procedures used to answer the aforementioned research question. Initially, the quantitative, correlational research design is discussed, along with the independent and dependent variables for each research question. Then, the participants in this study are described. The survey used for data collection and the operationalization of each variable in this study is presented in the next section, followed by the specific data analysis procedures. The chapter ends with a summary.

Research Method

A quantitative, correlational research methodology was used in this study. A correlational research design was appropriate for this study because all of the variables of interest were readily quantifiable (either as continuous scores or as dichotomies) and the purpose of the study was to assess the relationships among these variables (Creswell, 2009). Archival data from the Keys to Excellence in Your Schools (KEYS) database (discussed below) were used in this study. The predictor variables (school conditions) for the research question are: School Size, School Level, Teacher Experience, Teacher Stability, Teacher Empowerment and the Percentage of Non-White Students, Percentage of students receiving Free/Reduced Price Lunch, ESL population, and Percentage Special

Education population, Effective and Supportive Leadership and Frequency and Focus of Professional Development and Academic and Instructional Focus in the school. The dependent variables are the measures of Academic Press (School Academic Ethos and Teacher Press).

Instruments.

Data for this research will come primarily from the Keys to Excellence in Your Schools (KEYS) database. This program, sponsored by the National Education Association, is an extensive self-administered survey of school staff and parents to identify the conditions in their school that research has shown influence teaching and learning (National Education Association, 2003). The KEYS survey process measures 42 indicators of school quality and provides schools with comprehensive feedback on their strengths and weaknesses within these indicators. The primary purpose of the KEYS survey instrument is to give schools meaningful information and baseline data to develop and implement school reform and improvement initiatives.

The 42 indicators of school quality are grouped into six categories and schools participating in the survey receive data on these six categories. The categories are:

- Shared Understanding and Commitment to High Goals
- Open Communication and Collaborative Problem Solving
- Continuous Assessment for Teaching and Learning
- Personal and Professional Learning
- Resources to Support Teaching and Learning
- Curriculum and Instruction

School reports offer information about how the respondents rated the school on each category and each indicator within the category. These results are also compared to other schools based on the average score as well as the 90th percentile score of all schools in the KEYS database.

Over the course of about 15 years, about 60,000 respondents in over 1,800 schools have taken the survey. This comprehensive survey includes 206 total questions that include both demographic data about schools, teachers, and students as well as staff perception on a wide range of practices and concepts in the school. KEYS surveys all school staff in the building and requires that at least 80% respond to the survey before results can be generated. There are additional voluntary surveys of parents and community members; however, this research will analyze only surveys of school staff. In addition to the staff survey, each school completed an Administrative Survey, usually completed by the school principal. This survey includes school demographic information, such as school size and student demographics. Data from both the KEYS staff survey and Administrative survey will be used for this research.

The sub-set of data used for this research includes survey data from 354 schools that participated in the KEYS project between June 2007 and July 2010. In schools administering the KEYS survey on more than one occasion, only the most recent results are included. These 354 schools represent over 19,000 individual staff surveys. Generally, schools self-selected participation in the KEYS survey based on their interest to pursue school improvement and on the encouragement and support of the local teacher association, which is the primary sponsor of KEYS. In some instances, entire school districts chose to participate in KEYS. Given the voluntary nature of this process, it

cannot be determined that these schools are a representative sample of schools across the United States. Data from the KEYS Administrative Survey, however, does provide evidence of a broad diversity of participating schools that are in many ways similar to the overall population of schools in the US.

Participants.

Over the course of about 15 years, about 60,000 respondents in over 1,800 schools have participated in the KEYS survey. For this research project, data was provided for schools taking the KEYS survey between 2001 and 2010. This totaled 354 schools, although different subsamples were used in various analyses as discussed in the next chapter.

Respondents from across the United States are included in the sample of KEYS survey users. Schools from 39 states conducted the survey with the largest numbers of schools coming from Illinois (179), Michigan (129), and Washington (118). Other states with at least 2 schools participating include Arkansas, Arizona, California, Connecticut, Georgia, Hawaii, Iowa, Idaho, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Minnesota, Mississippi, Missouri, Mississippi, North Carolina, North Dakota, Nebraska, New Jersey, New Mexico, Nevada, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Wisconsin and Wyoming. Data from the KEYS schools and comparative data from US schools are outlined in the tables 1, 2, and 3 below.

Table 1: *Comparison of KEYS and US Schools by School Level*

School Level	KEYS Schools ¹	All US Schools
Elementary	65.5%	62%
Middle or Junior High	18.5%	17%
Senior High	16.0%	21%

(U.S. Department of Education, 2011)

Table 2: *Comparison of KEYS and US Schools by Geographic Location*

Locale	KEYS SCHOOLS	Locale	All US Schools
Large City	30.2%	City	25.5%
Small City	26.3%		
Suburb of large city	16.6%	Suburb	33.2%
Town	10.9%	Town	9.5%
Rural area	15.9%	Rural	31.2%

(Hoffman, 2007)

Table 3: *Profile of KEYS Schools by Socio-economic Status*

Socio-economic status of parents served by school	KEYS School
High Income	.3%
Upper Middle Income	5.3%
Middle Income	27.5%
Lower Middle Income	27.8%
Low Income	39.1%

Corresponding national data on income of parents could not be located for comparison. However, data does indicate that on average 50% of students in schools surveyed by KEYS receive free/reduced price lunch compared to a national average of 42% of students on free/reduced price lunch (Hoffman, 2007). These data would indicate

¹Schools identified as “Combination” or “Other” not included.

that other than a possible under-representation of rural schools, KEYS schools are similar to US schools in several demographic measures.

As the school is the unit of analysis for this study, all individual staff surveys have been aggregated to school wide average scores on each of the KEYS questions used for this analysis. There are a couple of exceptions to the school wide average related to the calculations for teacher experience and student achievement that will be explained in more detail later in this methodology chapter.

Operationalization of Variables

This section presents specific details on how each of the variables used in this study were operationalized.

Academic press.

The groundwork for testing the hypothesis consisted of developing a measure of Academic Press that is coherent and consistent with the literature using items from the KEYS Survey. The measure of Academic Press consists of nine questions representing two dimensions of Academic Press (School Academic Ethos and Teacher Press). Table 6 summarizes the KEYS questions comprising each dimension of Academic Press. With Cronbach's Alpha scores of 0.964 and 0.966, both measures demonstrate strong internal consistency and construct validity. A total of 16 items from the KEYS survey were selected for the assessment of Academic Press. The questions were selected based on three criteria: (1) face validity, (2) the relationship of the questions to features of academic press defined in the research literature and (3) the results of an exploratory

factor analysis. Table 4 provides a summary of the 16 Keys questions considered to be linked to Academic Press by theory or research.

Table 4: *KEYS Questions Explored to Measure Academic Press*

Indicator of Academic Press as defined by the literature	Corresponding KEYS Questions
<p>Collective Responsibility for Student Learning (Diamond, Randolph & Spillane, 2004; Goddard, Tschannen-Moran, & Hoy, 2001; Lee & Smith, 1996: 1999; Lee, Smith, Perry & Smylie, 1999; Newmann & Wehlage, 1995, Newmann, Smith, Allensworth, & Bryk, 2001).</p>	<ul style="list-style-type: none"> • Teachers assume most of the responsibility when students fail. • Take responsibility for helping all students learn, not just those in their classroom. • Teachers at my school never give up on students who have hard time learning. Teachers at my school take the time to respond to students' individual needs. • Teachers at my school to out their way to give extra help to struggling students.
<p>High Expectations for All Students (Murphy, Weil, & Mitman, 1982; Lee & Smith 1996; McKown & Weinstein, 2008; Newmann & Wehlage, 1995; Walberg & Paik, 2000).</p>	<ul style="list-style-type: none"> • My school has high standards for student achievement. My school focuses on what is best for students learning. • My school has clear goals direction and purpose. • Set high standards for students. • Teachers at my school press all students to achieve academically. • School has clear goals, direction, and purpose. • My school has well defined learning expectations • School has well defined learning expectations.
<p>Academic and Instructional Focus (Adelman, 1999; 2006; Barton, 2009; Murphy, Weil, Philip, & Mitman, 1982).</p>	<ul style="list-style-type: none"> • My school has a school day that is organized to maximize instructional time. • Using instructional strategies aligned with high standards for all students. • Teachers at my school help each other solve student' learning problems. • My school has a school day organized to maximize instructional time

Because of the results from a principal component analysis presented in the next chapter, only nine items were used. These nine items were used to create two measures of Academic Press: School Academic Ethos (5 items) and Teacher Press (4 items). All the questions are based on either a 4 or 5 point Likert scale with responses varying depending on the type of question, including: strongly agree to strongly disagree; true to false; and regularly to never. All responses have been transformed in the database to a low to high scale of 1-4 or 1-5 on all questions.

School conditions.

Research suggests the quality of some key features within a school and influence student achievement (Edmonds, 1979; Purkey and Smith, 1983). In addition to the measure of Academic Press described previously, several school level variables were selected for this analysis based on research identifying the variable as being a characteristic more common to high-achieving, “effective” schools than to low-achieving schools. There were 14 relevant school conditions items available from the KEYs survey, but principal component analysis (reported in the next chapter) resulted in excluding three items leaving a total of 11. These 11 items were divided into two composite scores as measures of Effectiveness and Supportiveness of Leadership (7 items) and Frequency and Focus of Professional Development (4 items). All the questions are based on either a 4 or 5 point Likert scale with responses varying depending on the type of question, including: strongly agree to strongly disagree; true to false; and regularly to never. All responses have been transformed in the database to a low to high scale of 1-4 or 1-5 on all questions.

School Size. School size was measured continuously as the number of students at each school. School size influences teachers and students indirectly by providing more personalized social interactions between both teachers and students at the school. Smaller schools often provide teachers with more opportunities to interact with fewer students. Lee and Loeb (2000) found that teachers in smaller schools were more willing to take collective responsibility for student learning, which is an important feature of academic press.

School Level. School level was measured as a dichotomous variable coded as 0 = elementary and 1 = middle or junior high school. Studies have shown that increased academic press at both the middle and high school level improves academic achievement (Lee & Smith, 1996, 1999; Lee, Smith, Perry & Smylie, 1999; Shouse, 1995).

Teacher experience. Teacher experience was measured as the number of teachers with five or fewer years of experience divided by the total number of teachers times 100. Research has found a difference in effectiveness between teachers with less than five years of experience and teachers with more than five years (Barton, 2003). Schools with large numbers of novice teachers or experienced teachers may have differing levels of academic press.

Teacher stability. Teacher stability was measured continuously as the number of years in the current school building. Teacher stability or lack thereof has an impact on school climate. For example, schools with high rates of turnover are less likely to have high levels of teacher collaboration (Guin, 2004). Moreover, student performance is highly correlated with teacher turn over, because schools with high rates of turnover have fewer students that meet state standards in reading and math.

