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ACADEMIC OPTIMISM OF VIRGINIA HIGH SCHOOL TEACHERS: ITS RELATIONSHIP TO ORGANIZATIONAL CITIZENSHIP BEHAVIORS AND STUDENT ACHIEVEMENT

A Dissertation

Presented to

The Faculty of the School of Education

The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

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by
Charles Allen Wagner
May 2008

ACADEMIC OPTIMISM OF HIGH SCHOOL TEACHERS:

ITS RELATIONSHIP TO ORGANIZATIONAL CITIZENSHIP BEHAVIORS

AND STUDENT ACHIEVEMENT

by

Charles Allen Wagner

Approved January 2008 by

Michael F. DiPaola, Ed.D.
Chair of Doctoral Committee

Christopher R. Gareis, Ed.D.

Steven R. Staples, Ed.D.

DEDICATION

Without question, this work is dedicated to my family. I am singularly most grateful to my loving wife Kristi—partner, confidante, and best friend—for her immeasurable patience and encouragement during the six years invested in the doctoral program. I cherish her deeply.

Along this journey, Kristi and I have grown together spiritually, emotionally, personally, and professionally, and we have been most fortunate to share the gift of our two beautiful children—Hayden and Harper—to whom we devote our love and our lives. There simply are no words to express my sincere appreciation and gratitude for their tolerance and support, without which this educational pursuit simply would not have been possible.

And finally, I dedicate this work to my parents, Joan and Jack Wagner, who provided unending support and advocacy for me and my family during this educational endeavor.

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ACADEMIC OPTIMISM OF VIRGINIA HIGH SCHOOL TEACHERS: ITS RELATIONSHIP TO ORGANIZATIONAL CITIZENSHIP BEHAVIORS AND STUDENT ACHIEVEMENT

ABSTRACT

For decades, educational leaders have sought to identify school-level variables that have a positive and significant impact on student achievement despite the indelible effects of student socioeconomic status and family background. The purpose of this is study was to investigate the relationship between an emergent attitudinal construct—academic optimism—and its relationship to organizational citizenship behaviors of teachers and student achievement among a sample of Virginia public high schools.

A convenience sample of 36 public Virginia high schools serving students in grades 9-12 was used to collect survey data from full-time teachers and faculty during regularly-scheduled faculty meetings during the 2006-07 school year. Derivative survey items for collective teacher efficacy, academic emphasis, faculty trust in students and parents, and organizational citizenship behavior in schools were obtained from existing instruments previously tested for reliability and validity. Student achievement data were obtained from 2006-07 Standards of Learning test results for Biology, United States History, and English 11 Reading and Writing.

The initial factor analysis confirmed that academic optimism is a unified construct comprised of three dimensions: collective teacher efficacy, academic emphasis, and faculty trust in students and parents. Correlational analysis demonstrated positive significant relationships between academic optimism and student achievement. Additional regression analysis confirmed the significant relationships between academic optimism and student achievement in each of the

four content areas measured, even after controlling for student socioeconomic status. In addition, academic optimism correlated strongly with organizational citizenship behavior in schools, but demonstrated stronger independent effects on student achievement than OCB.

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ACADEMIC OPTIMISM OF VIRGINIA HIGH SCHOOL TEACHERS: ITS RELATIONSHIP TO ORGANIZATIONAL CITIZENSHIP BEHAVIORS AND STUDENT ACHIEVEMENT

CHAPTER 1

Introduction

Ever since the Coleman Report four decades ago (Coleman, et. al., 1966), school researchers and reformers have struggled to find the correct ingredients for student success in school, including the identification of social and organizational characteristics of schools that influence student achievement beyond the socioeconomic condition of students, families, and local communities (Hoy, Tarter, & Hoy, 2005). Arguing that school-level factors such as instructional leadership, school schedule, and class size had less impact on student achievement, Coleman and subsequent researchers continued to confirm an indelible connection between social class and student performance in school (Hoy, Tarter, & Woolfolk-Hoy, 2006; Hoy, Sweetland, & Smith, 2002; McGuigan & Hoy, 2005). Although this connection still remains strongly supported in educational research, teachers, administrators, and other educators have been reluctant to accept the premise that the social context of schools and the existence of school-level organizational attributes within the control or influence of educators cannot (or will not) impact the achievement of the students they serve. Moreover, the notion that socioeconomic status is the primary determinant of student achievement contradicts fundamental values of public education in which educators can and do make a significant difference in the lives of children from all socioeconomic backgrounds.

The introduction of No Child Left Behind [NCLB] legislation in 2001 helped institute a sense of urgency across all American public schools to meet new federal standards of student attendance, graduation, and academic achievement in reading and mathematics (No Child Left Behind, 2001). Consequences for schools failing to meet state benchmarks for adequate yearly progress are intimidating and expensive and include corrective action plans, possible

organizational restructuring, and redirected state or federal funding for areas of poor academic performance. In the extreme, consistently failing (or "persistently dangerous") schools may be subject to new organizational management and school choice options for parents who request school attendance in more successful neighboring schools (Jurewicz, 2004). As a result, "educators and policymakers have every reason to seek practical steps that schools can undertake to increase student performance" (McGuigan, 2005, p. 9).

In response to the Coleman Report and to help understand and explain differences in academic performance among schools, educational researchers have searched for school organizational characteristics that reliably might predict student achievement despite students' socioeconomic status. The identification of organizational characteristics such as safe and orderly school climate, academic emphasis, and teacher efficacy and their empirical connections to student achievement anchored the research on "effective schools" that began to emerge in the 1970s and 1980s. Many of these early studies were able to extract and describe a number of organizational characteristics of successful schools as evidenced by improvements in student academic performance (Purkey & Smith, 1983).

In particular, Edmonds' (1979, 1982) summaries of effective schools research identified five enduring characteristics of successful schools in spite of students' socioeconomic background: strong principal leadership and close attention to the quality of instruction; high expectations for student achievement and a pervasive instructional focus across the school; an orderly and safe school climate conducive to quality teaching and learning; an emphasis on the acquisition of basic skills and the expectation that all students will obtain minimum mastery; and frequent monitoring of student progress to assess the quality and effectiveness of the instructional program (Austin, 1979; Edmonds, 1979; 1982; Hallinger & Murphy, 1986; Purkey

& Smith, 1983). Clearly, the more refined statistical analyses of post-Coleman educational research suggested that school-level organizational factors may have been more important than Coleman first realized (Hoy, et. al., 2006; McGuigan, 2005).

Among nearly all the results of early research on effective schools, several commonly-recognized organizational properties have emerged which consistently correlate with student academic achievement:

1. Organizational citizenship behavior (OCB) – voluntary and assistive teacher behaviors above and beyond performance expectations of their official role that "go the extra mile" to help students and colleagues succeed (DiPaola, Tarter, & Hoy, 2005);

2. Collective teacher efficacy - Beliefs among teachers of their ability to teach students successfully (Bandura, 1993; Goddard, 2002; Goddard, Sweetland, & Hoy, 2000; Hoy, Sweetland, et. al., 2002; Goddard, Hoy, & Woolfolk-Hoy, 2000);

3. Faculty trust in students and parents (Goddard, Tschannen-Moran, & Hoy; 2001; Tschannen-Moran, 2004; Tschannen-Moran & Hoy, 1998; 2000; Tschannen-Moran & Woolfolk-Hoy, 2001); and

4. Academic emphasis (also known as academic press) - Seriousness of the school's focus on academic rigor and recognition (Bryk, Lee, & Holland, 1993; Hoy, et. al., 2006; Goddard, Sweetland, et. al., 2000; Hoy & Hannum, 1997; Hoy & Sabo, 1998; Hoy, Tarter, & Bliss, 1990; Hoy, Tarter, & Kottkamp, 1991; Shouse, 1996).

More recent research by Hoy and his colleagues (Hoy et. al., 2006) suggests that collective teacher efficacy, faculty trust in students and parents, and academic emphasis operate as a single, unified, latent construct, *academic optimism*, to create a positive academic environment explaining school performance even after controlling for students' socioeconomic

status. Academic optimism is an emergent construct that characterizes a school's collective level of confidence that all students can be successful (Hoy, et. al., 2006; McGuigan, 2005; McGuigan & Hoy, 2005).

Conceptual Framework

Fueled by federal school improvement mandates under NCLB (2001), educational leaders continue to extend their grasp for school attributes that can improve the achievement of all students, with particular emphasis on the performance of minority subgroups of poverty, ethnicity, disability, and limited English proficiency. These increased accountability requirements have challenged school administrators to foster and maintain school organizational climates in which teachers can affiliate with one another, the school, and its mission to accomplish educational goals and improve student achievement (DiPaola & Tschannen-Moran, 2001). Academic optimism is a collective manifestation of three separate and previously-identified school attributes, each with established links to academic achievement.

Collective efficacy among teachers is based upon Bandura's (1993) premise of human agency and represents the collective belief among an instructional faculty that they can influence student learning (Hoy, et. al., 2006; Goddard, Hoy, et. al., 2000; 2004; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Prior research demonstrates that collective efficacy has a positive and significant effect on student achievement (Ashton & Webb, 1989; Bandura, 1993; Goddard, Hoy, et al., 2000; Hoy, Smith, & Sweetland, 2002; Hoy, Sweetland, et. al., 2002; McGuigan, 2005; Tschannen-Moran & Woolfolk-Hoy, 2001). Faculty trust in students and parents also is a collective perspective among teachers that students will exert their best efforts in school and parents will support students and teachers in their endeavors. Prior research also demonstrates that trust has a positive and significant effect on student achievement (Goddard, et. al., 2001;

Hoy & Tschannen-Moran, 1999; McGuigan, 2005; Tschannen-Moran & Hoy, 1998; 2000). Academic emphasis (or academic press) is a component of school climate and describes a school's collective belief that academics are important (Goddard, Sweetland, et. al., 2000; Hoy, Smith, et. al., 2002). Academic emphasis has also been shown to relate strongly to student achievement (Goddard, Hoy, et. al., 2000; Goddard, Sweetland, et al., 2000; Hoy, Tarter, et. al., 1990; Hoy, et. al., 2006). The strong association between each of the three attributes of academic optimism and student achievement is an indicator that the collective construct itself may be a powerful predictor of student performance.

Current research by Hoy and his colleagues (2006) suggests further that academic optimism represents several dimensions of school organization: collective efficacy is a group orientation and is cognitive; faculty trust in students and parents is an emotional connection among group members and is affective; and academic emphasis describes purposeful academic actions and is behavioral. In summary, academic optimism captures a school's collective sense of purpose and potential across a wide range of cognitive, affective, and behavioral dimensions (Hoy, et. al. 2006).

The three attributes of academic optimism are woven within two other related organizational constructs found to correlate strongly with student achievement in schools: *school climate* (Hoy, Tarter, et. al., 1991; Sweetland & Hoy, 2000) and *organizational citizenship behaviors*, or OCB (DiPaola & Tschannen-Moran, 2001). Sweetland and Hoy (2000) describe school climate as a lasting quality of a school that arises from a reciprocal relationship between behaviors of principals and teachers, their perceptions of each other's behaviors, and their collective perceptions of the entire organization. Research suggests there are four dimensions to school climate (DiPaola & Tschannen-Moran, 2001; Hoy & Hannum, 1997; Hoy, Hannum, &

Tschannen-Moran, 1998): collegial principal leadership; teacher professionalism; academic press; and community engagement. Singularly and collectively, these four dimensions have been shown to relate positively and significantly to student achievement and school effectiveness (DiPaola & Hoy, 2005a; 2005b; DiPaola, Tarter, & Hoy, 2005; DiPaola & Tschannen-Moran, 2001; Hoy & Hannum, 1997; Hoy, et. al., 1998; Hoy, Tarter, et. al., 1991; Jurewicz, 2004).

Studies of organizational efficiency and effectiveness demonstrate that employees in successful organizations routinely engage in voluntarily and spontaneous activities that extend beyond their formal job descriptions and contribute greatly to overall organizational functioning (Barnard, 1938; Bateman & Organ, 1983; Borman & Motowidlo, 1993). Like most organizations, schools cannot operate smoothly and efficiently if teachers and other school employees simply follow their formal job descriptions. The professional instructional work of teachers requires considerable flexibility and judgment about the progress of individual students and cannot be generalized into a rigid and predetermined set of routine job descriptions and performance expectations.