Teacher Empowerment. Teacher Empowerment was measured using eight items, each of which assessed the teachers self-rated level of influence in making school decisions. Items were based on a four point Likert scale, ranging from no influence to a lot of influence in eight areas including: setting standards for student behavior, determining the curriculum, determining books and other instructional materials, determining how student progress is measured, determining the content of professional development programs, hiring new teachers and other personnel, hiring a new principal, and deciding how discretionary funds should be used. The mean score on these eight items was used as the measure of Teacher Empowerment. Teacher Empowerment is linked to teachers taking collective responsibility for student learning which is a key feature of academic press (Goddard, Tschannen-Moran & Hoy, 2001; Newmann & Rutter, 1989).

Student Characteristics

Student characteristics and the composition of schools may influence many of the factors associated with academic press. For example, African American students in predominantly Black schools may be exposed to and experience a less demanding curriculum (Lleara, 2008). Schools that enroll more low-income and/or minority students have lower levels of collective teacher responsibility (Halvorsen, Lee, & Andrade, 2009) and at times, teachers base their expectations for student achievement on ethnicity, with teachers expecting more from White and Asian students than from African American or Hispanic students (Mckown & Weinstein, 2008). Therefore, student characteristics are included primarily as controls to ensure that any effects found for academic press actually result from those specific characteristics and not from other individual or school effects.

Student race. Student race was operationalized as the Percentage of Non-White Students, which was computed as the number of no-white students divided by the total number of students at each school times 100.

Student poverty. Student poverty was assessed as the number of students at each school who received a free or reduced-price lunch through the Title I program divided by the total number of students at each school times 100.

Percentage of ESL students. The percentage of ESL students was operationalized as the number of ESL students divided by the total number of students at each school times 100.

Percentage of special education students. The percentage of SPED students was operationalized as the number of SPED students divided by the total number of students at each school times 100.

Data Analysis

The statistical analyses for this study consisted of (a) preliminary analyses including an assessment of the internal validity of the Academic Press and school conditions items and the calculation of reliability coefficients for the resultant scores, (b) descriptive statistical analyses, and (c) multiple linear regression analyses to answer the research question of this study. Initially, principal component analyses were performed for the items contained in the Academic Press and school conditions scales. The internal consistency reliability of the scores that resulted from the principal component analyses were also computed, and descriptive statistics were provided for all study variables to be included in the inferential statistical tests.

Inferential analyses were then performed to answer the research question of this study. All inferential analyses were performed using two-tailed tests and an alpha level of .05. The research question was: Are the conditions in schools with high academic press different from conditions in schools with schools with low academic press?

The predictor variables for the first research question are the structural conditions and student demographic variables (School Size, School Level, Teacher Experience, Teacher Stability, Teacher Empowerment, and the Percentage of Non-White Students, Percentage of Students on Free/Reduced Price Lunch, Percentage of ESL population, and Special education population) and school conditions scales. As discussed in the next chapter, two school conditions scales were used: Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development. Multiple linear regression analyses were performed with these variables as predictors of the two Academic Press scales (School Academic Ethos and Teacher Press).

Summary

This chapter has presented the methodology and procedures used in this study. After a brief introduction, the quantitative, correlational research design was discussed. The participants in this study and the instruments used for data collection were presented, and the specific operationalization of each variable used in this study was provided. The data analysis techniques used in this study was then presented. The next chapter presents the results from these analyses.

Chapter 4: Results

This chapter presents the results from the analyses performed for this study. Initially, the results from preliminary factor analyses and reliability analyses are presented. Then, descriptive statistics are provided for all study variables used in the multiple linear regression analyses. The results from the regression analyses performed to answer the research question of this study are presented next, and the chapter ends with a summary of the key findings from this study.

Specifying Core Analytical Variable

Two sets of preliminary analyses were performed. First, separate principal component analyses were performed for the items from the Academic Press scale and the items from the school conditions scale. Then, internal consistency reliability coefficients were computed for the scores from these scales to be used in subsequent analyses.

Creating the variables for Academic Press was a significant step in this study. The KEYS survey was not created with a measure for Academic Press and accurately identifying the presence of Academic Press through the KEYS survey was a necessary precondition to a successful study. The first step in the process was a careful review of the 204 KEYS questions and selecting all questions, which may have a relationship to the features of Academic Press as outlined in the Literature Review for this study. The objective was to identify a set of variables that are valid on at least two levels. The variable must have strong face validity –the questions can reasonably be associated with the Academic Press measure. The variables must also have strong construct validity – that the questions are empirically connected to the same measure. The initial search

identified 16 questions that align to one or more characteristics of Academic Press and that have strong face validity.

Principal component analysis of academic press items.

Initially, 16 items were available for the principal component analysis of the Academic Press items. Seven (7) items were removed due to a large amount of missing data, and others were eliminated in a preliminary principal component analysis if they did not load substantially on a factor with an eigenvalue greater than .50. A final principal component analysis was performed on the remaining nine Academic Press items to determine the number and nature of the components. Because it was anticipated that the resultant components would be correlated with each other, a principal component analysis with oblimin rotation was performed.

Figure 2 shows a scree plot of the initial eigenvalues of the principal component analysis of the Academic Press items. Two clear components are visible in the scree plot, with initial eigenvalues of 6.88 and 1.14, with the next largest eigenvalue being only .28. These two components explained 89.09% of the variance among the Academic Press items. Therefore, two components were rotated using an oblimin rotation. Table 5 shows the oblimin-rotated principal component structure coefficients (loadings) from this analysis. The first component had high structure coefficients for five of the Academic Press items: “Teachers press all students to achieve academically,” .92; “Teachers go out of their way to give extra help to struggling students,” .95; “Teachers never give up on students having hard time learning,” .97; “Teachers help each other solve student learning problems,” .95; and “Teachers take responsibility for helping all students learn,” .87.



Figure 2: *Scree Plot of Principal Component Analysis with Oblimin Rotation of Academic Press Items.*

Table 5: *Principal Component Loadings for Exploratory Analysis With Oblimin Rotation of Academic Press Items*

Item	Academic Ethos	Teacher Press
School has clear goals, direction, and purpose	.61	.96
School has well defined learning expectations	.66	.98
School focuses on what is best for student learning	.70	.92
School has high standards for student achievement	.68	.93
Teachers press all students to achieve academically	.92	.69
Teachers go out of their way to give extra help to struggling students	.95	.59
Teachers never give up on students having hard time learning	.97	.62
Teachers help each other solve student learning problems	.95	.69
Teachers take responsibility for helping ALL students learn	.87	.72

The second component consisted of high structure coefficients for four of the Academic Press items: “School has clear goals, direction, and purpose,” .96; “School has well defined learning expectations,” .98; “School focuses on what is best for student learning,” .92; “School has high standards for student achievement,” .93. However, most questions loaded on both factors indicating that there are not actually two distinct factors. While factor analysis failed to identify two distinct factors, there were two groups of

questions that were both closely related statistically and have sufficient construct validity to be considered two distinct elements of Academic Press. Based on this conclusion, two variables: School Academic Ethos and Teacher Press were created. These variables were constructed by standardizing each question and creating the variable as an Index score of the standardized questions. The Cronbach's Alpha for the questions within each of the two variables (0.964 and 0.966) demonstrates a strong and significant relationship among the questions in each variable. These variables align with the research literature on the topics of Collective Responsibility for Student Learning and High Expectations for All Students (see Table 4). The variables reflecting the concept of Academic and Instructional Focus did not load substantially on either factor and are not represented in the final analysis.

Principal component analysis of school conditions items.

In the next analysis, a principal component analysis was performed on the school conditions items. Initially, 14 items were available for this analysis but five were removed due to significant missing values or a failure to load on a component with an eigenvalue greater than 1, leaving 11 items for the final analysis. It was anticipated that various aspects of school conditions would be uncorrelated with each other, and therefore a principal component analysis with varimax rotation was performed.

Figure 3 shows the scree plot of the principal component extraction, and two clear components emerged with initial eigenvalues of 6.30 and 2.00, with the next largest eigenvalue being .64. The first two components explained 75.51% of the variance among the school conditions items. Table 6 shows the varimax-rotated principal component loadings that were greater than .40 from this analysis. The first factor had high loadings

for seven of the school conditions items: “Principal will make changes,” .92; “Work together solve problems,” .91; “Talk about practice,” .89; “Supports student discipline,” .89; “Principal encourages ideas,” .88; “Comfort voicing concerns,” .84; and “Useful feedback principal,” .65. In addition, there were moderate loadings on two items: “Connected to improve plans,” .44; and “Professional development includes opportunities to work with staff,” .54. This component was named Effectiveness and Supportiveness of Leadership. Four items had high loadings on the second component: “Participate in professional development,” .85; “Implement new methods,” .81; “Connected to improve plans,” .79; and “Professional development includes opportunities to work with staff,” .66. This component was named Frequency and Focus of Professional Development.

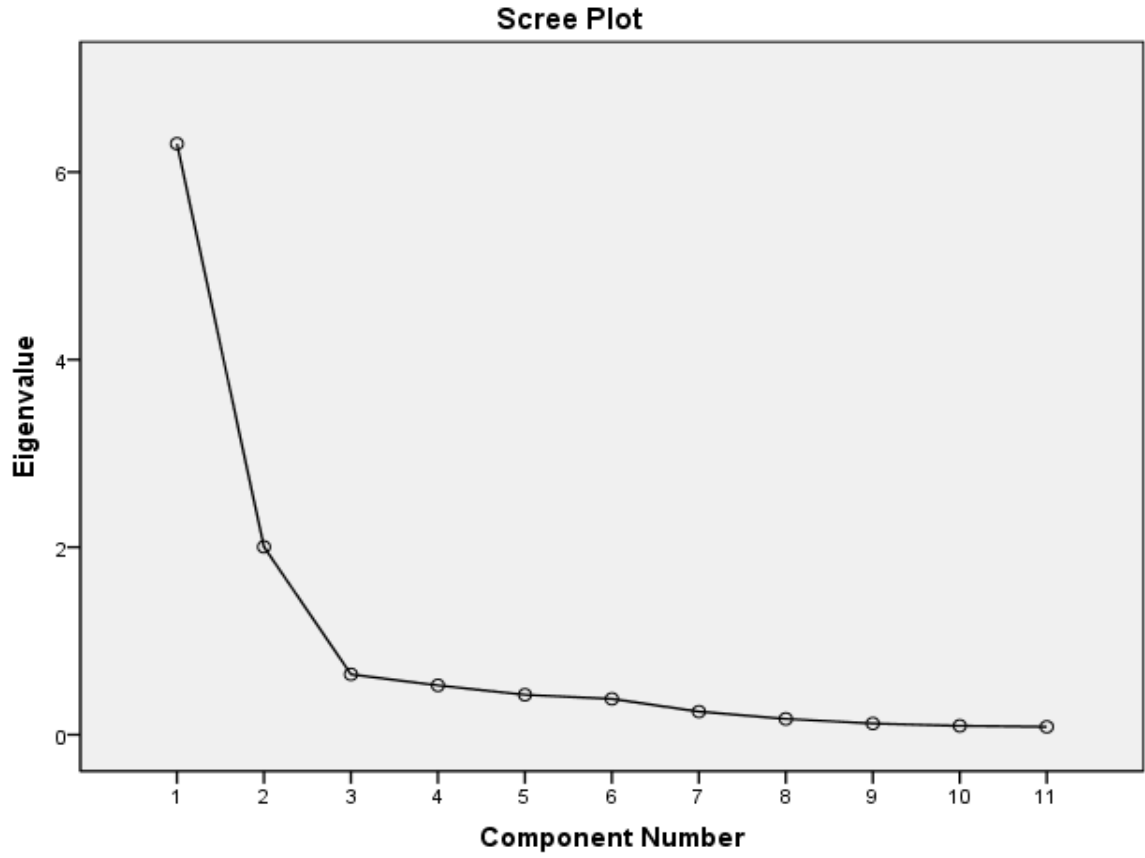


Figure 3: *Scree Plot of Principal Component Analysis with Varimax Rotation of School Conditions Items.*

Table 6 *Principal Component Loadings for Exploratory Analysis With Varimax Rotation of School Conditions Items*

Item	Effectiveness and Supportiveness of Leadership	Frequency and Focus of Professional Development
Our principal will make changes to improve the environment for teaching and learning	.92	
School administrators work together with teachers to solve problems	.91	
Our principal talks with teachers about their instructional practice	.89	
Our principal supports teachers and school employees with student discipline	.89	
Our principal encourages teachers to try ideas to improve curriculum and instruction	.88	
I am comfortable voicing my concerns to school administrators	.84	
Receives useful feedback from principal	.65	
Participate in professional development		.85
Preparation to implement new methods of teaching		.81
Professional development is connected to improvement plans	.44	.79
Professional development includes opportunities to work with staff	.54	.66

Note. Only items with rotated principal component loadings greater than .40 are shown.