OCBs in schools are useful to describe the voluntary work and other related activities that teachers perform without any expectation of recompense to help individual students and colleagues succeed (DiPaola, Tarter, & Hoy, 2005). Moreover, OCBs recently have been shown to correlate positively with student achievement (DiPaola & Hoy, 2005a; 2005b; DiPaola & Tschannen-Moran, 2001). Examples of OCBs in schools include helping new teachers; sponsoring extra-curricular activities; using class time effectively; and serving on school committees (DiPaola & Tschannen-Moran, 2001).

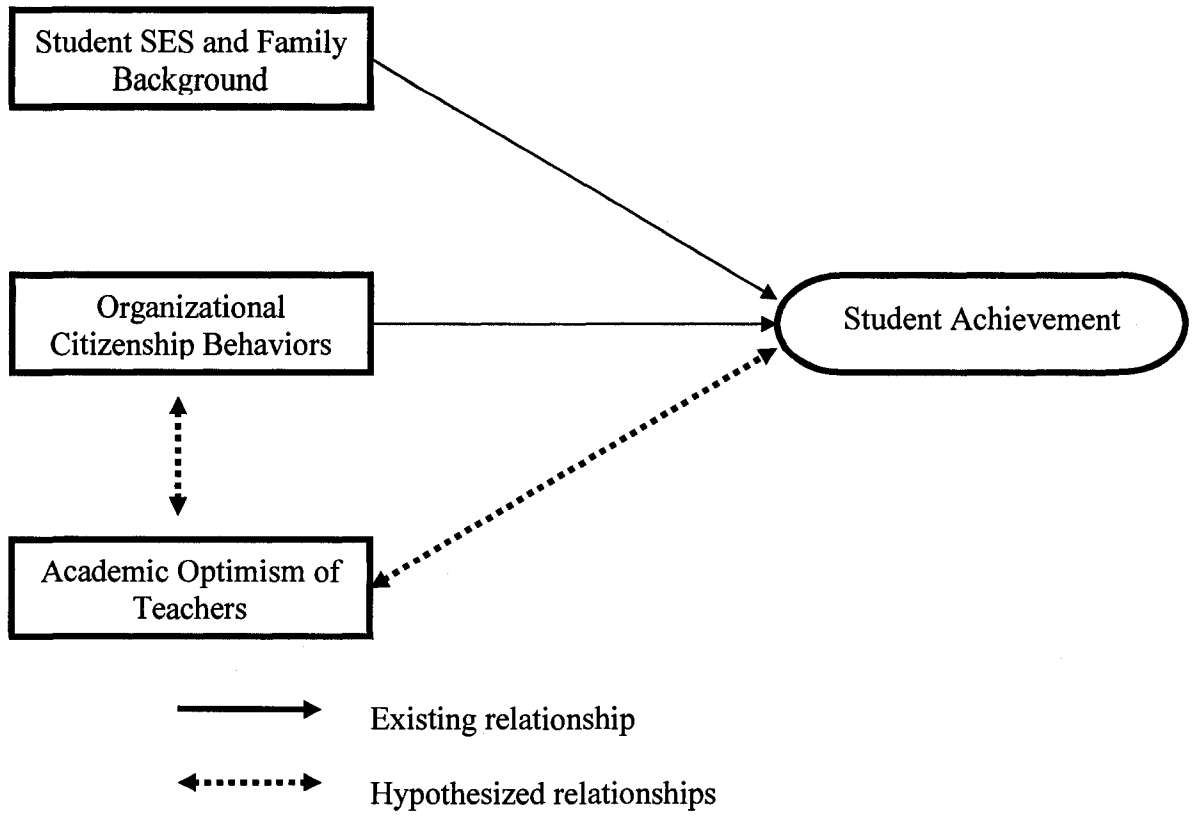

Figure 1: Conceptual framework diagram for the relationship between academic optimism and student achievement.

Problem Statement and Purpose of the Study

The purpose of this study is to build upon an emergent research base for academic optimism by testing the construct and its relationship to student achievement and organizational citizenship behaviors in schools among a sample of public high schools. Organizational citizenship behaviors in schools have been shown to have positive effects on student achievement in spite of students' socioeconomic status (DiPaola & Hoy, 2005a; 2005b; DiPaola, Tarter, et. al., 2005; Hoy & Hannum, 1997; Hoy, et. al., 1998; Jurewicz, 2004).

Hoy and his colleagues (2006) argue that the "traditional view of achievement in schools is that success is a function of talent and motivation" (2006, p. 440). Compounding this lingering perspective is a tacit assumption that students from lower socioeconomic backgrounds may achieve less than their higher socioeconomic peers because they have fewer role models, fewer

learning resources, and less motivation. While educators can do little to change the socioeconomic background of students, they can better understand the social construct of schools to help build stronger and more focused and supportive instructional environments with greater capacity to positively impact the achievement of all students. Understanding academic optimism and how it manifests itself in schools is important because it "emphasizes the potential of schools to overcome the power of socioeconomic factors that impair student achievement" (Hoy, et. al., 2006, p. 443) by helping to explain further how a school's organizational orientation and teacher beliefs may influence student engagement and performance.

Significance of the Study

School organizations and instructional environments are as diverse as the students and teachers who comprise them, and there simply is no uniform prescription for student achievement that can be applied to all schools (McGuigan & Hoy, 2005). Nonetheless, it is necessary for educators to explore measurable and malleable organizational attributes within their influence that positively impact student achievement despite students' economic background. Measuring teachers' beliefs and perceptions about themselves, their colleagues, and their schools can provide important insights into the school's collective belief about instruction, learning, and student achievement.

Identifying organizational attributes in schools that consistently produce higher levels of achievement among all students is fundamental to understanding what successful schools, administrators, teachers, and students actually do to achieve results. Understanding the relationships between academic optimism, organizational citizenship behaviors in schools, and their possible connections to positive school climate underscores the importance of the social tapestry of school organizations and its crucial role in the development of meaningful and

effective school improvement. Although school research strongly suggests a positive relationship between organizational citizenship behaviors in schools and the three dimensions of academic optimism (DiPaola & Hoy, 2005a; 2005b; Hoy, et. al., 1998), there have been no empirical studies that either confirm or refute this hypothesis.

Research Questions

The following research questions are presented by this confirmatory study:

1. Is academic optimism a single, unified, characteristic of schools manifested through collective teacher efficacy, academic emphasis (or academic press), and faculty trust in students and parents?
2. What is the relationship between academic optimism and student achievement?
3. What is the relationship between academic optimism and organizational citizenship behaviors in schools?

Research Hypotheses

The following research hypotheses will be tested by this study:

1. Academic optimism is a single, unified trait of schools which represents a school's collective confidence that all students can achieve academic success.
2. Academic optimism correlates positively and directly with student achievement measured by the following Virginia Standards of Learning (SOL) End-of-Course (EOC) Tests: English 11: *Reading*; English 11: *Writing*; Biology; and United States History.
3. Academic optimism correlates positively and directly with the prevalence of organizational citizenship behaviors in schools.

Definition of Terms

Important terminology used in this study is defined below:

Academic Emphasis – (also known as "academic press") a school's general and collective perspective on the importance of academics (Goddard, Sweetland, et. al., 2000; Hoy, Smith, & Sweetland, 2002).

Academic Optimism – the general and collective confidence of a school's faculty that conditions exist for students to achieve academic success (Hoy, Smith, et. al., 2006; McGuigan, 2005). There are three dimensions to academic optimism: collective efficacy, faculty trust in students and parents, and academic emphasis.

Collective Efficacy - a group-level characteristic representing the collective judgments of group members regarding the extent to which the group as a whole can cause a particular outcome (Bandura, 1997).

Enabling Bureaucracy – a school's organizational structure and processes that help, rather than hinder, teachers in the performance of their work (Hoy & Sweetland, 2001).

High Schools – public schools providing instruction to students in grades 9 through 12.

Organizational Citizenship Behaviors (OCBs) – individual and voluntary teacher behaviors that are discretionary (not required), assistive, and help both students and teachers succeed (DiPaola & Tschannen-Moran, 2001; DiPaola, et. al., 2005). Organizational citizenship behaviors are actions that "lubricate the social machinery of the organization" (Bateman & Organ, 1983, p. 588). Examples of citizenship behaviors in schools include providing voluntary assistance to fellow teachers and students, regular and punctual attendance, and volunteering one's time for organizational endeavors such as school dances.

Socioeconomic Status (SES) – a condition of students' family background which characterizes income level or poverty as represented by the percentage of students in a particular school receiving free or reduced-price lunch (FRL). In this study, data for SES is reported from the Virginia Department of Education (VDOE).

Student Achievement – student academic performance measured by the Virginia Standards of Learning English 11: Reading End-of-Course test. This criterion-referenced test is administered each year to all Virginia high school students in the eleventh grade. Proficiency (scaled score ≥ 400) is required for high school graduation.

Teacher Efficacy – an individual teacher's belief "in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context (Tschannen-Moran, et. al., 1998, p. 233).

Trust – one's willingness to be vulnerable to another based upon the confidence that the other party is benevolent, reliable, competent, open, and honest (Hoy & Tschannen-Moran, 2003).

Assumptions

Data for this research study was collected through surveys administered to high school teachers employed in public high schools in Virginia during regularly-scheduled faculty meetings. The survey items used in this study have been shown in prior research studies to be reliable and valid measurements of the two constructs and will be discussed more fully in Chapters 2 and 3.

Data regarding students receiving free and/or reduced-price lunch (FRL), as well as other general school demographic information, was obtained from the Virginia Department of Education (VDOE). The study recognized that families who self-report their eligibility for FRL in elementary grades often do not report their eligibility in middle or high school grades.

Nonetheless, the study assumed that information regarding FRL has been distributed uniformly to all students and that reasonable opportunities exist for families to apply confidentially for FRL eligibility. The study also assumed that FRL data has been reported accurately by schools.

Limitations and Delimitations

Data for this study was collected from a convenience sample of 36 public high schools serving grades 9-12 in Virginia that volunteered to participate in the study. The sample consisted was not random; however, attempts were made to include a diverse collection of schools representing students from different geographic and demographic backgrounds. Because school participation was voluntary, research results cannot be generalized to every public high school in Virginia and caution should be exercised when generalizing research results to schools in other settings. The study assumed that all teachers were present at the time of the survey and they provided honest responses to each survey item; however, individual teacher responses also may have been affected by events or activities on the particular day in which the survey was administered.

Achievement data in this study were limited to several standardized Virginia Standards of Learning assessments: Biology (end-of-course); United States History (end-of-course); English 11: *Reading*; and English 11: *Writing*. These particular assessments are minimum competency tests and represent only several of the objective standardized achievement measures required of every Virginia high school student for graduation. This study recognized that student performance on some of these end-of-course assessments represented a culmination of knowledge and skills acquired during prior years of instruction. This study reported data in the collective and represented school-level characteristics; it neither investigated nor controlled for other factors which may have influenced individual teacher behaviors such as teacher

demographics, classroom demographics, years of instructional experience, content area, class sizes, or student-teacher ratios.

Summary

Given the current atmosphere of state and federal school accountability standards, it is important for school leaders to understand characteristics of schools that potentially impact student achievement. The three dimensions of academic optimism and the prevalence of organizational citizenship behaviors in schools have been shown in previous studies to relate positively to student achievement. An examination of the correlation between academic optimism, student achievement, and organizational citizenship behavior in schools should provide additional insight regarding a reciprocal relationship between a school's confidence that it can influence student achievement and the collective perceptions of professional behaviors which may elicit that confidence. These characteristics are significant because, unlike SES, they rest reasonably within school administrators' sphere of influence and "present practical opportunities for school improvement" (McGuigan, 2005, p. 13).

CHAPTER 2

Review of the Literature

This chapter presents a review of the relevant literature for the variables in this study and provides a theoretical justification for the research hypotheses.

Effective Schools Research

Schools are bureaucratic organizations which feature a number of relatively rigid and enduring characteristics: they are highly structured with specific calendars and rigid daily schedules; they utilize extensive policy and procedure manuals which govern a myriad of operational practices, student and teacher behaviors, and instructional curricula; and they incorporate a traditional hierarchical management and supervisory structure consisting of central office personnel, school-level administrators, teachers, and other support staff. Although schools can and do respond to change and implement new policies and programs as needs arise, they typically exhibit the structure, routine, inflexibility, and general resistance to change that are characteristic of large bureaucratic entities (McGuigan, 2005; Scheerens, 2000).