Analysis of reliability.

Cronbach's alpha internal consistency reliability coefficients were then computed for the four scores that resulted from the two principal component analyses discussed above. For the two Academic Press scales, the reliability coefficients were: .96 for the four-item School Academic Ethos scale and .97 for the five-item Teacher Press scale. For the two school conditions scales, the reliability coefficients were .95 for the seven-item Effectiveness and Supportiveness of Leadership scale and .83 for the four-item Frequency and Focus of Professional Development scale. These reliability coefficients are all greater than the conventional cutoff of .70 for adequate reliability.

Analysis of Variables

Following the principal component analysis described above, the steps to conducting multiple regression analysis were conducted as outlined below. Each variable was assessed separately. Measures of central tendency, dispersion, and frequency distributions were analyzed to determine if each variable is normally distributed.

- The relationship between each predictor variable and each dependent variable was assessed one at a time by calculating correlation coefficients and examining scatterplots to determine if any two variables were linearly correlated (see Table 7). Based on this analysis, Percent of Teachers with 5 or Fewer Years of Experience; Percent of Teachers with 11 or More Years of Experience, Teacher Stability, Percent of Non-White Students, Percent of Students on Free/Reduced Lunch and Percent of SPED Students were found

to have no significant relationship to School Academic Ethos or Teacher Press and were therefore eliminated from the regression analysis.

- The relationship between each of the predictor variables was assessed to determine if any of the predictor variables are too highly correlated with each other. A close relationship between Effectiveness and Supportiveness of Leadership and Teacher Empowerment was observed ($r = .527^{**}$). Therefore, Teacher Empowerment was eliminated from the regression analysis of School Academic Ethos on theoretical grounds. Specifically, it was determined that the KEYS survey questions for Teacher Empowerment and Effectiveness and Supportiveness of Leadership are likely measuring similar phenomena within schools (see Table 6). However, neither variable was removed from the analysis of Teacher Press because they are considered key features of this aspect of Academic Press in the research literature. School Size (the number of students) and School Level (elementary, middle or high school) were also highly correlated ($r = .539$). Again, both variables were included in the analysis due to their theoretical and practical importance to the study question.
- Next, the potential of multicollinearity was examined, results from the regression analysis were examined and no multicollinearity was detected. Collinearity statistics indicated Tolerance levels (ranging from .540 to .813) and Variance Inflation Factor (VIF) levels (ranging from 1.229 to 1.835) which are well within acceptable range to rule out multicollinearity (see Appendix A for results).

- The next step in the data analysis process consisted of the computation of descriptive statistical analyses for all study variables. Table 7 shows descriptive statistics for the study variables included in the regression analysis with School Academic Ethos and Teacher Press as the dependent variables.

Table 7: Descriptive Statistics for Study Variables Included in Regression Analysis with School Academic Ethos and Teacher Press as the Dependent Variable (N = 351)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. School Ethos	--	.716**	.806**	.361 **	-.222**	-.420**	.083	-.059	.431**	-.005	-.055	.116*	-.043
2. Teacher Press		--	.547**	.348**	-.330**	-.522**	.057	-.070	.399**	-.026	.038	.064	-.064
3. Leadership			--	.001	-.217**	-.241**	.035	-.009	.527**	-.102**	-.080**	-.044	-.073*
4. Prof. Dev.				--	-.042	-.186**	.036	-.093**	-.142**	.299**	-.056	.228**	.230**
5. School Size					--	.539**	.063*	-.099	-.142**	.010	-.89**	.041	-.175**
6. School Level						--	.040	-.045	.008	-.142**	.109**	-.226**	-.197**
7. 5 yrs or fewer							--	-.807**	-.018	.253**	.013	.185**	.112**
8. 11 yrs or more								--	.031	-.267**	.016	-.249**	-.108**
9. Empowerment									--	-.372**	-.057	-.134**	-.354**
10. % of non-white										--	-.003	.503**	.697**
11. % of SPED											--	-.072*	.164**
12. % of ESL												--	.409**
13. % of free/red													--
<i>M</i>	.72	.20	-.00	.02	585.11	1.50	24.05	56.21	-.023	44.13	13.43	9.50	49.63
<i>SD</i>	3.67	4.62	.99	.99	378.82	.74	12.38	14.54	5.99	33.80	10.18	15.33	28.77

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

School Conditions and Academic Press

The research question of this study was:

Are the conditions in schools with high academic press different from conditions in schools with schools with low academic press?

To answer this research question, two multiple linear regression analyses were performed. The dependent variables in the two regression analyses were the School Academic Ethos and Teacher Press scales. The predictor variables were the two school conditions scales (Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development). The school condition variables for analyses of School Academic Ethos were School Size, School Level, and the Percentage of ESL students. The school conditions variables for analysis of Teacher Press were School Size, School Level, and Teacher Empowerment. Multiple linear regression analysis was performed. The predictor variables were entered into the regression as follows:

- The student demographics and school conditions were entered from lowest to highest correlation with the dependent variable (percent of ESL, School Size and School Level).
- The school conditions most closely related to Academic Press by theory were entered from lowest to highest correlation with the dependent variable (Frequency and Focus of Professional Development, Teacher Empowerment and Effectiveness and Supportiveness of Leadership).

Table 8 shows the results from the multiple linear regression analysis with School Academic Ethos scores as the dependent variable. In the first step, Percentage of ESL Students was entered ($\beta = -.002, p < .001$) with an ΔR^2 of .011. This indicated that

Percentage of ESL Students explained 1% of the variance in School Academic Ethos scores. In the second step, School Size was entered ($\beta = .35, p < .001$) resulting in a ΔR^2 coefficient of .056. This indicated that School Size explained an additional 5% of the variance in School Academic Ethos scores. School Level (elementary, middle or junior and high school) was entered in the next step ($\beta = -.24, p < .001$) with a ΔR^2 coefficient of .109. Thus, School Level explained an additional 11% of the variance in School Academic Ethos scores, with middle and junior and high schools having lower levels of School Academic Ethos than elementary schools.

Table 8: *Multiple Regression Analysis Predicting School Academic Ethos (N=301)*

Predictor Variables	B	Standard Error	ΔR^2	β
Step 1				
Percentage of ESL students	.000	.006	.011	-.002
Step 2				
School Size	.000	.000	.056	.035
Step 3				
School Level (elementary, middle or high)	-1.09	.164	.109**	-.243
Step 4				
Frequency and Focus of Professional Development	.885	.143	.070**	.196
Step 5				
Effectiveness and Supportiveness of Leadership	2.61	.105	.510**	.741
Total R^2			.75**	

Note: For the model, $F(5, 295) = 182.669, p < .001$; ** $p < .001$

Frequency and Focus of Professional Development was entered in the next step ($\beta = .19, p < .001$) with a ΔR^2 coefficient of .070. Thus, an additional 7% of the variance in School Academic Ethos scores was explained by Frequency and Focus of Professional

Development. In the fifth and final step, Effectiveness and Supportiveness of Leadership was entered ($\beta = .741, p < .001$), again with a ΔR^2 value of .510. Effectiveness and Supportiveness of Leadership explained 51% of the variance in School Academic Ethos scores. The final model with these five predictor variables explained 75% of the variance in School Academic Ethos scores, which was statistically significant ($p < .001$). Effectiveness and Supportiveness of Leadership had the largest impact on School Academic Ethos and was statistically significant, followed by Frequency and Focus of Professional Development and School Level. In this case, higher scores on the predictor variable were associated with higher School Academic Ethos scores. School Size and Percentage of ESL students were not statistically significant predictors of School Academic Ethos in this model.

The results from the multiple linear regression analysis with Teacher Press as the dependent variable are shown in Table 9. In the first step, School Size was entered ($\beta = -.43, p < .001$), with a ΔR^2 value of .113. This indicated that 11% of the variance in Teacher Press was explained by School Size. In the second step, School Level (elementary versus middle or junior high) was entered ($\beta = -.365, p < .001$), with a ΔR^2 value of .15, indicating the explanation of an additional 15% of the variance in Teacher Press. In the third step, scores on the Frequency and Focus of Professional Development scale was entered ($\beta = .24, p < .001$), with a ΔR^2 value of .066. This indicated that an additional 6% of the variance in Teacher Press was explained. Teacher Empowerment was entered in the fourth step ($\beta = -.16, p < .001$), with a ΔR^2 value of .12. Therefore, an additional 12% of the variance was explained. In the fifth and final step, Effectiveness and Supportiveness of Leadership scores were entered ($\beta = .331, p < .001$),

with a ΔR^2 value of .064. This indicated that Effectiveness and Supportiveness of Leadership explained an additional 6% of the variance in Teacher Press scores.

The final model with these five predictor variables explained 51% of the variance in Teacher Press scores, which was statistically significant ($p < .001$). The best predictors of Teacher Press were School Level, and Teacher Empowerment. In addition, the Frequency and Focus of Professional Development and Effectiveness and Supportiveness of Leadership yielded a small yet statistically significant relationship to Teacher Press.

Table 9: *Multiple Regression Analysis Predicting Teacher Press (N = 306)*

Predictor Variables	B	Standard Error	ΔR^2	β
Step 1				
School Size	-.000	.001	.113	-.043
Step 2				
School Level (elementary, middle or high)	-2.091	.286	.158**	-.365
Step 3				
Frequency and Focus of Professional Development	1.408	.244	.066**	.245
Step 4				
Teacher Empowerment	.112	.038	.120*	.156
Step 5				
Effective and Supportive Leadership	1.484	.235	.064**	.331
Total R^2			.51**	

Note: For the model, $F(5, 300) = 65.264$, $p < .001$; * $p < .05$; ** $p < .001$

Summary

Analyses of the Academic Press items and the school conditions items indicated that two components could be extracted from each of these two sets of items. The two Academic Press components were School Academic Ethos and Teacher Press while the two school conditions components were Effectiveness and Supportiveness of Leadership

and Frequency and Focus of Professional Development scale. These scales demonstrated adequate internal consistency reliability and were used as the measures of Academic Press and school conditions in all subsequent analyses.

The research question of this study was:

Are the conditions in schools with high academic press different from conditions in schools with schools with low academic press?

Separate analyses were performed for the School Academic Ethos and Teacher Press measures of Academic Press. For School Academic Ethos, both measures of school conditions (Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development) were statistically significant, indicating that schools with more Effective and Supportive Leadership and Frequency and Focused Professional Development tended to have higher School Academic Ethos scores. Higher School Academic Ethos scores were also found in elementary schools when compared to middle or junior high schools, and at schools with low percentages of ESL students. In the analysis of Teacher Press scores, again both school condition variables were statistically significant, with higher scores on the Effectiveness and Supportiveness of Leadership scale and the Frequency and Focus of Professional Development scales associated with higher Teacher Press scores. Higher Teacher Press scores were also associated with elementary schools, higher levels of Teacher Empowerment.

Chapter 5: Discussion

Brief Review of Relevant Literature

This study drew from literature on effective schools. The effective schools movement emerged to demonstrate that school-level characteristics could influence student achievement above and beyond student demographics. Research in this area identified several correlates associated with school success or failure. Academic press is an overarching characteristic of an effective school (Brophy & Good, 1986; Purkey & Smith, 1983). Academic press may be exerted through the presence of specific standards, the amount of homework teachers assign, the numbers, types and difficulty of the courses students are required to take and the assessment systems used to assess student's achievement and hold teachers accountable for their performance (Lee, Smith, Perry & Smylie, 1999). Additional characteristics of effective schools include strong leadership, a purposeful and supportive school atmosphere, frequent evaluation of student improvement, instructional coherence and challenging curriculum (Edmonds, 1979; Lee, Smith & Newman, 2001; Adelman, 1999; 2006).

Academic press encompasses school policies, practices, norms and expectations to create an environment of "press" experienced by students and school personnel. Federal policies and accountability measures outside the school building press students, teachers, administrators and districts to improve student achievement. The linkage between academic press and the conditions of schools is important because the extent to which students experience academically oriented environments varies from school to school and community to community. For example, schools serving communities that

are more affluent are supported in maintaining challenging instructional content and high performance standards by local demand for academic achievement (Shouse, 1996). In contrast, schools serving low-income communities may focus more effort on creating safe, socially attractive environments in response to differing community realities.

Overview of the Results of the Current Study

This study sought to test the hypothesis that there are measurable connections between schools conditions and the level of academic press in schools. In other words, as school conditions improve, academic press should increase as well. The differences between schools with high academic press and schools with low academic press will vary based on the characteristics and conditions within schools. The hypothesis that academic press is associated with higher levels of student achievement is explored in Appendix B of this study. This study investigated the following question:

Are the conditions in schools with high academic press different from the conditions in schools with low academic press?

In this chapter, I will interpret the results generated from this question and discuss the relationship of the findings to previous research, present the implications for education policy and practice and discuss the limitations of the study.

As previously described, an exploratory factor analysis was conducted of 16 questions for the KEYS survey that align with various aspects of academic press as defined in education research and practice literature. Based on the factor analysis and for the purpose of this study, Academic Press is comprised of two variables (1) School Academic Ethos and, (2) Teacher Press. School Academic Ethos represents an

academically oriented philosophy shared by teachers, students and administrators within a school. School Academic Ethos is closely related to the concept of high expectations for all students in education research (Murphy, 1982; Lee & Smith, 1999; Walberg & Paik, 2000; Weil & Mitman, 1982). Teacher Press represents the actions taken to provide support for learning. Teacher Press is related to research on teachers' shared responsibility for student learning and an instructional and academic focus that supports high levels of student achievement (Diamond, Randolph & Spillane, 2004; Goddard, Tschannen-Moran, & Hoy, 2001; Lee & Smith, 1996). Taken together, these variables represent this studies' measure of Academic Press. Developing a valid a reliable measure of Academic Press using questions from the KEYS survey is an important contribution of this study.

This study found significant correlations between Academic Press and certain school conditions. Regression results identified Effectiveness and Supportiveness of Leadership and School Level, followed by the Frequency and Focus of Professional Development as the most significant predictors of School Academic Ethos and Teacher Press. Effectiveness and Supportiveness of Leadership and the Frequency and Focus of Professional Development have a positive relationship to both dimensions of Academic Press (School Academic Ethos and Teacher Press). School level has a negative relationship to both dimensions of Academic Press meaning, elementary schools have higher levels of Academic Press than middle and high schools. Effectiveness and Supportiveness of Leadership, Teacher Empowerment, Frequency and Focus of Professional Development were statistically significant, positive, predictors of Teacher Press ($p < .001$). Since Effectiveness and Supportiveness of Leadership and Frequency

and Focus of Professional Development were found to have a significant relationship to School Academic Ethos and Teacher Press, I will discuss the findings as they relate to Academic Press and highlight any distinguishing features of each dimension.

Academic press and effectiveness and supportiveness of leadership.

School effectiveness research supports the need for effective school leaders (Edmonds, 1979; Purkey & Smith, 1983; Murphy, Weil & Mitman, 1982). For the purpose of this study, effective leadership is defined in terms of principal behaviors identified in the KEYS survey (see Table 6) and validated by the factor analysis described in the Chapter 3.

The linear regression model showed a clear, significant strong relationship between Effectiveness and Supportiveness of Leadership on School Academic Ethos ($\beta = .751, p < .001$). With regard to School Academic Ethos, results from this study are consistent with the research in that Effectiveness and Supportiveness of Leadership is integral to fostering a climate of high Academic Press. The link between effective leadership and Academic Press is quite important because a school's central mission is shaped by its' leader (Lee, Bryk & Smith, 1996). The results of this study contribute to the lacking empirical research base examining the relationship between school leadership and Academic Press. Specifically, this study, suggests that principals have considerable influence on the tone of the school and the extent to which an academic orientation is encouraged and supported.

Additional regressions show a similar, yet more modest relationship between Effective and Supportive of Leadership and Teacher Press ($\beta = .331, p < .001$). There is

no research measuring the relationship between Effective and Supportive Leadership, and Teacher Press but related research has indicated a link between school leadership and teacher trust (Goddard et. al, 2000), teacher empowerment (Marks & Seashore, 1997) and teachers' collective responsibility for student learning (LoGerfo, 2008). This study supports the notion that there is a link between school leadership, teacher beliefs and actions and student achievement.

The findings of this study also lend support to McGuigan and Hoy's (2006) proposition that principals who run schools in a way that teachers view as enabling their work are more likely to be seen as supporting the academic goals of the school rather than rather than enhancing his or her own power through enforcing rules and regulations. The Teacher Press variable reflects a shared commitment to high levels of academic achievement by both teachers and administrators. Identifying the specific leadership behaviors associated with such a strong relationship between Effectiveness and Supportiveness of Leadership and School Academic Ethos was outside the scope of this study but warrants future exploration.

Academic press and frequency and focus of professional development.

Frequency and Focus of Professional Development was found to be a significant contributor to School Academic Ethos and to have a slightly smaller relationship to Teacher Press. The results of this study suggests that the Frequency and Focus of Professional development has a role in establishing and or maintaining high levels of Academic Press.

The findings of this study are consistent with the outcomes of similar studies in that the amount of professional development teachers engage in has a positive influence on academic optimism or in the case of this study Academic Press (McGuigan & Hoy, 2006). Though the specific number of hours of professional development teachers engaged in was not part of this analysis one might expect that teacher in schools with high academic press participated in eight or more hours of professional development.

This study points to the likelihood that the purpose and content of professional development activities teachers engaged in were more likely to be aligned with school and district priorities in schools where teachers and administrators have clearly defined goals. Professional development that supports teacher collaboration on instructional issues supports academic press. Furthermore, professional development that is rooted in subject matter and focused on student learning can have a significant impact on student achievement. Effective professional development should provide teachers with opportunities to apply to what they have learned in their classrooms. Research shows that professional development connected to the curriculum materials that teachers use, the district and state academic standards and the assessment and accountability measures that teachers use to guide their work and assess their progress leads to better instruction (American Educational Research Association, 2005).

Academic press and teacher empowerment.

Teacher Empowerment is defined as teachers having influence or control in school policies related to teaching and learning. Teacher Empowerment has a significant relationship to Teacher Press. The findings of this study support previous work measuring similar constructs like teacher organizational habitus (Diamond, Randolph &

Spillane (2004), and collective responsibility (Lee & Loeb, 2000) and collective teacher beliefs (Lee, Smith, Perry & Smylie, 1999) which found that students learned more in schools with a culture in which teachers take responsibility for student learning. Students also learned more in schools with high levels of cooperation and support among staff.

These findings of this study are consistent with related research examining teacher engagement. Lee, Dedrick and Smith (1991) found that teachers who experience more control over classroom conditions consider themselves more efficacious. These findings might cause policy makers to question Newmann's (1995), assertion that the most useful teacher empowerment focuses on the instructional vision and professional collaborations within the school. The indicators of teacher empowerment in this study include hiring new teachers and other personnel, hiring a new principal and deciding how discretionary funds should be used. It is not clear the extent to which these additional levels of engagement add to or detract from Academic Press within this study. Perhaps teachers can be engaged beyond instructional issues to have a positive influence other aspects of school decision-making.

Implications for Policy and Practices

The findings of this study suggest that high academic press environments require more than recitation of the mantra "all students can learn" by the school staff. School environments in which students and staff experience an ethos of academic achievement requires leadership, collaboration and dedication from administrators and staff. The results of this study reinforce the statement that "effective school leadership is key".

Principals can shape organizational goals by hiring teachers with similar beliefs, monitoring instruction and encouraging formal and informal communication about the school's educational goals. School leaders allocate resources and provide support for professional development activities. Fostering a climate of high academic press is critically important in this age of accountability. Knowing that effective leadership and Academic Press share a strong relationship, reforms should focus on strengthening the role of leadership in influencing school wide policies and practices. Presently, Title II of the NCLB is one vehicle through which improvements in school leadership can be made. Title II of the Elementary and Secondary Education Act (ESEA), provides approximately \$3 billion to support state and district-level activities that improve teacher and principal quality. Title II specifically, calls for principals to have “the instructional leadership skills to help teachers teach and students learn,” and “the instructional leadership skills necessary to help students meet challenging State student academic achievement standards” (Title II, Section 2113 (c)). Title II could be leveraged to:

- encourage the continuing development of principals throughout their careers;
- develop meaningful principal evaluation systems that includes input from stakeholders;
- provide on-the-job mentors to struggling principals, particularly those working in low-performing schools;
- create leadership academies for new and practicing principals that will develop and extend research supported skills and knowledge.