Results of the Coleman Report were indicative of an era when school bureaucracy manifested itself in wide disparities in school quality, funding, accountability, and student achievement. The Report argued that schools had insignificant effects on student performance and that differences in achievement largely were attributable to family background and socioeconomic status. In fact, the Report suggested that schools could do little to overcome this dominating influence (Coleman, et. al., 1966).

Dissatisfied with the notion that schools could do little to impact student achievement, early educational researchers responded by searching beyond the pervasive influence of family background in an attempt to identify other school-level variables that influenced student

performance despite socioeconomic status. In addition to Edmonds' (1979) five enduring organizational characteristics of effective schools, Purkey and Smith (1983), in their meta-analysis of school effectiveness studies, identified nine common organizational variables of effective schools which positively impacted student achievement after controlling for SES:

1. Site-based school management
2. Strong instructional leadership
3. Staff stability
4. Well-planned and aligned program of study
5. Purposeful, school-wide staff development
6. Parental support and involvement
7. Recognition of academic success
8. Emphasis on instructional time and time on task
9. Hierarchical support from the school central administration.

Buttram and Carlson (1983) also found that even when controlling for socioeconomic status of students, specific characteristics of a school's atmosphere contributed to student achievement and school effectiveness. In their research synthesis, Buttram and Carlson identified several common characteristics of effective schools:

1. Safe and orderly school environment
2. Clear school mission
3. Instructional leadership of the principal
4. High expectations for student achievement
5. Opportunity to learn (time on task)
6. Frequency of monitoring of student progress

7. Supportive home-school relations.

In their follow-up meta-analysis of school effectiveness studies, Hallinger and Murphy (1986) recognized that the social context of individual schools influenced the overall extent to which organizational variables impacted student performance. From an original cluster of fourteen effectiveness factors (see Figure 2), the researchers developed a more parsimonious list of seven critical variables:

1. Clear school mission
2. Tightly coupled curriculum
3. Opportunity to learn
4. Instructional leadership
5. Home-school cooperation and support
6. Widespread student recognition and rewards
7. High expectations for achievement (p. 330).

While specific administrative behaviors, policies, and practices were found to impact school effectiveness and student achievement, Hallinger and Murphy (1986) posited that the effectiveness variables were linked inextricably to the social and environmental context of each school. They noted, for example, that some characteristics such as school-community goal congruence, low measures of parental involvement, and more directive principal leadership were more strongly associated with student achievement in low-SES schools than higher-SES schools. The researchers suggested that a heightened instructional focus among principals in low-SES schools helped compensate positively for the absence of such emphasis at home. Moreover, the researchers suggested further that lower parental involvement in low-SES schools resulted in less

parental entanglement, thereby streamlining the overall instructional functioning of the school (Hallinger & Murphy, 1986).

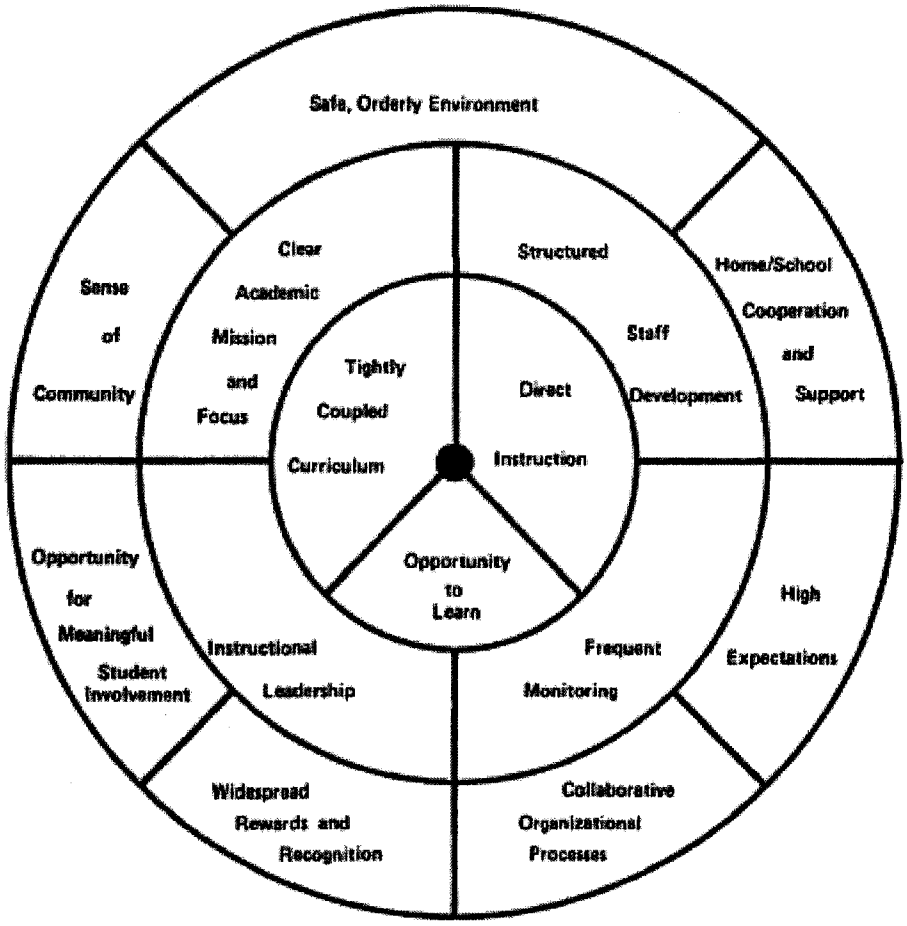

Figure 2: "School Effectiveness Framework" (Hallinger & Murphy, 1986, p. 330)

Despite the inclusion of strong instructional leadership within the research on effective schools, any definitive link between specific leadership characteristics of principals and increased student achievement has been elusive. Results suggest that any relationship between leadership qualities and achievement in schools is more accurately a function of organizational structures and processes created by school leaders which result in higher performance norms among teachers and school climates which enable teachers and administrators to work together to establish goals and solve problems (Hallinger & Heck, 1996).

Outside pressure to mandate school improvement through the automatic incorporation of some of the qualities of effective schools, however, has been prone to resistance and failure (Hallinger & Murphy, 1986; Purkey & Smith, 1982; 1983). Indeed, the push for greater school accountability in the wake of the 1983 nationally-commissioned report *A Nation at Risk* collided with emerging research regarding the "enabling" nature of effective schools (Adler & Borys, 1996; Hallinger & Murphy, 1986; Sinden, Hoy, & Sweetland, 2004). Successful schools were seen as less mechanistic, less institutional, and understood to be "loosely coupled" organizations (Weick, 1976) whose bureaucratic enterprise was characterized as more enabling, informal, and flexible (Sinden, et. al., 2004; Sweetland & Hoy, 2000; McGuigan, 2005).

Although schools were seen as part of highly bureaucratic systems with formalized and standardized policies and procedures, individual schools were found to function in ways that simply did not follow the rigidity of more traditional commercial or industrial enterprises. Contrarily, schools also were characterized as more humanistic organizations whose functions were, in fact, less procedural and operational and more social. Furthermore, despite the heavy bureaucracy within which schools operate, primary teaching roles and behaviors in effective schools simply cannot be explained by conventional bureaucratic models (Weick, 1976).

Purkey and Smith (1983) also write:

> We are not arguing that the current research on effective schools is useless or irrelevant. However, adoption of the characteristics…is unlikely to work in all schools, may not work as expected in many schools, and may in fact be counterproductive in some schools (p. 440).

No clearly-defined recipe for school effectiveness has been identified or implemented. As a result, educational administrators and researchers have turned their attention not only to the

organizational attributes of effective schools beyond the influential grasp of family background, but also to the manner and extent that these attributes interact with one another in a variety of settings and contexts to raise student achievement. The presence and quality of these interactions is the focus of more recent research on school improvement and student achievement and is characteristic of two emerging constructs: organizational citizenship behaviors and academic optimism in schools (DiPaola & Hoy, 2005a; 2005b; Hoy, et. al., 2006; McGuigan, 2005).

Foundations of Organizational Citizenship Behavior (OCB)

Organizational citizenship (OCB) is a relatively recent construct that has evolved since it was first described as an organizational characteristic by Bateman and Organ in 1983. The roots of organizational citizenship behavior can be traced to early research on workplace management, effectiveness, and efficiency which began early in the 20th Century in response to the rapid and often wasteful growth of industrial enterprise near the end of the 1800s (Jurewicz, 2004). Chester Barnard (1938) furthered this research through his study of organizational effectiveness and suggested that organizations were collections of smaller sub-organizations (or departments) whose interconnected social and professional relationships among individuals comprised the larger organization. He posited that the effectiveness of an organization was a function of the "willingness of persons to contribute efforts to the cooperative system" (1938, p. 83) where social relationships and channels of communication were integral to organizational success. This "willingness" to contribute is the very essence of organizational citizenship behavior.

Because of his belief that organizations were important subsets of integrated departments, Barnard further emphasized the importance of the more "informal" social network within organizations and their ability to influence formal hierarchical organizational structures such as position, rank, or tenure. These informal networks included friendships, partnerships, and

collaborative departmental relationships that produced influential authority which helped develop, support, and potentially subvert more formal authority within the broader organizational structure (Barnard, 1938).

Forty years ago, Katz and Kahn (1966) suggested that organizational effectiveness was a function of the open roles that organizational participants played. To become effective and sustain success, organizations must help elicit several patterns of behavior from their employees: they must be attracted to and remain within the organizational system; they must be dependable and productive; and they must engage innovatively and spontaneously in behaviors outside of their traditional role requirements to aid in the accomplishment of organizational functions (Katz & Kahn, 1966). Such behaviors contribute to overall organizational functioning because the additional actions of individuals beyond their prescribed task functions help manipulate, shape, and "lubricate the social machinery of the organization" (Bateman & Organ, 1983, p. 588; DiPaola & Tschannen-Moran, 2001). Katz and Kahn (1966) argued further that organizations risk failure when employees conform more strictly to their formal and prescribed job requirements.

In addition, Katz and Kahn (1966) differentiated between task behaviors, also known as "in-role" behaviors, and the "extra-role" behaviors of organizational members. In-role behaviors are those which occur within the formal role descriptions, such as tasks or responsibilities which are incorporated formally onto an individual's job description, linked to direct performance of some task, and considered acceptable and necessary (Koopmann, n.d.). Extrinsic rewards such as performance pay result from the successful completion of task behaviors.

Extra-role behaviors are synonymous with organizational citizenship behaviors (OCBs), and are more informal behaviors which occur outside or in addition to one's formal job

description and improve organizational effectiveness (Koopmann, n.d.). Generalized examples may include helpfulness, orientation, cooperation, congeniality, and other acts of professional compassion toward individuals. Unlike task behaviors, extra-role behaviors arise from feelings of "citizenship" within the organization (Burns & Collins, 1995).

Development of the OCB Construct

The moniker "organizational citizenship" first was coined by Bateman and Organ (1983) as they attempted to describe the prevalence of voluntary, spontaneous, discretionary behaviors that helped connect job satisfaction and organizational performance. Organ's interest in citizenship behaviors began when he considered his experience as a young factory worker who had difficulty operating factory machinery. When assisted by an older factory veteran, Organ realized that the assistance was not in the veteran's job description; however, the assistance benefited not only Organ himself, but the overall organization, as well (Organ, 1988). Organ later refined his definition of OCB to include "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4).

After further study, Organ (1997) refined his description to incorporate "performance that supports the social and psychological environment in which task performance takes place" (1997, p. 95). It quickly became clear that such voluntary behaviors were nearly universal in organizational settings and they increased organizational productivity by improving the ability of coworkers to perform their jobs. OCBs also permitted managers to devote more time to planning, problem solving, analyzing, and scheduling (Smith, Organ, & Near, 1983). In other words, citizenship behaviors were crucial to the effective and successful functioning of organizations.

Although OCB is a relatively recent construct, it has been the focus of many repetitive studies of discretionary organizational behaviors. Initially, organizational citizenship was conceptualized across two dimensions: altruism and generalized compliance (Smith, et. al., 1983). Altruism is any assistive behavior directed toward a specific other individual for the primary purpose of providing aid. Examples of altruistic behaviors are numerous and may include such simplistic actions as casual workplace conversations and helping carry packages. Altruistic individuals tend to "go the extra mile" to help coworkers with problems or needs and they do so willingly and without requital (DiPaola & Hoy, 2005a; 2005b).

The second dimension, generalized compliance, describes a more impersonal conscientiousness to do what is moral and correct to help achieve organizational goals. Behaviors characterized by generalized compliance do not necessarily benefit a specific person; rather, they benefit the organizational structure. Examples of such impersonal behaviors are punctuality, respect for company property and resources, and tolerating minor impositions without complaint (Bateman & Organ, 1983; Smith, et. al., 1983). These two dimensions helped describe behaviors which were immune to organizational sanctions and far exceeded prescribed performance expectations.

Organ (1988) further defined OCBs by expanding the conceptual categories of behaviors contributing to organizational effectiveness. See Figure 3 for Organ's (1988) five dimensions of organizational citizenship:

a. Altruism – "Discretionary behaviors that have the effect of helping a specific other person with an organizationally-relevant task or problem" (Organ, 1988, p. 8). Altruistic acts are targeted toward a specific individual but contribute to organizational effectiveness by enhancing individuals' performance (DiPaola & Hoy, 2005a).

b. Conscientiousness – The desire to act benevolently and do one's best (e.g., regular and prompt attendance; cleanliness; order; attention to detail; etc.). This has a more impersonal applicability than does altruism but also enhances the efficiency of individuals and groups.

c. Sportsmanship – One's ability to uphold the team concept; to remain flexible; to avoid complaining; to accept reasonable standards of organizational structure; to respect organizational resources. Sportsmanship behaviors increase the amount of time an individual can spend on productive activity.

d. Courtesy – Communicating or assisting for the sake of improving effectiveness, but not necessarily as a result of some problem. Courtesy behaviors improve communication and facilitate an efficient use of time.

e. Civic Virtue – Constructive and productive involvement of employees in the political health of the organization. Civic behaviors help promote and sustain organizational interests.

Since the early work of Bateman and Organ (1983) and Smith and his colleagues (1983), numerous studies of organizational citizenship behavior have been conducted in a variety of organizational settings, but mostly in the private sector and relating to the relationships between job satisfaction, job performance, and overall worker productivity (Borman & Motowidlo, 1993; Mackenzie, Podsakoff, & Fetter, 1991; Podsakoff & Mackenzie, 1994; Skarlicki & Latham, 1995; Organ & Ryan, 1995). Consequently, Organ's (1988) original five-dimensional structure of OCB has received considerable attention.

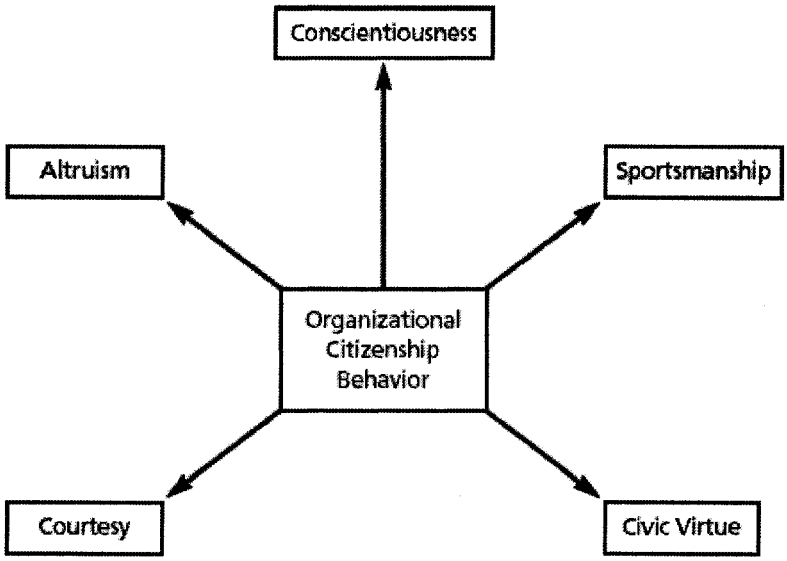

Figure 3: Five Dimensions of Organizational Citizenship (DiPaola & Hoy, 2005a, p. 322)

Mackenzie and his colleagues (1991) and Podsakoff and Mackenzie (1994) found that positive performance evaluations correlated with the prevalence of OCBs; namely, altruistic and civic virtue behaviors. Managers' subjective appraisals of employees' performance were determined as much by the employee's non-mandatory behavioral characteristics as by their objective productivity levels. Secondly, and like Borman and Motowidlo (1993), their research suggested that an individual's citizenship behaviors were independent of his or her role-dependent or prescribed behaviors. In other words, the prevalence of OCBs was suggested to be a function of the individual's personality characteristics, rather than the formal role he or she occupied.

In their studies of organizational performance, Borman and Motowidlo (1993) identified two contributing factors that improved productivity: technical (or task) performance and contextual performance. Technical performance describes actions which directly or indirectly transform resources into exchangeable products and refers to the core, technical components of a

specific job role; technical performance is role-prescribed and differs between jobs. Examples of technical performance are synonymous with "in-role" behaviors (Katz & Kahn, 1966).

Contextual performance consists of behaviors that directly or indirectly maintain the interpersonal environment needed to allow the technical performance to occur (Borman & Motowidlo, 1993). Rather than contributing directly to core elements of a particular job, contextual performance "supports the organizational, social, and psychological environment in which the technical core must function" (Borman & Motowidlo, 1993, p. 73). Contextual performance includes such activities as: volunteering for task activities outside of one's job role; exerting additional effort when necessary to complete work; assisting and cooperating with others; adhering to and endorsing organizational rules and procedures; and endorsing and supporting organizational procedures (Borman & Motowidlo, 1993).

Skarlicki and Latham (1995) examined organizational citizenship in a university setting and recognized that OCBs were individual discretionary behaviors which supported the collective interests of the workplace and organization. Like Borman and Motowidlo (1993), they recognized that OCB is contextual; that is, citizenship behaviors in one organization may not be considered citizenship behaviors in another organization; however, they also posited that OCBs can be generalized across similar institutions. Their research identified a positive and significant relationship between the existence of OCBs and individual and organizational performance outcomes. Moreover, their research confirmed a two-factor structure underlay OCB: behaviors that benefited the organization and behaviors that benefited the individual (Skarlicki & Latham, 1995).

In their extensive review of OCB research, Podsakoff and his colleagues (2000) confirmed earlier research regarding the effect of OCB on performance evaluations. Citing

evidence across a variety of careers including business management, military, medical, and blue collar, the researchers found that the prevalence of OCB had a positive impact on "important personnel decisions" (Podsakoff, et. al., 2000, p. 543). In addition, the researchers concluded that OCB had as much or even greater influence on overall performance as traditional in-role or task performance.

In their meta-analytical summary of OCB research, Hoffman and his colleagues (2006) found that the majority of OCB structures exhibited more singular dimensionality than Organ (1988) first realized. In the aggregate, these OCB conceptualizations incorporated items from earlier research of Smith and his colleagues (1983). Leaner descriptions of organizational citizenship eventually suggest a more parsimonious view along only two factors: benefits to the individual (OCB-I), such as helping others; and benefits to the organization (OCB-O), such as working past contract hours to complete a task (DiPaola et. al., 2005; DiPaola & Hoy, 2005a; Organ, 1988; Skarlicki & Latham, 1995, Williams & Anderson, 1991). Based on these findings, LePine, Erez, and Johnson (as cited in Hoffman, et. al., 2006) suggest that Organ's (1988) five dimensions of OCB are characterized best as "equivalent indicators" (p. 61) of OCB and that "scholars should begin to explicitly think of Organ's (1988) OCB as a latent construct" (Hoffman, et. al., 2006, p. 61).

Job performance and job attitudes both are powerful predictors of OCB and are relevant to the conceptualization of the OCB construct (Allison, Voss, & Dryer, 2001; Denholm, 2002; Hoffman, et. al., 2006; Organ & Ryan, 1995). In their comprehensive review of fifty-five OCB studies, Organ and Ryan (1995) found that job satisfaction ($r = .237$, $p<.05$), ($r = .216$, $p<.05$), perceived fairness ($r = .185$, $p<.05$), ($r = .221$, $p<.05$), degree of leader supportiveness ($r = .261$, $p<.05$), ($r = .274$, $p<.05$), and organizational commitment ($r = .200$, $p<.05$), ($r = .242$, $p<.05$)

correlated strongly with the two dominant factors of OCB, altruism and generalized compliance, respectively. Although older employees and those with higher morale typically produced higher satisfaction scores, subsequent research suggests that perceived fairness, rather than job satisfaction, is the more robust and reliable predictor of positive attitudes which evoke OCBs. Overall, perceptions of fairness are a more stable measure than morale and may help better determine the full extent of cooperative contributions to organizations (Organ & Moorman, 1993; Organ & Ryan, 1995).

In their study of the relationship between OCBs and job turnover, Chen, Hui, and Sego (1998) found that some personality traits and behaviors may be good predictors of employee disengagement, withdrawal, and turnover. One form of discretionary behavior from which withdrawn employees might abstain is organizational citizenship behavior; dissatisfied employees are less likely to exhibit voluntary helpful behaviors which benefit others. Because OCBs tend to engage employees and bind them to the organization, the reduction of OCBs therefore suggests that individuals may distance themselves from the organization. Groups or departments within an organization with a higher prevalence of OCB have lower levels of turnover because interactions among employees foster group cohesiveness and reduce the level of alienation often associated with voluntary social withdrawal. In other words, intentions to stay or leave are attitudinal; OCBs are the behavioral component of these attitudinal intentions whose existence and frequency are valid predictors of employee turnover (Chen, Hui, & Sego, 1998).

Empirical research has established a clear relationship between OCBs, job satisfaction, performance, productivity, and organizational effectiveness (Borman & Motowidlo, 1993; Hoffman, et. al., 2006; Mackenzie, Podsakoff, & Fetter, 1991; Podsakoff et. al., 2000; Podsakoff & Mackenzie, 1994; Skarlicki & Latham, 1995; Organ & Ryan, 1995).

OCBs are presumed to contribute not only to organizational performance, but also to the performance of individuals, as well. Workers perceived by managers to be most effective were those who were successful in their prescribed roles and also who improved the productivity of others (DiPaola & Hoy, 2005a; Podsakoff & Mackenzie, 1994; Organ & Ryan, 1995). Recent research into the existence of OCBs in public secondary schools has yielded similar results, including a relationship between citizenship behaviors and student achievement (DiPaola & Hoy, 2005b; DiPaola, Tarter, & Hoy, 2005; DiPaola & Tschannen-Moran, 2001; Jurewicz, 2004). Considering the current pressure on school administrators to ensure student achievement gains, cultivating this relationship is critical.

Organizational Citizenship Behavior in Schools

The prevalence and impact of OCB has been investigated extensively for more than twenty years in the private sector; however, its existence and significance in public primary and secondary schools only recently has been examined (DiPaola, Tarter, & Hoy, 2005; DiPaola & Hoy, 2005a; 2005b; DiPaola & Tschannen-Moran, 2001; Jurewicz, 2004). The two dimensions of OCB identified in the majority of research—altruism (actions which benefit other individuals) and conscientiousness or generalized compliance (actions which benefit the overall organization)—both have the opportunity to enhance the organizational effectiveness of schools in the same manner as other organizations. Effective teachers, like participants in other effective organizations, routinely perform a myriad of duties outside of their formal role requirements that extend well beyond minimum performance expectations; in fact, student achievement in schools is so dependent upon these voluntary and deliberate acts that teacher unions have utilized "teaching to contract" as a strategy to trigger organizational change in schools (DiPaola & Tschannen-Moran, 2001).

In his study of faculty engagement and OCB at the university level, Armenio (as cited by Jurewicz, 2004) found that OCB among the instructional faculty correlated positively with students' motivation and performance on all construct dimensions which included: (a) encouragement of students' participatory behavior; (b) practical orientation (i.e., content relevancy); (c) conscientiousness (i.e., high achievement standards); and (d) instructor courtesy (i.e., respect for students) (Jurewicz, 2004, p. 45). Participatory behavior correlated with student performance ($r = .25$, $p<.001$) and practical orientation related to student motivation ($r = .36$, $p<.001$) and student performance ($r = .22$, $p<.001$). Conscientiousness related to student motivation and performance respectively, ($r = .31$, $p<.001$) and ($r = .36$, $p<.001$). Courtesy related to student motivation ($r = .17$, $p<.001$) and student performance ($r = .25$, $p<.001$) (Jurewicz, 2004).