Secondly, the importance of effective professional development for teachers should not be underestimated. Once a climate of high expectations is established and clear academic

goals have been set, teachers must work collaboratively to identify and implement effective instructional strategies. School districts must continue to invest heavily in school-wide professional development approaches that enable teachers to analyze student data, implement, and reflect on teacher practice. However, the federal government has a role in driving policies related to improving the quality of the teaching workforce, improvements in teacher instructional practice is likely to be achieved by improving professional development in schools and classrooms. Guskey and Yoon (2009) identified adequate time, follow-up and a focus on content and pedagogy as factors contributing to the effectiveness of professional development activities in synthesis of research on the effects of professional development on student learning outcomes. These concepts inform the policy recommendations with regard to professional development.

- Districts should provide adequate time for professional development activities. The school day and school year should support teacher's ability to spend time improving their practice in the classroom.
- Districts should ensure that professional development programs are designed to include follow-up, support and rigorous evaluation.
- Districts should ensure that professional development activities enhance teacher's knowledge of both content and pedagogy. It is imperative that teachers understand the subject matter they teach as well as how their students' best acquire specific content knowledge and skill.

Implications for Research

It is important to examine academic press in the elementary school context. This study found that elementary schools were more likely to have high academic press.

Previous research examining academic press examines the concept primarily in middle and high schools. It is important to examine the relationship between academic press and other positive social and academic outcomes at the elementary school level to determine how to build upon assets students bring with them to middle and high school.

Limitations

The limitations of this study are as follows:

- The large time span of survey administrations (a nine-year span between 2007 and 2010) could lead to questions about the comparability of between school data. This study did not examine if the level of Academic Press varied over time or between certain periods.
- Another challenge is that the available KEYS measures did not fully capture all of the relevant Academic Press constructs or school conditions that support Academic Press identified in the literature. For example, social support is identified in the literature as positively related to academic press but not analyzed in this research (Lee, Smith, Perry & Smylie, 1999; Shouse, 1996)
- Despite being an important feature of academic press in the research literature, the questions related Academic and Instructional Focus were eliminated in the preliminary component analysis and were therefore not available for analysis in this study. Additionally, the Academic and Instructional Focus of schools could be considered both a dimension of Academic Press as well as a condition of schools with high or low Academic Press. This issue could be addressed by conducting a curriculum audit of schools that completed the KEYS survey, which was outside the scope of the study.

- Finally, this study has low internal validity because it is not a randomized experiment. The use of multiple regression analysis allowed the study to observe natural variation in the data. Therefore, one cannot draw causal links between the question variable and outcomes.

Conclusion

Academic press is extent to which school staff and students experience a school culture that emphasizes academic achievement. Academic press is based on a theory in which increased achievement results from increased expectations. Academic press affects schools and students in at least two ways. First, it can provide a specific direction for student work and academic achievement. Second, academic press motivates students and teachers to achieve at higher levels (Lee & Smith, 1999). This study confirms the relationship between Academic Press and Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development. Schools are more likely to have high levels of Academic Press when teachers and principals work toward shared goals. These finding present an opportunity to examine further the extent to which Academic Press and certain school characteristics positively influence student achievement.

Appendix A: Additional Data Tables

- A-1: Model Summary for multiple linear regression for School Academic Ethos
- A-2: ANOVA for multiple linear regression for School Academic Ethos
- A-3: Coefficients for multiple linear regression for School Academic Ethos
- A-4: Model Summary for multiple linear regression for Teacher Press
- A-5: ANOVA for multiple linear regression for Teacher Press
- A-6: Coefficients for multiple linear regression for Teacher Press

Table A-1: *Model Summary for multiple linear regression – School Academic Ethos*

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.105 ^a	.011	.008	3.46859	.011	3.308	1	299	.070
2	.259 ^b	.067	.061	3.37453	.056	17.902	1	298	.000
3	.420 ^c	.176	.168	3.17614	.109	39.390	1	297	.000
4	.496 ^d	.246	.236	3.04345	.070	27.461	1	296	.000
5	.869 ^e	.756	.752	1.73493	.510	615.877	1	295	.000

a. Predictors: (Constant), % of ESL students

b. Predictors: (Constant), % of ESL students, School size - # of students

c. Predictors: (Constant), % of ESL students, School size - # of students, School level - elementary, Middle/Jr, High

d. Predictors: (Constant), % of ESL students, School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development

e. Predictors: (Constant), % of ESL students, School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development, Effectiveness and Supportiveness of Leadership

Table A-2: ANOVA Table for multiple linear regression – Teacher Press

ANOVA^f

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.796	1	39.796	3.308	.070 ^a
	Residual	3597.310	299	12.031		
	Total	3637.106	300			
2	Regression	243.654	2	121.827	10.698	.000 ^b
	Residual	3393.453	298	11.387		
	Total	3637.106	300			
3	Regression	641.015	3	213.672	21.181	.000 ^c
	Residual	2996.091	297	10.088		
	Total	3637.106	300			
4	Regression	895.372	4	223.843	24.166	.000 ^d
	Residual	2741.734	296	9.263		
	Total	3637.106	300			
5	Regression	2749.158	5	549.832	182.669	.000 ^e
	Residual	887.948	295	3.010		
	Total	3637.106	300			

a. Predictors: (Constant), % of ESL students

b. Predictors: (Constant), % of ESL students, School size - # of students

c. Predictors: (Constant), % of ESL students, School size - # of students, School level - elementary, Middle/Jr, High

d. Predictors: (Constant), % of ESL students, School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development

e. Predictors: (Constant), % of ESL students, School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development, Effectiveness and Supportiveness of Leadership

f. Dependent Variable: School Ethos

Table A-3: *Coefficients for multiple linear regression for School Academic Ethos*

Coefficients^a										
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.697	.238		2.923	.004					
% of ESL students	.020	.011	.105	1.819	.070	.105	.105	.105	1.000	1.000
(Constant)	2.003	.386		5.187	.000					
% of ESL students	.020	.011	.103	1.849	.066	.105	.106	.103	1.000	1.000
School size - # of students	-.002	.000	-.237	-4.231	.000	-.237	-.238	-.237	1.000	1.000
(Constant)	3.933	.476		8.262	.000					
% of ESL students	-.003	.011	-.017	-.307	.759	.105	-.018	-.016	.882	1.133
School size - # of students	.000	.001	-.023	-.372	.710	-.237	-.022	-.020	.706	1.417
School level - elementary, Middle/Jr, High	-1.837	.293	-.412	-6.276	.000	-.419	-.342	-.331	.644	1.552
(Constant)	3.400	.467		7.275	.000					
% of ESL students	-.020	.011	-.104	-1.848	.066	.105	-.107	-.093	.806	1.241
School size - # of students	-.001	.001	-.063	-1.042	.298	-.237	-.060	-.053	.695	1.439
School level - elementary, Middle/Jr, High	-1.534	.286	-.344	-5.358	.000	-.419	-.297	-.270	.618	1.618

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
Frequency and Focus of Professional Development	1.308	.250	.290	5.240	.000	.338	.291	.264	.830	1.205
(Constant)	1.954	.273		7.165	.000					
% of ESL students	.000	.006	-.002	-.075	.940	.105	-.004	-.002	.793	1.261
School size - # of students	.000	.000	.035	1.012	.313	-.237	.059	.029	.686	1.458
School level - elementary, Middle/Jr, High	-1.099	.164	-.246	-6.696	.000	-.419	-.363	-.193	.611	1.637
Frequency and Focus of Professional Development	.885	.143	.196	6.171	.000	.338	.338	.178	.818	1.222
Effectiveness and Supportiveness of Leadership	2.613	.105	.741	24.817	.000	.803	.822	.714	.928	1.078

a. Dependent Variable: School Ethos

Table A – 4: *Model Summary for multiple linear regression for Teacher Press*

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.336 ^a	.113	.110	4.20211	.113	38.610	1	304	.000
2	.520 ^b	.271	.266	3.81604	.158	65.622	1	303	.000
3	.580 ^c	.337	.330	3.64507	.066	30.091	1	302	.000
4	.676 ^d	.457	.450	3.30298	.120	66.797	1	301	.000
5	.722 ^e	.521	.513	3.10792	.064	39.968	1	300	.000

a. Predictors: (Constant), School size - # of students

b. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High

c. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development

d. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development, Teacher Empowerment

e. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development, Teacher Empowerment, Effectiveness and Supportiveness of Leadership

A-5: ANOVA for multiple linear regression for Teacher Press

ANOVA^f

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	681.760	1	681.760	38.610	.000 ^a
	Residual	5367.941	304	17.658		
	Total	6049.700	305			
2	Regression	1637.358	2	818.679	56.220	.000 ^b
	Residual	4412.342	303	14.562		
	Total	6049.700	305			
3	Regression	2037.165	3	679.055	51.108	.000 ^c
	Residual	4012.535	302	13.287		
	Total	6049.700	305			
4	Regression	2765.896	4	691.474	63.382	.000 ^d
	Residual	3283.804	301	10.910		
	Total	6049.700	305			
5	Regression	3151.954	5	630.391	65.264	.000 ^e
	Residual	2897.746	300	9.659		
	Total	6049.700	305			

a. Predictors: (Constant), School size - # of students

b. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High

c. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development

d. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development, Teacher Empowerment

e. Predictors: (Constant), School size - # of students, School level - elementary, Middle/Jr, High, Frequency and Focus of Professional Development, Teacher Empowerment, Effectiveness and Supportiveness of Leadership

f. Dependent Variable: Teacher Press

A-6: *Coefficients for multiple linear regression for Teacher Press*

Coefficients^a										
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.693	.449		5.993	.000					
School size - # of students	-.004	.001	-.336	-6.214	.000	-.336	-.336	-.336	1.000	1.000
(Constant)	5.097	.505		10.102	.000					
School size - # of students	-.001	.001	-.093	-1.621	.106	-.336	-.093	-.080	.729	1.372
School level - elementary, Middle/Jr, High	-2.670	.330	-.466	-8.101	.000	-.514	-.422	-.397	.729	1.372
(Constant)	4.100	.515		7.961	.000					
School size - # of students	-.002	.001	-.147	-2.629	.009	-.336	-.150	-.123	.706	1.416
School level - elementary, Middle/Jr, High	-2.139	.329	-.373	-6.495	.000	-.514	-.350	-.304	.666	1.502
Frequency and Focus of Professional Development	1.548	.282	.269	5.486	.000	.356	.301	.257	.913	1.095
(Constant)	3.684	.470		7.847	.000					
School size - # of students	.000	.001	-.025	-.465	.642	-.336	-.027	-.020	.650	1.539

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
School level - elementary, Middle/Jr, High	-2.392	.300	-.417	-7.973	.000	-.514	-.418	-.339	.659	1.518
Frequency and Focus of Professional Development	1.665	.256	.289	6.499	.000	.356	.351	.276	.910	1.098
Teacher Empowerment	.262	.032	.364	8.173	.000	.361	.426	.347	.908	1.101
(Constant)	3.297	.446		7.391	.000					
School size - # of students	.000	.001	-.043	-.859	.391	-.336	-.050	-.034	.647	1.545
School level - elementary, Middle/Jr, High	-2.091	.286	-.365	-7.305	.000	-.514	-.389	-.292	.640	1.561
Frequency and Focus of Professional Development	1.408	.244	.245	5.763	.000	.356	.316	.230	.885	1.129
Teacher Empowerment	.112	.038	.156	2.931	.004	.361	.167	.117	.562	1.779
Effectiveness and Supportiveness of Leadership	1.484	.235	.331	6.322	.000	.531	.343	.253	.583	1.715

a. Dependent Variable: Teacher Press

Appendix B: Supplemental Research on Academic Press and Student Achievement

A secondary analysis was conducted to examine the relationship between teacher perceptions of student achievement and Academic Press. The research question was: What is the relationship between academic press and teacher perceptions of student achievement?

To address this research question, the student achievement variables for this study were constructed using KEYS survey questions that asked teachers to assess the achievement level of their target class. The KEYS Survey question used was: “On average, what is the performance level of all students in your TARGET CLASS?” The target class is defined in the survey as the class where a teacher spends the most time instructional time or the first class taught if there are multiple classes of equal time. The question has a five-point scale of the following responses: primarily low achieving; primarily average to low achieving; primarily average achieving; primarily average to high achieving; and primarily high achieving. While all staff members in the school answer most questions in the KEYS survey, only classroom teachers answer the student performance questions.

Measures of Student Achievement

Teacher perceptions of student achievement was assessed as a dichotomous variable indicating a school as either high performing (coded as 1) or not high performing (coded as 0). The KEYS survey includes teacher reported data about the performance of their classes. The student achievement variable was created by identifying schools that were both in the top quartile of schools based on the percentage of teachers reporting

having above average classroom achievement and in the bottom quartile of schools based on the percentage of teachers reporting having below average classroom achievement. Schools that met these two conditions were designated as high-performing schools and all others were designated as not high-performing schools. Using teacher response rather than actual data could likely make these finding less reliable.

One option for using this data was to use the aggregated school average response, as is done with most other questions in this study. However, in this case using the school average could mask important differences between schools. For example, a school with mostly average achieving classroom and a school with an even distribution of high achieving and low achieving classrooms would have a similar school average. To mitigate this, a dichotomous variable of school performance was created where “1” indicates a high performing school and “0” indicates a school that is not high performing.

The dichotomous school performance variable was created in two stages using the database of individual staff respondents. First, two school level variables were created that aggregated individual responses based on (a) the percentage of teachers categorizing their classrooms as either primarily high achieving or primarily average to high achieving; and (b) the percentage of teachers categorizing their classrooms as either primarily low achieving or primarily average to low achieving. While primarily average achieving was the most frequent response (32.5% of teachers identified their class as primarily average achieving), using this answer would have added no statistical value to identifying high performing schools and thus was not included. Second, schools were identified as high performing when they were (a) in the top quartile based on the percentage of high performing classrooms *and* (b) in the bottom quartile based on the

percentage of low performing classrooms. This process created schools that could be identified as high performing relative to other schools in the KEYS database. Table 1 provides a summary of the student achievement variable.

Based on this analysis, 19.5% of schools in the database were identified as high-performing schools, recognizing the use of teacher perception data to measure student achievement is an indirect measure that could bring the reliability of this analysis is question.

Table 10: *Summary of High Performing School Variable*

Minimum % of high performing classrooms in the top quartile	Maximum % of low performing classrooms in the bottom quartile	Percentage of schools identified as high performing
50%	17%	19.5%

Summary of findings for Academic Press and Student Achievement

In order to answer this research question: What is the relationship between academic press and teacher perceptions of student achievement, a logistic regression analysis was performed. In this analysis, the dependent variable was a dichotomy indicating that the school was high performing (coded as 1) or not (coded as 0). The Percentage of Non-White Students, the Percentage of Students Receiving a Free/Reduced Price Lunch, the Percentage of SPED Students, and the Percentage of ESL students were used as control variables, with School Academic Ethos and Teacher Press as the predictor variables.

Table 11 shows the results from this analysis. Overall, the six predictor variables were statistically significant in explaining student achievement, $\chi^2(6) = 105.79$, $p < .001$. Individually, three of the six-predictor variables were statistically significant. First, the Percent of Non-White Students was predictive of teacher perceptions of student achievement ($\text{Exp}(B) = .97$, $p = .001$), with a higher Percent of Non-White Students associated with a lower likelihood of being a high-performing school. Second, the Percent of SPED Students was predictive of teacher perceptions of student achievement ($\text{Exp}(B) = .92$, $p = .009$), with schools having a higher Percent of SPED students tending to have a lower likelihood of being a high-performing school. Finally, the Percent of Students Receiving a Free/Reduced Price Lunch was statistically significant ($\text{Exp}(B) = .96$, $p < .001$), indicating that schools with a higher Percent of Students Receiving a Free/Reduced Price Lunch also tended to be less likely to be high-performing schools. Neither School Academic Ethos nor Teacher Press was associated with the likelihood of being a high-performing school.

Table 11 *Logistic Regression Analysis Predicting Student Achievement from School Academic Ethos, Teacher Press, and Student Demographic Variables (N = 1,028)*

Predictor	B	SEB	Wald	df	p	Exp(B)
School Academic Ethos	.04	.07	.34	1	.559	1.04
Teacher Press	-.02	.05	.12	1	.729	.98
Percentage of Non-White Students	-.03	.01	10.83	1	.001	.97
Percentage of SPED Students	-.08	.03	6.90	1	.009	.92
Percentage of ESL students	.01	.02	.07	1	.788	1.01
Percentage of free/reduced lunch	-.04	.01	17.90	1	<.001	.96
Constant	2.29	.48	22.84	1	<.001	9.87

The results showed that neither measure of academic press (School Academic Ethos and Teacher Press) was associated with the likelihood that a school was a high-performing school. However, schools with a low Percentage of Non-White Students, a low Percentage of SPED Students, and a low percentage of students receiving free/reduced price lunches were more likely to be high-performing schools.

Although it was hypothesized that Academic Press had a direct effect on student achievement, the data did not support this hypothesis. Though not supported by these data, it makes theoretical sense that schools with high levels of Academic Press will have higher levels of student achievement. The findings of this analysis contradict previous studies that find that high press school climates have a positive effect on student achievement even after controlling for socio-economic status (Alig-Mielcarek, 2003;

Goddard, Tschannan & Hoy, 2001; Lee and Smith, 1999a; Lee Smith, Perry and Smylie, 1999; Lowe, 2006). First, there may be confounding variables, such as teacher quality or the effectiveness of classroom instruction that occurred within classrooms, which could not be measured or detected with these data. Second, Teacher perceptions may not be a valid measure of student achievement. Perhaps, the relationship between Academic Press and student achievement could be detected through use of a more direct measure of student achievement.

Appendix C: Letter to NEA KEYS Project

One supplemental purpose of this research was in service to the National Education Association (NEA) and its KEYS for Effective Schools project. In particular, NEA allowed for the use of its expansive research database in hopes of learning more about how the KEYS survey instrument can grow as a tool to help schools improve. The KEYS surveys have been administered in schools for twenty years with more than 1,800 survey administrations including over 200 schools that have taken the survey on more than one occasion in order to assess growth over time. NEA has made a considerable investment in the KEYS process and seeks to ensure that the instrument remains useful and relevant to schools and to NEA affiliates. The following memo will be presented to NEA based on the finding from this research:

Memorandum

To: Bouy Te, Director, QSPR
Jacques Nacson, Senior Researcher, QSPR

From: Segun Eubanks
Shyrelle Eubanks

Re: KEYS Research Project

Date: January 25, 2012

As you know, we have recently concluded two studies using the KEYS data as part of our doctoral program at the University of Maryland, College Park. Thanks to your generous support, we successfully completed doctoral dissertations on the following topics:

The Power of Professional Community: Examining the Relationship between School Conditions and the Presence of Professional Learning Community

Advancing a Culture of High Expectations: Academic Press and School Conditions

The full text of each study has been sent to you under separate cover. Each study used the KEYS survey questions to create a measure of Academic Press and Professional Learning Community (PLC) and to correlate these measures with key school structural and climate conditions. Our finding showed promising indications that supportive school conditions – such as effective leadership and focused professional development – as

strongly associated with both Professional Learning Community and strong Academic Press in schools.

Summary of Findings for Professional Learning Community

Through an assessment of KEYS questions and a factor analysis process, three measures of Professional Learning Community were extracted from the KEYS survey, which coincide with existing research on PLC. These three measures were: Working together toward shared and ambitious learning goals; Conversations focused on teaching and learning; and Public practice. Defining these measures of PLC was an important element of this research and could prove useful to the KEYS program.

The research found a strong and consistent correlation between the three measures of PLC and several school conditions, most notably Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development. Teacher characteristics were found to have a modest but statistically significant relationship to the PLC measures. Teacher Empowerment had a modest positive relationship to Working together toward shared goals and Public practice. Interestingly, schools with more experienced teachers tended to have lower measures of Conversations Focused on Teaching and Learning and Public Practice. The size of the school, as measured by the number of students, had a modest relationship to Conversations focused on teaching and learning but no other statistically significant relationship to other PLC variables. On the other hand, the findings show a very consistent relationship between School Level and two of the three PLC measures indicating that PLC is far more likely to have a strong presence in elementary schools than in middle or high schools.

Summary of Findings for Academic Press

Through an assessment of KEYS questions and a factor analysis process, two measures of Academic Press were extracted from the KEYS survey, which coincide with existing research. These two measures were: School Academic Ethos and Teacher Press. Defining these measures of Academic Press was an important element of this research and could prove useful to the KEYS program.

The research identified Effectiveness and Supportiveness of Leadership and Frequency and Focus of Professional Development as the most significant predictors of School Academic Ethos and Teacher Press. School Size and School Level has a significant relationship to both School Academic Ethos and Teacher Press. Specifically, smaller schools and elementary schools associated with higher levels of School Academic Ethos and Teacher Press than larger schools and middle or high schools. The percentage of ESL students has a significant negative relationship to Teacher Press only, with lower percentages of ESL students associated to higher levels of Teacher Press.

Recommendations

As promised, we have also considered how this research could benefit the NEA KEYS initiative and offer the following recommendations.

Use this research to create a measure of professional learning community and academic press that could be part of the KEYS School Report. Giving schools an assessment of the presence of PLC and/or academic press and of the school conditions needed to foster it could provide direct information that schools could act upon and measure progress.

While the current KEYS indicators are very useful, many educators are very familiar with

the concept of PLC and academic press (high academic expectations) so these measures could be more accessible to the users. There may be other measures KEYS could create as well such as those being developed by the other student-researchers currently analyzing KEYS data.

Use KEYS and the outcomes of the research to provide more tools for intervention and program development. KEYS in its current form serves primarily as a diagnostic tool and is very effective at helping schools determine their strengths and weaknesses.

However, developing training and resources on how to build professional community or how to develop shared understanding and commitment would add significant value to the KEYS program.

Make the KEYS database more widely available to independent researchers.

Hopefully, this study and the others currently in process will spurn interest in the broader research community. The KEYS database could become a rich source for research just as many other datasets, such as the Tennessee STAR study or the School Restructuring Survey.

Conduct a time series study using KEYS schools that have taken the survey on more than one occasion. A mixed-methods study that analyzes data from the survey and conducts case studies from targeted schools would provide valuable information about interventions to help schools work toward continuous improvement and student growth.