Allison and her colleagues (2001) also collected evidence among a sample of university undergraduates and determined that the prevalence and frequency of Organ's (1988) five dimensions of OCB among students associated strongly with both student productivity ($\beta = .242$, $p=.001$) and grade-point average ($\beta =.210$, $p=.004$). Like the numerous examples of workplace OCB, the existence of OCB in an academic setting even among university students was shown to relate to increased student performance. Students in the top academic quartile had significantly higher rates of self-described OCB (Δ 17%) than students in the bottom quartile (Allison, et. al., 2001).

Recent research on OCBs in schools suggests, however, that Organ's (1988) original five-factor construct may be too complex. In their study of OCB in schools, DiPaola and Tschannen-Moran (2001) identified a single dimension of citizenship behavior in schools—helping students—that incorporated all five of Organ's dimensions into one factor. Schools are

professional service organizations whose overall mission generally is congruent with the mission of highly-committed teachers—to enhance student learning and improve student achievement. They concluded that the voluntary and prescribed teacher behaviors in schools all shared this central purpose (DiPaola, Tarter, & Hoy, 2005; DiPaola & Tschannen-Moran, 2001). For school administrators, understanding the organizational characteristics that promote these voluntary and spontaneous behaviors in schools seems vital.

OCB and School Climate

The concept of organizational "climate" originated in the 1950s when social scientists began to study workplace affiliations and other variations in employment environments that resulted in the success of commercial enterprise (Deal, 1983; Hoy, et. al., 1991). This early research suggested that within more formal organizational structures such as departments, policy manuals, and the division of labor, a powerful and influential "informal" organization existed that helped shape the actions and behaviors of members beyond their prescribed roles and responsibilities (Bohlman & Deal, 1997; Deal, 1983; Hoy & Sabo, 1998). Successful organizations often had highly supportive informal organizational and social structures which promoted the work of individuals and helped create a strong sense of organizational community and shared purpose (Bateman & Organ, 1983).

In an early study of organizational climate in schools, Halpin and Croft (1963) found that a pervasive climate or "personality" existed in schools which helped explain behaviors and the perceptions of behaviors of principals and teachers. Pioneering an early survey instrument to measure the climatic characteristics of elementary schools and the degree to which these characteristics interacted, Halpin and Croft (1963) found a strong relationship between school

leadership, performance expectations, and school atmosphere. Examples of survey items from their original study are as follows:

- The principal is in the building before teachers arrive.
- Most of the teachers here accept the faults of their colleagues.
- Teachers talk about leaving this school (Hoy, et. al., 1991, p. 10).

Survey participants responded according to a Likert-type scale from "rarely occurs" to "very frequently occurs." This relationship helped confirm the notion that each school was characterized by a unique organizational climate that ultimately influenced the habits of the organization and daily work of teachers. In other words, the researchers posited that the manner in which a leader (or principal) behaves is less important than how the organizational members perceive the behavior (Halpin & Croft, 1963; Hoy, et. al., 1991). The focus in effectiveness research clearly began to shift away from the "technical elements of organizational management to the personal functions of its employees" (Jurewicz, 2004, p. 38).

Consistent with the early studies on effective schools, more recent and extensive research on school climate and school effectiveness indicates that student achievement is influenced by relationships between a school's atmospheric and attitudinal qualities and teacher-student interactions (DiPaola & Hoy, 2005b; DiPaola, Tarter, & Hoy, 2005; DiPaola & Tschannen-Moran, 2001; Jurewicz, 2004; Wang, Haertel, & Walberg, 1997). For example, Bandura (1993) posited that individuals and organizations in which they participate share a reciprocal relationship; that is, they simultaneously contribute to and are products of their social and organizational environments. Ashforth and Mael (1998) suggested that individuals classify themselves into social categories which help them develop individual and collective social identification—or feeling of belonging to or identification with a group. Moreover, the extent to

which individuals identify positively with groups or organizations suggests that their social identification may influence their organizational behavior. When applied to the understanding of OCBs in schools, effective and supportive school climates foster positive social identities which may influence an individual's propensity to engage in OCBs (Kidder, 2002; Chattopadhyay, 1999).

More recent research (Hoy & Miskel, 1996; Hoy & Sweetland, 2001; Sweetland & Hoy, 2000) has combined several perspectives of organizational climate into a more specific definition of school climate to include "a stable set of organizational characteristics that capture the distinctive tone or atmosphere of a school; climate is to organization as personality is to individual" (Sweetland & Hoy, 2000, p. 705). More specifically, school climate is "the relatively enduring quality of the entire school that is experienced by participants, describes their collective perceptions of behavior, and affects their attitudes and behavior in the school" (Sweetland & Hoy, 2000, p. 706). Climate arises from a reciprocal relationship between the behaviors of principals and teachers, their perceptions of each other's behaviors, and their collective perceptions of the organization. In short, school climate not only influences direct behaviors and perceptions, but also is influenced by their collective behaviors and perceptions, as well.

In their research of the relationship between OCB and school climate, DiPaola and Tschannen-Moran (2001) conducted two separate studies. The first study sampled 664 teachers from a sample of 42 elementary, middle, and high schools in Ohio and Virginia. The second study sampled over 1000 teachers from 97 public high schools in Ohio. Both studies incorporated a new measure for OCB in schools: the Organizational Citizenship Behavior in Schools Scale (OCBS) modified from the earlier version by Smith et. al. (1983) for private-

sector OCB analysis. In addition, the second study incorporated the School Climate Index (SCI) (Hoy, et. al., 1998). Sample OCB survey items included:

- Teachers voluntarily help new teachers;
- Teacher committees in this school work productively; and
- Teachers volunteer to sponsor extra-curricular activities (DiPaola & Tschannen-Moran, 2001, p. 231).

The SCI measured the following four dimensions of school climate with the associated sample items (DiPaola & Tschannen-Moran, 2001):

a. Collegial leadership: supportive and egalitarian principal behavior.

- Sample item: The principal incorporates faculty suggestions into operation.

b. Teacher professionalism: teacher behavior characterized by commitment to students and student engagement.

- Sample item: Teachers are committed to helping students.

c. Academic emphasis: extent to which the school is focused on academic rigor and excellence.

- Sample item: The school establishes high standards of academic performance.

d. Community engagement: efforts of parents and community to influence school policy and practice.

- Sample item: Teachers feel pressure from the community.

Results from the first sample demonstrate that more collegial principal leadership behaviors evoke more citizenship behaviors among teachers ($r = .67$, $p<.01$). Furthermore, teacher professionalism ($r = .92$, $p<.01$), academic press ($r = .81$, $p<.01$), and community

engagement ($r = .74$, $p<.01$) each were found to relate positively and significantly with citizenship behavior in schools (DiPaola & Tschannen-Moran, 2001).

The second sample from 97 public high schools confirmed the relationship between organizational citizenship and school climate. Teacher professionalism ($r = .83$, $p<.01$) and academic press ($r = .63$, $p<.01$) correlated strongly and positively with OCB, while collegial leadership ($r = .23$, $p<.05$) maintained a small but significant relationship to OCB. The study also found that OCB in the high school sample did not relate to outside community pressure, perhaps a result of less community and parental involvement. Finally, the results also confirmed that a single dimension of citizenship behavior existed in schools: behaviors directed at helping others were indistinct from behaviors that helped the organization (DiPaola & Tschannen-Moran, 2001).

In a follow-up study of school characteristics that promote citizenship behaviors among teachers in schools, DiPaola and Hoy (2005b) administered the OCS, a condensed version of the OCBS (DiPaola & Tschannen-Moran, 2001) to a diverse sample of teachers from 75 middle schools in Ohio. Building upon the earlier work of DiPaola and Tschannen-Moran (2001), the researchers and found that three climatic variables (collegial principal leadership, faculty trust among colleagues—itself a function of collegial leadership and school climate—and academic press) explained nearly two-thirds of the variance in citizenship behaviors. Organizational citizenship behavior and collegial principal leadership were correlated ($r = .66$, $p<.01$), faculty trust in colleagues and OCB were correlated ($r = .67$, $p<.01$), and academic press for achievement and OCB were related ($r = .11$, $p<.01$). Even the control variable, students' socioeconomic status, was found to have no relationship to either OCB or the three independent climatic variables (DiPaola & Hoy, 2005b).

In a confirmatory study of the predictive ability of the OCBS measure, DiPaola and his colleagues (2005) extended their factor analysis to include three additional effectiveness variables theoretically linked to OCB in schools: teacher professionalism (support for students and colleagues); school mindfulness (a school's persistence and adaptive ability); and teachers' perceptions of school effectiveness (overall conscientiousness). In their sample of more than 1000 teachers from 75 middle schools in Ohio, the researchers confirmed that each of the three additional factors (with prior predictive reliability established) was positively and significantly related to the prevalence of citizenship behaviors in schools. Teacher professionalism correlated strongly with OCB ($r = .92$, $p < .01$), school mindfulness related strongly with OCB ($r = .60$, $p<.01$), and perceived school effectiveness correlated strongly with OCB ($r = .88$, $p<.01$).

In her study of organizational citizenship behaviors, school climate, and student achievement in middle schools, Jurewicz (2004) found a significant and positive relationship between organizational citizenship behavior of middle school teachers and school climate, even after controlling for student SES ($r = .78$, $p<.01$). In addition, teacher OCB also related strongly with each of the four dimensions of school climate: collegial leadership ($r = .41$, $p<.01$); teacher professionalism ($r = .85$, $p<.01$); academic press ($r = .75$, $p<.01$); and community engagement ($r = .63$, $p<.01$). Academic press and teacher professionalism both were found to correlate most highly with teacher OCB. Jurewicz argues:

> These findings suggest that within schools where teacher helping behaviors are practiced more frequently, there will more likely be supportive teachers (teacher professionalism), warm and friendly principals (collegial leadership), strong instructional focus (academic press), and connectedness to the community and parents (community engagement) (p. 64).

The prevalence of OCB in schools relate strongly to the school's climatic characteristics, regardless of the schools' socioeconomic level.

OCB and Student Achievement

The current era of school accountability has educators keenly focused on student achievement, one of the "hallmarks school effectiveness" (DiPaola & Hoy, 2005b, p. 37). Although educators have little influence over students' family background and student behaviors outside of the regular school day, they can better understand the social and organizational characteristics of schools to help strengthen and support the instructional environments to positively impact the achievement of all students. The relationship between the dimensions of school climate and student achievement is abundant and clear in recent school research (DiPaola & Hoy, 2005b; Goddard, Hoy, et. al., 2000; Goddard, Sweetland, et. al., 2000; Hoy & Hannum, 1997; Hoy, et. al., 1998; Hoy, Hoffman, Sabo, & Bliss, 1996; Hoy & Sabo, 1998; Hoy, et. al., 1991; Jurewicz, 2004; Sweetland & Hoy, 2000).

Early research on organizational effectiveness and OCB in the workplace, as well as effective schools research in the 1970s, resulted in more focused attention on similar factors in schools to improve student achievement and school effectiveness. Moreover, school administrators are increasingly aware of the significance of school-level organizational characteristics that foster open school climates and OCB among teachers. Indeed, the social context of schools has as much or more influence on student achievement as students' family background. While the link between school climate and student achievement is well established, more recent research on the impact of citizenship behaviors in schools and student achievement is emerging.

In a seminal study of the relationship between organizational citizenship behavior and student achievement in schools, DiPaola and Hoy (2005b) sampled teachers from 97 public high schools in Ohio. Using the OCBS Scale (DiPaola & Tschannen-Moran, 2001), they analyzed each school's collective OCB and correlated teachers' citizenship behavior with student achievement in Mathematics and English measured by the twelfth grade state achievement tests. Teachers were asked the extent to which they agreed (or disagreed) with 15 Likert-style items such as:

- Teachers volunteer to serve on new committees; and
- Teachers leave immediately after school is over.

When controlling for students' socioeconomic background, the researchers found that their OCB-achievement hypothesis was supported; a significant and positive relationship existed between school-level faculty OCB and student achievement in Mathematics (partial $r = .30$, $p<.01$) and Reading (partial $r = .28$, $p<.01$). Furthermore, simultaneous regression statistics demonstrated that OCB and students' SES had nearly the same influence on student achievement. In other words, faculty OCB has as much to do with student achievement in reading and math as students' family background (DiPaola & Hoy, 2005b).

In a comprehensive study of student achievement and school organizational factors, including citizenship behaviors, Cantrell and his colleagues (as cited in DiPaola, et. al., 2005, and Jurewicz, 2004), sampled ten percent of teachers from eleven local school districts representing 35 primary and secondary public schools. Five dimensions of effective schools (as evidenced by student achievement gains) were explored (Jurewicz, 2004):

(a) Instructional leadership and trust

(b) Instructional quality

(c) School climate as measured by school safety, organization, OCB, collegiality, and academic press

(d) Data-based decision-making and

(e) School level commitment to school improvement.

Although SES was not controlled in this study, the sample of randomly-selected schools did represent various demographics. Moreover, the researchers concluded that each of the five dimensions, and in particular the third dimension characteristic of school climate and OBC, correlated with student achievement. Using data from the Stanford Achievement Test (SAT) in Reading, gains in student achievement increased 64 percent (Jurewicz, 2004).

In her study of organizational citizenship behaviors, school climate, and student achievement in Virginia middle schools, Jurewicz (2004) found significant positive relationships between each of the two pairings: teacher citizenship behaviors and school climate; and teacher citizenship behaviors and student achievement. Using the OCBS (DiPaola & Tschannen-Moran, 2001) and School Climate Index (SCI) (Hoy, et. al., 1998) as survey instruments, as well as achievement data from the eighth grade Virginia Standards of Learning English: Reading, Research, and Literature and eighth grade Virginia Standards of Learning Mathematics tests, Jurewicz (2004) found significant and positive correlations between teacher OCB and student achievement in English ($r = .35$, $p<.01$) and Mathematics ($r = .35$, $p<.01$). OCB correlated most highly with teacher professionalism and academic press.

When controlling for student SES, Jurewicz (2004) found that organizational citizenship behavior among teachers had a significant independent effect on student achievement in English ($\beta = .22$, $p<.05$); however, the author also determined that teacher OCB had no significant independent effect on student achievement in Math ($\beta = .15$, $p<.01$). Moreover, Jurewicz also

found a significant positive relationship between OCBs and student achievement on standardized achievement tests even when controlling for socioeconomic level of school.

When factoring out the effects of student socioeconomic status, relatively few organizational characteristics have been shown to have a positive effect on student achievement; however, efficacious behaviors resulting from a healthy school climate and organizational citizenship behaviors among teachers clearly are the organizational properties that impact achievement within the influence of school leaders (DiPaola & Tschannen-Moran, 2001; Goddard, et. al., 2004).

In effective schools, there are strong connections between the individual professional goals of teachers and the goals of the organization. The instructional environment is orderly and focused on academic excellence (DiPaola & Hoy, 2005a; 2005b). The professional expectations of teachers are clear and the principal is demonstrates fairness, trust, and accessibility. Teachers are encouraged and willing to employ innovative instructional techniques that inspire learning and they are invested in the success of each student. Schools with higher measures of organizational citizenship do not encumber principals in routine and redundant professional accountability; rather, they help create opportunities for principals to engage in more activities that harness the individual and collective power of teachers to improve student learning (DiPaola & Hoy, 2005b).

Academic Optimism: An Emergent Construct

The academic optimism construct has emerged from a number of important quantitative studies identifying relationships between three school characteristics and student achievement: collective teacher efficacy; academic emphasis (or academic press); and faculty trust in students and parents each has been shown to correlate strongly with student academic achievement

despite the effect of student socioeconomic status (Hoy, et. al., 2006; McGuigan, 2005). Hoy and his colleagues (2006) suggested that the three attributes are so interdependent that they encompass a single latent trait of schools characterizing collective attitudes and perceptions among teachers about their school's potential to impact student performance.

The researchers named this collective attitudinal measure of schools "academic optimism" and posited that the three dimensions of academic optimism—collective teacher efficacy, academic emphasis, and faculty trust in students and parents—manifested themselves into a "single powerful force explaining school performance" (Hoy, et. al., 2006, p. 427). Moreover, the researchers suggested that academic optimism represents a collective belief among a faculty that "conditions for student achievement exist, and give rise to a general optimism that students will achieve academically" (McGuigan, 2005, p. 82). Each of the three dimensions of academic optimism is discussed in the following sections.

Collective Teacher Efficacy

The foundations for collective teacher efficacy lie primarily in Julian Rotter's (1954; 1966) Social Learning Theory and Albert Bandura's (1986, 1989) subsequent notion of human agency in social cognitive theory. Rotter's (1966) reinforcement theory suggested that particular human behaviors are driven by the perceived value of the expected outcome; that is, humans tend to act in ways which balance their behavioral expectations with behavioral outcomes: the more that desirable outcomes align with one's behavioral expectations and perceptions, the more likely that particular behavior is to occur (Rotter, 1966).

Central to the notion of collective efficacy is individual self-efficacy, or the belief that individuals have the ability to exert control over events in their lives. These beliefs tend to "affect how much effort people expend, how long they will persist in the face of difficulties, their

resilience in dealing with failures, and the stress they experience in coping with demanding situations" (Goddard, Hoy, et. al., 2000, p. 481). In examining the construct further, Gibson and Dembo (1984) found that teacher efficacy could be measured consistently and reliably and was comprised of two clearly distinguishable factors: a teacher's sense of personal responsibility for student learning; and a teacher's sense of teaching efficacy, or "the belief that any teacher's ability to bring about change is significantly limited by factors external to the teacher, such as the home environment, family background, and parental influences" (p. 574).

Bandura (1997) also explained human behavior through his concepts of human agency and self-efficacy. He posited that individual human behaviors were purposeful and represented manifestations between emotional and environmental conditions that resulted in particular behavioral outcomes. Bandura (1989) posited that "people anticipate the likely consequences of their prospective actions, they set goals for themselves, and they plan courses of action likely to produce desired outcomes" (p. 1179). In addition, Bandura (1989) argued that although humans were self-directive, their behaviors also were context-specific: it might be possible for an individual to have high measures of self-efficacy for painting, but lower self-efficacy for public speaking. He suggested further that humans are motivated to act by their belief of what is possible, attainable, and rewarding.

Bandura (1989) characterized individual self-efficacy as the product of four distinct sources of cognitive processing: mastery and vicarious experiences; social (or verbal) persuasion; and affective states. Performance mastery experiences are experiences in which actions and intended outcomes produce desirable results which reinforce and strengthen the behaviors. Vicarious experiences help individuals judge their own performance capabilities in comparison to others. Social persuasion helps individuals assess their social capabilities in group

interactions through encouragement or motivation. Affective states influence the extent to which individuals engage in particular behaviors; these "emotional reactions" (Bandura, 1989, p. 1177) may result from stress, anxiety, elation, or depression and shift efficacy beliefs inward and away from the current task. Bandura (1989, 1997) believed that mastery experiences had the most profound effect on individual self-efficacy: individuals with higher measures of self-efficacy tended to establish higher personal performance goals, seek challenges, and expend more effort on tasks.

Bandura (1997) also argued that groups of individuals develop beliefs and behavioral manifestations about their collective functions and actions. He postulated that "collective efficacy is an organizational trail that represents collective judgments concerning the extent to which the group as a whole can cause a particular outcome (McGuigan, 2005, p. 43). In schools, collective efficacy manifests itself in teachers' collective beliefs about themselves, their students, and their professional colleagues. The extent to which teachers as a group believe they make a difference in the lives of their students helps them act in ways that positively influence student achievement (Goddard, et. al., 2004; Hoy, et. al., 2006; Tschannen-Moran, et. al., 1998).

Bandura (1993) was one of the first researchers to link teachers' sense of efficacy to student achievement in reading and math. He found that teachers with high levels of instructional efficacy devoted more time to teaching, provided more remediation to students experiencing difficulty, and praised students more often. He also found that the collective efficacy of the school played a key role in student performance. Not only did teachers believe in their own abilities in more efficacious schools; they also believed in the abilities of their colleagues to raise student achievement (Zimmerman & Schunk, 2003).

In the late 1990s, Tschannen-Moran and her colleagues' (Tschannen-Moran, et. al., 1998) comprehensive literature review expanded the understanding of efficacy and further articulated two dimensions: analysis of the teaching task; and assessment of personal competence. Analysis of the teaching task is characterized by judgments regarding the factors that make teaching difficult and the availability of resources that facilitate learning. Assessment of personal competence is characterized by a teacher's judgments regarding "personal capabilities such as skills, knowledge, strategies, or personality traits against personal weaknesses or liabilities in this teaching context" (Tschannen-Moran et. al., 1998, p. 228). Analyzing research results from Gibson and Dembo (1984) and others, Tschannen-Moran and her colleagues (1998) found that teacher efficacy was linked to teacher commitment, experimentation, and enthusiasm.

In their confirmatory study of 47 urban elementary schools, Goddard, Sweetland, and their colleagues (2000) developed an instrument to measure collective teacher efficacy using a six-point Likert-style scale from "strongly agree" to "strongly disagree" that attempted to capture both individual efficacy and task analysis. Example survey items included the following example items:

- Teachers in this school have what it takes to get the children to learn
- Teachers in this school are able to get through to difficult students
- These students come to school ready to learn
- Learning is more difficult at this school because students are worried about their safety
- The lack of instructional materials and supplies makes teaching very difficult.

Goddard, Sweetland, and their colleagues (2000) found that teachers' task analysis and group competence interacted to form a conception of collective efficacy among teachers in a school.

Their results explained differences in math and reading achievement between schools even when controlling for students' SES. These results helped confirm Bandura's (1993) belief that collective teacher efficacy perceptions can be used to predict school-level student achievement (Goddard, Sweetland, et. al., 2000).

Hoy, Sweetland, and Smith (2002) advanced the results of Goddard's earlier inquiries. In their study of 97 high schools, the authors found that collective teacher efficacy was significant in explaining differences in student mathematics achievement even when controlling for students' SES. They found "norms of collective efficacy are particularly important in motivating teachers and students to achieve" (Hoy, et. al., 2002, p. 89). Goddard, LoGerfo, and Hoy (as cited in McGuigan, 2005) also found that collective teacher efficacy explained differences in student achievement not only in math, but also in writing and social studies, even after controlling for students' SES, minority status, school size, and prior academic achievement (Hoy, et. al., 2006; McGuigan, 2005).

Over the past two decades, research consistently has demonstrated powerful associations between student achievement and teachers' collective perceptions of efficacy. Because of this causal link between the collective efficacy of teachers and student achievement, the implications for school leaders are obvious. School climates that promote and nurture efficacious teaching beliefs and behaviors are more likely to have a positive impact on student achievement and school performance (Bandura, 1993; 1997; Goddard, 2001; 2002; Goddard, Hoy, et. al. 2000; Hoy, et. al., 2002; 2006).

Academic Emphasis

Academic emphasis, also synonymous with academic press, is a construct that defines the "extent to which a school is driven by academic excellence" (Hoy, Smith, et. al., 2002, p. 79).

Although singular in name, academic emphasis is a multi-dimensional construct representing a number related organizational attributes found in effective schools research including high student expectations, serious and orderly academic environment, and strong emphasis on instructional time and academics (Austin, 1979; Edmonds, 1979; Hallinger & Murphy, 1986). Schools with strong measures of academic emphasis make student learning and achievement a central focus and have teachers who not only establish high achievement goals for students, but also believe that students can be motivated to work hard and meet expectations. In addition, students, teachers, and administrators in schools with strong academic emphasis respect and recognize hard work and academic achievement (Bryk, Lee, & Holland, 1993; Hoy, et. al., 1990; Hoy, Smith, et. al., 2002; Hoy & Sabo, 1998; Hoy, Tarter, et. al., 2006; Shouse, 1996; Shouse & Brinson, 1995).

Similar to collective efficacy, academic emphasis is a school-level trait based upon individual teacher perceptions. Teachers' beliefs about themselves and their colleagues' ability to positively impact student performance help to establish high achievement norms in schools which ultimately influence the academic behaviors of students and teachers. Similar to collective efficacy, measures of academic emphasis are self-reinforcing, pervasive throughout school culture, and result from a healthy school climate (Deal, 1983; Goddard, Hoy, et. al., 2000; Hoy & Sabo, 1998; Hoy & Hannum, 1997; Hoy, et. al., 1990).

Subsequent to effective schools research and the tantalizing link between student achievement and a school's degree of academic focus, a number of researchers have continued to demonstrate correlations between academic emphasis and student performance (Hoy, et. al., 2006; McGuigan, 2005). In their comprehensive study of the social distribution of achievement in public high schools, researchers Lee and Bryk (1989) found that a school's academic focus

was linked to student achievement regardless of SES and minority status. Schools with more orderly and disciplined environments experienced less achievement distribution among races.