We once again thank you for your support and assistance in the research. We are happy to meet with you and your team at any point to review both the research and our recommendations.

Appendix D: KEYS Administrative Survey

KEYS School Data

Next »

The following information about your school is needed to help interpret the data from the questionnaire that will be administered to your school's education employees.

How many students are enrolled in this school?

What is the size of the school's staff?

How many people provide direct instruction to students (e.g. teachers, paraprofessional, counselor, psychologist, tutor)? *We will use this number to calculate the number of expected responses.*

What is the average class size in this school?

Which of the following best describes the level of your school?

- Elementary
- Middle school
- Junior high school
- Senior high school
- Combination: (specify)
- Other: (specify)

Which of the following best describes the community in which your school is located?

- Large city
- Suburb of a large city
- Small city
- Town
- Rural area

What is the racial/ethnic composition of the student body of your school?
 (Please be sure that your estimated percentages add up to 100% and that you round the percentages to whole numbers.)

American Indian/Alaska Native

Asian/Pacific Islander

Black/African American

Caucasian (not of Hispanic origin)

Hispanic/Latino

Other: Specify other minority:

In the past 12 months, has this school administered any standardized tests, such as the Stanford 9, Metropolitan Achievement Tests, Iowa Test of Basic Skills, California Achievement Tests, or any other norm-referenced standardized test?

If yes, what was the name of the test, and was there an edition or form number of the test? If more than one test was administered in the past 12 months, please answer about the most recently administered.

Referring to the standardized test named above, what was the average score for the highest grade level at this school? (For example, if the school includes grades 9-12, please report the average score for 12th graders.)

AVERAGE SCORE

This score is reported as:

- A percentile score
- A standard score
- A stanine score
- A percentage of students at AND above 'average' performance

What was the average score for minority students in the highest grade level at this school? (Minority refers to all racial/ethnic categories other than Caucasian and not of Hispanic origin.)

AVERAGE SCORE

This score is reported as:

- A percentile score

- A standard score
- A stanine score
- A percentage of students at AND above 'average' performance

On average, what is the performance level of *all* students in your school?

- Primarily high achieving
- Primarily average to high achieving
- Primarily average achieving
- Primarily average to low achieving
- Primarily low achieving

On average, what is the performance level of *racial and ethnic minority* students in your school?

- Primarily high achieving
- Primarily average to high achieving
- Primarily average achieving
- Primarily average to low achieving
- Primarily low achieving

What percentage of students in this school receives special education instruction?

What percentage of students in this school are enrolled in an English as a Second Language program?

What percentage of students in this school are eligible for a free/reduced price lunch?

How would you characterize the socio-economic status of most of the parents of the students served by this school?

- High income
- Upper middle income
- Middle income

- Lower middle income
- Low income

During the past year, what external organizations (e.g., social service agencies, police, churches/synagogues/mosques, youth organizations, universities, etc.) have you had contact about school-related matters? Please list these organizations by name. In the first column, indicate whether the organization is in the immediate neighborhood of the school. In the second column, indicate the frequency of your contact with each organization. In the third column, mark the three organizations that are most important to your school's improvement.

Is there site-based decision making in your school?

- Yes No

Appendix E: KEYS Staff Survey Questions

Question number	Question text
q1	Based on your own experience or impressions, please indicate how accurately each of the following describes your school:
q1a	My school has clear goals that provide a sense of direction and purpose for our daily efforts.
q1b	My school has well-defined learning expectations for all students.
q1c	My school has high standards for student achievement.
q1d	My school has high standards for teaching.
q1e	My school always focuses on what is best for student learning when making important decisions.
q1f	My school has a school day that is organized to maximize instructional time.
q1g	My school has clear policies in place to provide a learning environment that is safe from crime and violence.
q2	Based on your own experience or impressions, please indicate how accurately each of the following statements describes the situation in your school:
q2a	The district office administration shows a strong commitment to the continuous improvement of teaching and learning in my school.
q2b	The district office administration believes that all students in my school can meet high standards.
q2c	Our principal will make changes, when necessary, to improve the environment for teaching and learning.
q2d	Our principal talks with teachers frequently about their instructional practices.
q2e	Our principal encourages teachers to try new ideas to improve the curriculum and instruction.
q2f	Our principal holds teachers and other school employees accountable for their performance.
q2g	Our principal supports teachers and other school employees with student discipline.
q2h	School staff members have a shared understanding of what the school's main goals should be.
q2i	Teachers assume most of the responsibility when students fail.
q2j	School specialists in health, media, special education, Title ;I, psychology, and social work show a strong commitment to the continuous improvement of teaching and learning.
q3	Based on your own experience or impressions, how many TEACHERS in your school do each of the following?
q3a	Set high standards for themselves
q3b	Set high standards for students
q3c	Implement state or district curriculum standards
q3d	Implement state or district student assessment and performance standards

- q3e Take responsibility for helping ALL students learn, not just those in their classroom
- q3f Help maintain discipline in the entire school, not just in their classroom
- q4 Based on your own experience or impressions, please indicate how accurately each statement describes the situation in your school:
- q4a School staff use data about school problems to make decisions about school improvement.
- q4b School staff work together to identify problems with the implementation of the school curriculum.
- q4c The curriculum includes attention to the development of students' social skills and citizenship.
- q4d The curriculum includes problem solving and critical thinking as valued components.
- q4e Teachers use students' personal interests and goals to help develop the curriculum.
- q4f Students are made to feel that their personal experiences and interests are valued in the learning experience.
- q4g School staff, students, and parents work together to solve problems that affect student learning.
- q4h I am comfortable voicing my concerns to school administrators.
- q5 Based on your own experience or impressions, please indicate how accurately each statement describes your school's ADMINISTRATORS:
- q5a School administrators use knowledge about child/adolescent development to create effective learning environments.
- q5b School administrators are prepared to deal with individual student differences.
- q5c School administrators work together with the district office and school board to try to solve problems that affect student learning.
- q5d School administrators work together with teachers and other school employees to try to solve problems.
- q6 Based on your own experiences or impressions, please indicate how accurately each statement describes your school's TEACHERS
- q6a Teachers talk about instruction in the teachers' lounge, at faculty meetings, etc.
- q6b Teachers often use faculty meetings for problem solving.
- q6c Teachers design instructional programs together.
- q6d Teachers try to coordinate their teaching with instruction at other grade levels and/or subject areas.
- q6e Teachers have strong knowledge of their subject-matter areas.
- q6f Teachers are prepared to deal with individual student differences.
- q6g Teachers of THE SAME grade and/or subject area work together to try to solve problems that affect student learning.
- q6h Teachers of DIFFERENT grades and/or subject areas work together to try to solve problems that affect student learning.
- q6i Teachers work together with other school staff to try to solve problems that affect student learning.

- Based on your own experience or impressions, how much influence do TEACHERS have over your school's decisions in each of the following areas?
- q7
 q7a Setting standards for student behavior
 q7b Determining the curriculum
 q7c Determining books and other instructional materials used in classrooms
 q7d Determining how students' progress is measured
 q7e Determining the content of professional development programs
 q7f Hiring new teachers and other professional personnel
 q7g Hiring a new principal
 q7h Deciding how discretionary school funds should be used
- Based on your own experience or impressions, how much influence do each of the following groups have over your school's decisions about HOW TO ACHIEVE SCHOOL IMPROVEMENT GOALS?
- q8
 q8a School staff other than teachers
 q8b Parents and students
 q8c Business and community representatives
 q8d District office administration
- Based on your own experience or impressions, please indicate how accurately each statement related to PARENTS describes the situation in your school:
- q9
 q9a My school regularly communicates with parents about how they can help their children learn.
 q9b My school encourages feedback about the curriculum and instructional methods from parents and the community.
 q9c School staff work hard to build trusting relationships with parents.
 q9d Teachers work closely with parents to meet students' needs.
 q9e Teachers try hard to understand parents' problems and concerns about their children.
 q9f Parents and teachers work together to promote school-wide improvement.
- How often have YOU had conversations with other school staff about each of the following during the past 12 months?
- q10
 q10a What helps students learn best
 q10b Teaching techniques
 q10c Concerns about your school's safety
 q10d Development of new curriculum or changes in the curriculum
 q10e Implementing district or state curriculum standards
 q10f Implementing district or state student assessment and performance standards
- Based on your own experience or impressions, please indicate how accurately each statement describes EDUCATIONAL PROGRAMS in your school:
- q11
 q11a Once we start a new program we follow-up to make sure that it is working.
 q11b We have so many different programs in my school that I can't keep track

- of them all.
- q11c Many special programs come and go at my school.
- q11d You can see real continuity from one program to another.
- q11e The quality of all educational programs is assessed on a regular basis.
- q11f Standards of program evaluation are clear and well specified.
- q12 How frequently are the following STUDENT ASSESSMENT techniques used in your school?
- q12a Standardized tests
- q12b Teacher-made tests
- q12c Students' demonstration of their work
- q12d Exhibition of students' work
- q12e Student self-assessment
- q12f Standards-based assessments
- q13 How frequently does your school use STUDENT ASSESSMENT RESULTS for each of the following purposes:
- q13a To modify the curriculum to address student needs
- q13b To develop new programs or instructional strategies to address student needs
- q13c To find out about the performance of specific subgroups of students
- q13d To measure changes over time in the performance of individual students or subgroups
- q13e To measure success of teaching strategies
- q14 Based on your own experience or impressions, please indicate how accurately each statement about STUDENT ASSESSMENT describes the situation in your school:
- q14a Teachers have the resources they need to interpret assessment results.
- q14b The district closely monitors my school's results on external assessments.
- q14c Failure to meet state or district standards on assessments has direct consequences for school administrators.
- q14d Failure to meet state or district standards on assessments has direct consequences for teachers.
- q14e Failure to meet state or district standards on assessments has direct consequences for students.
- q15 Please click on the item that best describes your CURRENT position at your school:
- q15 I am responsible for providing direct instruction to students on a regularly scheduled basis.
- q15 I am a school employee who does not provide direct instruction to students.
- q15 I am not a school employee.
- QUESTIONS 16-37 ARE TO BE ANSWERED BY <I>THOSE WHO PROVIDE DIRECT INSTRUCTION TO STUDENTS ONLY.</I> <p>
- q16 Do you participate in a regularly scheduled planning period with others who provide direct instruction to students?
- q16 Yes