Hoy and his colleagues' (Hoy, Tarter, et. al., 1990) study of school health found that the academic emphasis of a school contributed significantly to student achievement beyond the effects of SES. The study demonstrated how several of Edmonds' (1979; 1982) school characteristics (high student expectations, orderly environment, and strong emphasis on academics) impacted a school's academic climate to help influence teacher commitment, itself a component of teacher efficacy correlating strongly with student achievement (Hoy, et. al., 1990). A comprehensive review of school climate research by Hoy and his colleagues (Hoy, et. al., 1991) found that school principals can have a significant but indirect influence on student learning by developing an orderly and disciplined learning environment, strong emphasis on academic endeavors and achievement, and high performance expectations for students. The study also helped confirm the influence of teacher trust and commitment on student learning (Hoy, et. al., 1991).

Two related studies of academic press and school community by Shouse (1996) and Shouse and Brinson (1995) found that for low- and middle-SES schools, academic press worked in concert with strong measures of school communality as a prerequisite for positive student achievement. Moreover, the study found significant correlations between academic emphasis and student achievement.

Additional empirical evidence supporting the effect of academic emphasis has been collected by Hoy and colleagues (Hoy & Sabo, 1998; Hoy & Tarter, 1997). Using data from the Organizational Health Inventory (OHI) developed by Hoy and his colleagues (1991), Hoy and Sabo (1998) found that among a comprehensive survey of teachers in 87 middle schools,

academic emphasis was one of several interrelated factors contributing to the overall climate of a school and student achievement. The researchers concluded that academic emphasis correlated most strongly with academic achievement in mathematics ($r = .73$, $p<.01$), reading ($r = .70$, $p<.01$), and writing ($r = .64$, $p<.01$). Despite SES and ethnicity, higher levels of student achievement were found both in middle and high schools with orderly and serious learning environments, teachers who established high but achievable student learning goals, and students who worked hard and respected the achievements of their peers.

In their study of academic emphasis in urban elementary schools, Goddard, Hoy, and his colleagues (2000) suggested that school climates characterized by strong academic emphasis had normative effects that reinforce teaching, learning, and student achievement. They suggested further that teachers with moderately high expectations for student achievement might work to join a school with high academic and professional expectations. In other words, schools with high academic emphasis have norms of higher expectations for student achievement which are pervasive and profound; the school's "organizational dynamics will tend to press members to perform when there are high expectations for academic success" (Goddard, Hoy, et. al., 2000, p. 690).

Teachers were asked to respond to survey items along a six-point Likert-style scale ranging from "very frequently occurs" to "rarely occurs." Examples of the items include the following (Hoy, et. al., 1991):

- Students respect others who get good grades;
- The learning environment is orderly and serious;
- Students make provisions to acquire extra help from teachers;
- Students seek extra work so they can get good grades

Their study demonstrated that academic emphasis is positively related to differences in reading and math achievement between urban elementary schools, even when controlling for SES. Furthermore, the results help confirm the notion that academic emphasis promotes student achievement by fostering an instructional environment where teachers endeavor to act purposefully to enhance learning (Goddard, Hoy, et. al., 2000).

Hoy and his colleagues (Hoy et. al., 1991; Hoy & Tarter, 1997; Hoy and Sabo, 1998) postulated that academic emphasis was a key component of healthy school climate. Subsequent statistical analysis by Hoy and colleagues (Hoy, et. al., 2002) found that academic press and efficacy have a reciprocal relationship: higher measures of efficacy produce greater student achievement, but higher student achievement also produces greater measures of collective efficacy. As a result, the researchers suggest that academic emphasis "flows through" (p. 90) collective efficacy to influence student achievement.

Faculty Trust in Students and Parents

The third attribute of academic optimism is faculty trust in students and parents. Like collective efficacy and academic emphasis, faculty trust in students and parents is a collective property of schools that functions from an open and healthy school climate and has a positive influence on school effectiveness and student achievement (Goddard, et. al., 2001; Hoy, et. al., 1990; Tarter, et. al., 1989; Tschannen-Moran & Hoy, 1998; 2000).

Research on organizational trust began in the wake of cold war developments in the 1950s and continued through the 1960s as psychologists and philosophers considered the nationwide phenomenon of detachment and distrust among young adults from governmental establishment (Tschannen-Moran & Hoy, 1998). Early effective schools research introduced the notion of trust among schools and families by identifying home-school cooperation and support

as fundamental components of successful schools; however, the direct link between achievement and school-parental relationships was unclear (Hallinger & Murphy, 1986).

Hoy and his colleagues (as cited in McGuigan, 2005) continued to examine faculty trust in schools and found that "trust was a critical element of the relational networks that facilitate success in urban elementary schools" (Goddard, et. al., 2001, p. 4). Hoy (as cited in McGuigan, 2005) posited further that because learning is a cooperative endeavor, trust is essential to the development of cooperation between teachers, students, and parents (McGuigan, 2005). Furthermore, after an extensive review of literature on trust in schools, they developed a unified definition of the construct comprised of several components; vulnerability; benevolence; reliability; competence; honesty; and openness (Tschannen-Moran & Hoy, 2000) and defined trust as "a willingness to be vulnerable to another party based on the confidence that the party is benevolent, reliable, competent, honest, and open" (Hoy, et. al., 2006, p. 429). Each of these dimensions of trust is described below.

Vulnerability. The "willingness to be vulnerable" is a necessary condition for trust. Vulnerability implies a reliance on the actions of others and a belief that their actions will not be harmful, but beneficial to the vulnerable party (Hoy, et. al., 2005).

Benevolence. Tschannen-Moran and Hoy (2000) consider benevolence one of the most common dimensions of trust. McGuigan (2005) writes that benevolence is "the assumption of good will on the part of others" (p. 60). When benevolence is questioned, teachers may become defensive and rather than supportive (Hoy, et. al., 2005).

Reliability. Butler and Cantrell (as cited in Hoy, et. al, 2005; McGuigan, 2005) characterize reliability as the extent to which behavior is predictable and beneficial to others.

When an individual is trusted, others are confident that the individual will perform dependably and as expected.

Competence. Hoy and his colleagues (2005) characterize competence as "the ability to perform in accordance with appropriate standards" (p. 9). When individuals are trusted, they inspire a belief among others that they can perform as expected.

Honesty. Honesty is an essential precondition of trust and reliability and describes the expectancy that one can be relied upon. When actions and intentions are aligned, honesty, character, and integrity are exposed (Hoy et. al., 2005).

Openness. Openness is the extent to which one is willing to share and be vulnerable. The more open a person is to the ideas, beliefs, and intentions of others, the more likely a trusting relationship will develop.

In their comprehensive literature reviews of trust, Tschannen-Moran and her colleagues (1998) and Tschannen-Moran and Hoy (2000) examined trust as a collective organizational characteristic and developed an instrument to measure trust as a school trait that positively related to collective teacher efficacy and academic achievement. Items from their Omnibus Trust survey were scaled along a Likert-type scale ranging from "strongly agree" to "strongly disagree." Examples of survey items are (Goddard et. al., 2001):

- Students here are secretive.
- Teachers in this school trust their students.
- Students in this school care about each other.
- Teachers think that most of the parents do a good job.
- Teachers can believe what parents tell them.

The researchers found that teachers' trust in students and trust in parents manifested itself into a single construct: "trust in clients" (McGuigan, 2005, p. 62). In a study of the relationship between the dimensions of faculty trust in the principal, faculty trust in colleagues, and faculty trust in clients, Hoy and Tschannen-Moran (1999) found that the three dimensions were correlated.

Tschannen-Moran and Hoy (2000) concluded in a comprehensive study of trust in schools that faculty trust in students and parents was linked significantly to school effectiveness and student achievement in reading and math. The authors argued that trust manifested itself in many ways across relationships between teachers, students, parents, and school administrators: trust helps facilitate open and honest communication and aids decision-making and problem-solving processes; trust protects students and parents from the vulnerability of misunderstanding or confusion; trust reduces tension, suspicion, and resentment; lack of trust increases the likelihood that rules may be needed to sustain order. In short, trust is a pervasive quality of a healthy and productive school climate (Goddard, et. al., 2001). The study also found an indirect link between faculty trust and student achievement through collective efficacy; that is, higher measures of collective efficacy among a school's faculty elicited stronger measures of faculty trust in students and parents, even when controlling for students' SES.

Goddard, Hoy, and their colleagues (2000) also found that trusting relationships between teachers, students, and parents contributed to student achievement even after controlling for student characteristics such as race, prior achievement, and SES. The researchers posited that trust fosters an atmosphere in schools that supports student achievement and higher learning goals for all students, regardless of their economic status. Like collective efficacy, faculty trust in students and parents also was seen as reciprocal, not one-way. Mutual trust among faculty,

students, and parents is an enabling force that promotes cooperative relationships whose central purpose is student achievement (Goddard, et. al., 2001; Hoy, et. al., 2006; Tarter, Bliss, & Hoy, 1989; Tschannen-Moran & Hoy, 1998; 2000; 2001; Tschannen-Moran, et. al., 1998).

Bryk and Schneider (2003) studied trust in elementary schools and also concluded that teachers' trust in parents and students represented a single attitudinal measure. Although the researchers did not find any direct correlation between trust and student achievement, they did find that trust encouraged collaboration, collective problem-solving, and "organizational conditions…that make it more conducive for individuals to initiate and sustain the kinds of activities necessary to affect productivity improvements" (p. 116).

In a study of trust in high schools, Hoy (2002) found that faculty trust in students and parents correlated positively and significantly with student achievement despite the effects of socioeconomic background. Hoy posited that trust facilitates the learning process by establishing reciprocal expectations for achievement and shared learning goals among students, parents, and teachers.

Socioeconomic Status and Student Achievement

There is no doubt that the socioeconomic status of students has an impact on student achievement (Coleman et. al., 1966; Hoy, et. al. 2006; Hoy & Hannum, 1997). Not only did the Coleman Report conclude that family background was the single most important variable in predicting achievement in school; it also argued that school leadership, instruction, and school-level variables had little impact. Socioeconomic status likely will continue to influence student achievement significantly in some schools more than others; however, despite a more traditional view of achievement which suggests talent and motivation also may be precursors for higher

student achievement, academic optimism is emerging in a number of studies (Hoy et. al., 2006) as a school variable that plays an important role in students' academic success.

Academic Optimism: A Unified Construct

Hoy and his colleagues (2006) view collective efficacy, trust, and academic emphasis as three distinct dimensions of a single latent construct of schools called academic optimism. These three attributes represent collective attitudes and beliefs of an instructional faculty that suggest an overall optimism among teachers that students can, should, and will achieve academically. According to Sweetland and Hoy (2000):

> ...positive student, teacher, and administrator interrelationships characterize a healthy school climate. Teachers like their colleagues, their schools, their jobs, and their students and are driven by a quest for academic excellence. They believe in themselves and their students and set high but achievable goals. The learning environment is serious and orderly. Students work hard and respect others who do well academically (p. 707).

Research by Hoy and his colleagues (2006) provides additional support for the unitary nature of the academic optimism construct. Their comprehensive study of 146 elementary schools and confirmatory analysis of 96 high schools confirms academic optimism as a singular, reciprocal construct attributable to significant differences in student achievement even when controlling for SES. Moreover, the authors counter that academic optimism may help contradict more traditional views of performance that suggest student achievement is a primary function of student talent and motivation (Hoy, et. al., 2006).

In her study of the relationship between academic optimism in elementary schools, student achievement, and enabling school bureaucracy, McGuigan (2005) confirmed the early work of Hoy and his colleagues (2005; 2006) that academic optimism was a single, latent

construct comprised of the three attributes of collective teacher efficacy, academic emphasis, and faculty trust in students and parents. However, McGuigan did not identify a relationship between academic optimism and value-added student achievement gains, as shown by student gain scores during consecutive years. These results seem paradoxical in light of recent research which demonstrates strong correlations between achievement and optimism (Goddard, Hoy, et. al., 2000; 2001; Hoy et. al., 2006). The likely factor responsible for the weak correlations suggest significant student and instructional variability among classrooms of the same grade level (McGuigan, 2005).