- q16 No
- q17 How long is your typical regularly scheduled planning period with teachers or other colleagues?
- q17 Less than 15 minutes
- q17 15 to 29 minutes
- q17 30 to 59 minutes
- q17 1 hour or more
- q18 How often do you meet with teachers or other colleagues for your scheduled planning period?
- q18 Less than once a week
- q18 Once a week
- q18 Twice a week
- q18 3 or 4 times a week
- q18 5 or more times a week
- q19 During the past 12 months, how often did you participate in the following activities related to teaching?
- q19a Regularly scheduled collaboration with teachers or other colleagues, excluding meetings held for administrative purposes.
- q19b Being mentored by a teacher or other colleague in a formal relationship.
- q19c Mentoring a teacher or other colleague in a formal relationship.
- q20 How well prepared do you feel to do the following in your classroom?
- q20a Implement new methods of teaching.
- q20b Implement state or district curriculum standards.
- q20c Implement state or district assessment standards.
- q20d Use student performance assessment techniques.
- q20e Address the needs of students from diverse cultural backgrounds.
- q20f Address the needs of students with limited English proficiency.
- q20g Address the needs of students with mild learning disabilities.
- q20h Address the needs of students with severe learning disabilities.
- q20i Integrate new technology into classroom instruction.
- q21 During the past 12 months, how often did you:
- q21a Receive useful feedback on your performance from other colleagues?
- q21b Receive useful feedback on your performance from your principal?
- q21c Visit other teachers' classrooms?
- q21d Have other teachers observe your classroom?
- q21e Have the principal observe your classroom?
- QUESTIONS 22-37 ASK FOR INFORMATION ABOUT YOUR TEACHING IN A SPECIFIC CLASS, THE CLASS IN WHICH YOU SPEND MOST OF YOUR INSTRUCTIONAL DAY, OR, IF YOU TEACH MULTIPLE CLASSES OF EQUAL LENGTH, THE FIRST CLASS OF THE WEEK THAT YOU MEET TO TEACH. THIS IS REFER**
- q22
- q22 Art, music, drama, performance
- q22 Computers/technology

- q22 English
- q22 English-as-a-second-language
- q22 Foreign language
- q22 Language Arts
- q22 Mathematics
- q22 Reading
- q22 Science
- q22 Social studies, history, government
- q22 Speech, communication
- q22 Vocational, business, technology
- q22 Writing
- q22 Mixed subjects
- q22 Other subject
- q22other Other subject SPECIFY:
- q23 Is your TARGET CLASS a regular or special education class?
- q23 Regular class
- q23 Special education class
- q24 In what language is your TARGET CLASS taught?
- q24 English
- q24 Spanish
- q24 Other language
- q24other Other language SPECIFY:
- q25 Do you have formal training in the target subject you teach, or NO formal training?
- q25 Certified in the subject I teach
- q25 Not certified, but have some formal training
- q25 No formal training
- q25 Other
- q26 What is the grade level of students in your TARGET CLASS? (PLEASE MARK ONE CATEGORY ONLY)
- q26 Pre-Kindergarten
- q26 Kindergarten
- q26 1st grade
- q26 2nd grade
- q26 3rd grade
- q26 4th grade
- q26 5th grade
- q26 6th grade
- q26 7th grade
- q26 8th grade
- q26 9th grade
- q26 10th grade
- q26 11th grade

- q26 12th grade
- q26 Mixed/combined grades
- q27 How many students do you have in your TARGET CLASS?
- q27 Fewer than 15
- q27 15-20
- q27 21-25
- q27 26-30
- q27 31-35
- q27 More than 35
- q28 About what proportion of students in your TARGET CLASS are on task almost all the time?
- q28 1% to 25%
- q28 26% to 50%
- q28 51% to 75%
- q28 76% to 85%
- q28 86% to 100%
- q28 None
- q29 About how often do you use each of the following instructional strategies in your TARGET CLASS?
- q29a Assign students projects of at least one week's duration.
- q29b Have students explain their reasoning.
- q29c Relate subject matter to students' experience and interests.
- q29d Have students use library resources.
- q29e Lecture to the class for more than half a period.
- q29f Mix brief talks (presentations) with question, answer, and discussion segments.
- q29g Have students work in cooperative groups.
- q29h Provide individualized instruction.
- q29i Have students brainstorm ideas for written work.
- q29j Have students brainstorm and debate ideas for more than half a period.
- q29k Use peer tutoring.
- q29l Have students produce products such as maps, charts, models, videos, audio, plays, posters, and drawings.
- q29m Provide individual students with detailed written or verbal feedback on their performance.
- q30 Consider the lessons you have taught or provided assistance for in your TARGET CLASS this year. For about what percent of those lessons would the following statements be true?
- q30a The lessons were focused on studying a topic in depth, rather than covering basic facts, concepts, or procedures.
- q30b The lessons had students explaining to you or to their classmates how the topic relates to their personal experiences or to a problem in the contemporary world.
- q30c The lessons required students to organize, interpret, evaluate, and use

information to produce a piece of original work.

Using the following scale, please indicate how much importance you place on each of the following in assessing student's academic progress in your TARGET CLASS:

- q31 The students' ability to provide correct answers or representations of content.
- q31a The students' ability to ask probing questions about subject matter and/or demonstrate reasoning.
- q31b The students' ability to use proper conventions, formats, and procedures (e.g., grammar, outline format, spelling, computation steps, etc.)
- q31c The students' ability to present work that is neat, organized, and carefully checked.
- q31d
- q32 Please indicate how accurately each statement describes your views about the students in your TARGET CLASS:
- q32a Many of my students are not capable of learning the concepts and materials I am teaching to them.
- q32b By trying different teaching methods, I can significantly affect my students' achievement level.
- q32c If I try hard, even my most difficult or unmotivated students can learn and achieve.
- q33 For the students in your TARGET CLASS, how many of their parents:
- q33a Attend parent-teacher conferences when teachers requested them?
- q33b Help raise funds for the school?
- q33c Volunteer to help in the classroom?
- q33d Attend school-wide special events?
- q33e Contact school staff about their child by telephone?
- q33f Provide a home environment supportive to learning?
- q34 What is the racial or ethnic composition of the student body of your TARGET CLASS? (Please be sure that your estimated percentages add up to 100%.)
- q34a American Indian/Alaska native
- q34b Asian/Pacific Islander
- q34c Black/African American
- q34d Caucasian (not of Hispanic origin)
- q34e Hispanic/Latino
- q34f Other racial or ethnic group SPECIFY:
- q35 On average, what is the performance level of <I>all</I> students in your TARGET CLASS?
- q35 Primarily high achieving
- q35 Primarily average to high achieving
- q35 Primarily average achieving
- q35 Primarily average to low achieving
- q35 Primarily low achieving
- q36 On average, what is the performance level of <I>racial and ethnic minority</I> students in your TARGET CLASS?

- q36 Primarily high achieving
- q36 Primarily average to high achieving
- q36 Primarily average achieving
- q36 Primarily average to low achieving
- q36 Primarily low achieving
- q37 On average, what is the performance level of <I>Caucasian, not of Hispanic origin</I>, students in your TARGET CLASS?
- q37 Primarily high achieving
- q37 Primarily average to high achieving
- q37 Primarily average achieving
- q37 Primarily average to low achieving
- q37 Primarily low achieving
- q38 During the past 12 months, how often did you:
Participate in workshops or courses sponsored by your DISTRICT (excluding required in-services)?
- q38a Participate in professional development activities organized by your SCHOOL?
- q38b Participate in a network with others outside your school?
- q38c Participate in professional development activities sponsored by an educational employees' union or association?
- q38d Discuss curriculum and instruction matters with an outside professional group or organization?
- q38e Based on your own experience or impressions, please indicate how accurately each statement describes the situation in your school:
- q39 Opportunities for school staff to learn or develop decision-making skills are available through my school or school district.
- q39a Opportunities for school staff to learn or develop problem-solving skills are available through my school or school district.
- q39b My school provides opportunities to school employees other than teachers to learn new skills or techniques.
- q39c Most of my school's professional development programs deal with issues specific to the needs and concerns of the school's students and staff.
- q39d School administrators and teachers work together to identify professional development needs.
- q39e School administrators and teachers work together to plan and deliver professional development experiences.
- q39f School administrators encourage participants to share what they have learned from professional development activities.
- q39g Teachers and other school staff in my school are continuously learning and seeking new ideas to improve instruction.
- q39h Please indicate how accurately each statement describes your own PROFESSIONAL DEVELOPMENT EXPERIENCES over the past 12 months:
- q40 Have been sustained and coherently focused, rather than short-term and unrelated.
- q40a

- q40b Included enough time to think carefully about, try, and evaluate new ideas.
- q40c Have been closely connected to my school's improvement plan.
- q40d Included opportunities to work productively with other staff in my school. Included action research, teacher research, other forms of school or classroom-based inquiry.
- q40e Have improved my understanding of curriculum standards.
- q40f Have improved my understanding of student performance standards.
- q40g PLEASE ANSWER THE FOLLOWING ITEMS ONLY IF YOU PROVIDE DIRECT INSTRUCTION TO STUDENTS.
- q40ginstr Addressed the needs of the students in my classroom.
- q40h Helped me understand my students better.
- q40i Deepened my understanding of subject matter.
- q40j Led me to make changes in my teaching.
- q40k Helped me align my teaching with district or state standards.
- q40l Considering both quantity and quality, please rate the adequacy of the following resources in meeting your school's goals for student learning:
- q41 Planning time for teachers
- q41a Space for classroom activities
- q41b Space for special instructional activities
- q41c A learning environment which is safe from crime and violence
- q41d Library services
- q41e Textbooks
- q41f Workbooks
- q41g Computers for student use
- q41h Computer software for student use
- q41i Computers for teacher use
- q41j Computer software for teacher use
- q41k Copy machines for staff use
- q41l Psychological/social work services for students
- q41m Custodial services
- q41n Academic/career guidance for students
- q41o Health related services for students
- q41p Extracurricular activities
- q41q Which of the following best describes your CURRENT position at your school?
- q42 Teacher, including regular education, Title I, special education, reading and resource room teachers
- q42 Teaching specialist (e.g. music, art, physical education)
- q42 Resource specialist (e.g. psychologist, counselor, social worker, librarian, speech or language pathologist, nurse, occupational or physical therapist)
- q42 Education support personnel
- q42 School administrator
- q42 Central Office Administrator

- q42 Parent
- q42 Student
- q42 School Board Member
- q42 Community leader
- q42 Business representative
- q42 Other position
- q42other Other position SPECIFY:
- q43 Are you classified as full-time or part-time?
- q43 Full-time
- q43 Part-time
- q44 How long have you been assigned to your present school building?
- q44 12 months or more
- q44 Less than 12 months
- q44instr QUESTION 45 IS FOR FULL TIME SCHOOL EMPLOYEES ONLY:
Including this year, how many years of full-time experience have you completed as an education employee?
- q45 Total years of <I>education experience</I>
- q45a Total years in present school <I>building</I>
- q45b Total years in present school <I>system</I>
- q45c What is the HIGHEST education degree you hold? (Do not report honorary degrees)
- q46 High School degree
- q46 Two year college diploma, degree or certificate
- q46 Bachelor's degree
- q46 Master's degree
- q46 Education specialist or professional diploma
- q46 Doctoral degree (Ph.D., Ed.D., etc.)
- q47 Which ONE of the following best describes your racial or ethnic background? (PLEASE MARK ONE CATEGORY ONLY)
- q47 American Indian/Alaska native
- q47 Asian/Pacific Islander
- q47 Black/African American
- q47 Caucasian (not of Hispanic origin)
- q47 Hispanic/ Latino
- q47 Other racial or ethnic background
- q47other Other: SPECIFY
- q48 What is your sex?
- q48 Male
- q48 Female
- q50 Are you currently a member of the NEA (National Education Association?)
- q49 Yes
- q49 No

q49	Are you certified by the National Board for Professional Teaching Standards?
q50	Yes
q50	No

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