Hoy and his colleagues (2006) suggest further that although related in function and origin, each element is "functionally dependent on the others" (p. 431) through a triadic causal relationship. When faculty trust in students and parents is high, collective efficacy is reinforced which enhances greater trust in students and parents. When trust is high, teachers and parents are more likely to impose and accept more rigorous academic standards which reinforce both academic emphasis and collective efficacy. Figure 4 demonstrates the reciprocal relationship between the elements of academic optimism:

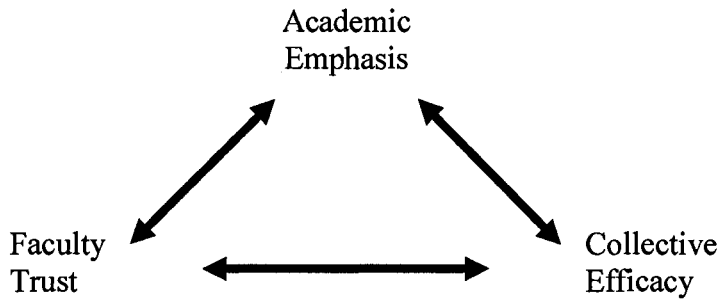

Figure 4: Reciprocal causal relationships between elements of academic optimism (Hoy, et. al., 2006, p. 432).

The three dimensions of academic optimism represent cognitive, affective, and behavioral dimensions of schools. As the cognitive element, collective efficacy represents the

group expectations of teachers. Faculty trust in students and parents acts as the affective element because it represents the emotional connections shared among school clientele. Academic emphasis represents the behavioral element which embodies purposeful academic behaviors and standards in the school environment (Hoy, et. al., 2006). Academic optimism also helps create and shape normative behaviors in successful schools by holding teachers accountable to expected standards of professional performance and student achievement. In schools where measures of academic optimism are high, school achievement norms encourage teachers to believe that students can learn, have confidence that successful instructional strategies and interventions can be developed to accommodate all learners, trust students and parents, focus on high achievement standards, and to persevere (McGuigan, 2005).

In schools, academic optimism and its component characteristics of collective efficacy, academic emphasis, and faculty trust, have been shown to overcome effects of socioeconomic status to positively impact student academic performance. For school leaders, understanding the elements of academic optimism, their interrelationships, and their potential achievement effects have important implications. Principals can build capacity for greater academic optimism through behaviors which foster stronger faculty perceptions of performance and trust and hone a school's focus on quality instruction and student achievement. Examples of these leadership behaviors include: modeling best practices for teachers; providing meaningful and targeted staff and professional development opportunities; recognizing and celebrating the achievements of students and faculty; enhancing school climate by limiting disruptions and pressure from outside forces; including teachers and faculty in participative decision-making; and creating communication structures to purposefully engage teachers and parents in honest dialogue about school performance and improvement.

Considering the national accountability movement and higher performance standards for students, teachers, and schools, academic optimism is an influential characteristic of schools that captures underlying attitudes and assumptions of teachers about student potential. When understood and cultivated, academic optimism can improve teachers' academic expectations, trust and confidence of local communities, and perhaps most importantly, the academic performance of students.

CHAPTER 3

Methodology

The following chapter briefly describes the research problem, research questions, data sample and collection procedures, instrumentation, and data analysis procedures.

The purpose of this study was to build upon an emergent research base for academic optimism through a confirmatory analysis of the construct and its relationship to student achievement and organizational citizenship behaviors in schools among a sample of public Virginia high schools. Organizational citizenship behaviors and academic optimism both have been shown to have positive effects on student achievement, even after controlling for the effects of socioeconomic status (DiPaola & Hoy, 2005a; 2005b; DiPaola et. al., 2005; Hoy et. al., 2006; Hoy & Hannum, 1997; Hoy, et. al., 1998; Jurewicz; 2004). Understanding the relationships between academic optimism, organizational citizenship behavior in schools, and their possible connections to student achievement underscore the importance of the social context schools and the potential of teacher attitudes to influence student achievement.

Research Questions

The following research questions are presented by this confirmatory study:

1. Is academic optimism a single, unified, characteristic of schools manifested through collective teacher efficacy, academic emphasis (press), and faculty trust in students and parents?
2. What is the relationship between academic optimism and student achievement?
3. What is the relationship between academic optimism and organizational citizenship behaviors in schools?

Data Sample and Collection Procedures

All participants in this study were full-time teachers, guidance counselors, and other full-time professional instructional faculty from 36 public high schools in Virginia serving grades 9 through 12. For this study, the researcher contacted individual schools to request their participation; subsequently, each of the schools volunteered to participate and therefore constituted a convenience sample. Although not random, however, the sample comprised a demographic and geographic range of Virginia's 308 high schools featuring grades 9-12. Six of Virginia's eight geographic school regions are represented, as well as 16 percent of the state's total number (132) of school divisions. Moreover, 64 percent of the sampled schools were from Regions II and III located in the south-central region of Virginia. In some instances, all high schools within a school division were surveyed. Table 1 contains a more detailed sample description.

Surveys were distributed to the instructional faculty of each of the 36 participating schools during regularly-scheduled faculty meetings from October 2006 through October 2007. 1,218 completed surveys were collected and tabulated for the study. Each of the respondents from the participating schools was guaranteed anonymity, confidentiality, and the option to refuse, skip any question, or discontinue participation at any time. Because academic optimism and organizational citizenship behaviors are school-level characteristics, the data for this study were aggregated at the school level to support the school as the unit of analysis.

School-level achievement data were calculated using mean school scores for student performance on several Virginia Standards of Learning end-of-course assessments: Biology; United States History; English 11: *Reading*; and English 11: *Writing*. These four assessments were selected by the researcher for their uniformity and consistency across large groups of

students in school-wide test administrations, as well as for their content variety. For example, end-of-course tests in English 11 and United States History are administered to all eleventh-grade students at the conclusion of their courses, while the end-of-course Biology test is administered to all tenth-grade students at the conclusion of its course. In addition, the English 11 assessments represent more cumulative skill development spanning a number of school years.

Table 1

Sample Descriptives and Comparisons

Classifications	Sample (N=36)	Virginia
Grade 9-12 Schools	36	308
Mean School Enrollment	1,225	1,229
School Divisions	21	132
% FRL*	29.0	31.1
Racial/Ethic Background		
% White	52.9	59.8
% Black	39.6	27.0
% Hispanic	4.0	7.7
% Asian/Pacific Islander	3.1	5.2
% American Indian/Alaskan Native	0.4	0.3

*FRL = Percent of Students Receiving Free or Reduced Lunch
(Virginia Department of Education, 2006)

Instrumentation

Academic optimism and organizational citizenship behavior each were measured using survey items on a single instrument given to teachers during regularly-scheduled faculty

meetings. Each of the items on the survey is part of an existing instrument previously tested for reliability and validity in prior studies. Survey items for each of the constructs are described below. Recall that academic optimism is believed to be a single, unified construct comprised of three dimensions: collective teacher efficacy; academic emphasis; and faculty trust in students and parents.

Collective Teacher Efficacy

In this study, collective teacher efficacy is a group- (or school) level characteristic representing the collective judgments of teachers regarding the extent to which the group as a whole believes it can be successful (Bandura, 1997). The collective efficacy of teachers was measured using a 12-item instrument developed by Goddard (2002). Each of the survey items was rated by participants along a 6-point Likert-style scale ranging from "strongly agree" to "strongly disagree." The items measured both dimensions of collective teacher efficacy described by Tschannen-Moran and her colleagues (1998): the assessment of teaching competence; and the analysis of the teaching task. Six items correspond to each of the dimensions and some of the items rate with a negative (or opposite) value (McGuigan, 2005). See Table 2 for the survey items for collective teacher efficacy.

Construct validity for each of the survey items was established through correlational evidence using an original 21-item collective efficacy measure during initial pilot studies by Goddard, Hoy, and colleagues (2000) and subsequent confirmatory studies with the 12-item measure by Goddard (2002). In a large sample of teachers from 47 elementary schools, the survey items for collective efficacy loaded strongly along a single factor as expected, correlating positively with trust in teachers and individual teacher efficacy ($r = .67$ and $.55$, $p<.01$ respectively) and negatively with teacher powerlessness ($r = -.51$, $p<.01$). In addition, Goddard's

(2002) confirmatory studies employed a more concise 12-item collective efficacy scale which was found to have high internal consistency and robust internal reliability (.96).

Table 2

Collective Efficacy Survey Items

Survey Item	Dimension
Teachers in this school are able to get through to the most difficult students.	(TC)
Teachers here are confident they will be able to motivate their students.	(TC)
If a child doesn't want to learn teachers here give up.	(TC)
Teachers here don't have the skills needed to produce meaningful learning.	(TC)
Teachers in this school believe that every child can learn.	(TC)
These students come to school ready to learn.	(TA)
Home life provides so many advantages that students here are bound to learn.	(TA)
Drug and alcohol abuse in the community make learning difficult for students here.	(TA)
Learning is more difficult here because students are worried about their safety.	(TA)
The opportunities in this community help ensure that these students will learn.	(TA)
Teachers here do not have the skills to deal with student disciplinary problems.	(TC)
Students here just aren't motivated to learn.	(TA)

Note. TA = Task Analysis; TC = Teaching Competence (Goddard, 2002).

Academic Emphasis

Also known as academic press, academic emphasis characterizes a school's general and collective perspective on the importance of academics (Goddard, et. al., 2002; Hoy, Sweetland, et. al., 2002). Academic emphasis was measured using eight survey items that originated from the Organizational Health Inventory (OHI) first developed by Hoy (Hoy, et. al., 1991; Hoy &

Tarter, 1997). Participants responded to the survey items according to a four-point Likert-style scale ranging from "very frequently occurs" to "rarely occurs" with some negatively-worded items receiving negative values. The survey items for academic emphasis are located in Table 3.

Table 3

Academic Emphasis Survey Items

The school sets high standards for academic performance.
Students at this school can achieve the goals that have been set for them.
Parents exert pressure to maintain high standards.
Students respect others who get good grades.
Parents press for school improvement.
Students seek extra work so they can get good grades.
Academic achievement is recognized and acknowledged by this school.
Students try hard to improve on previous work.

(Goddard, Hoy, et. al., 2000).

High construct reliability data for academic emphasis has been established through correlational evidence from several large studies of school climate and school health (Hoy, et. al., 1990; 1991). In a study of 72 secondary schools, Hoy and his colleagues (1991) demonstrated strong reliability among items measuring academic emphasis (.93). Furthermore, in their study of academic optimism in 96 high schools, Hoy and his colleagues (2006) found that the items measuring academic emphasis had high reliability with an alpha coefficient of .83. In addition, construct and predictive validity for academic emphasis items have been established through correlations with several related constructs (with $p<.01$ respectively): institutional

integrity (r = .11), initiating structure (r = .47), consideration (r = .36), principal influence (r = .44), resource support (r = .40), and teacher morale (r = .45) (Hoy & Tarter, 1997).

Faculty Trust in Students and Parents

Trust is one's willingness to be vulnerable to another based upon the confidence that the other party is benevolent, reliable, competent, open, and honest (Hoy & Tschannen-Moran, 2003). In this study, trust was measured using a ten-item measure extrapolated from the 26-item Omnibus Trust Scale first developed by Hoy and Tschannen-Moran (2003). Participants responded to each item according to a six-point Likert-style scale ranging from "strongly agree" to "strongly disagree." Each of the ten items on this instrument had high construct reliability and validity as evidenced by strong factor loadings from the initial 34-item trust scale developed by Hoy and Tschannen-Moran (2003). In their study of 97 secondary schools, Hoy and Tschannen-Moran found that the items loaded strongly along three principal factors with high reliability among each of the subscales: trust in colleagues (.93); trust in principal (.98); and trust in clients (comprised of parents and students) (.93). In addition, each of the subscales correlated strongly with one another: faculty trust in principal and faculty trust in colleagues (r = .37, p<.01); faculty trust in principal and faculty trust in clients (r = .42, p<.01); and faculty trust colleagues correlated with faculty trust in clients (r = .35, p<.01). Table 4 contains the items for faculty trust in students and parents.

Table 4

Faculty Trust in Students and Parents Survey Items

Students in this school can be counted on to do their work.
Teachers can count on parental support.
Teachers can believe what parents tell them.

Parents in this school are reliable in their commitments.

Teachers think that most of the parents do a good job.

Students here are secretive.

Teachers in this school trust their students.

Students in this school care about each other.

Teachers in this school trust the parents.

Teachers here believe students are competent learners.

(Hoy & Tschannen-Moran, 2003).

Organizational Citizenship Behavior (OCB)

Bateman and Organ (1983) first described organizational citizenship behaviors as voluntary, discretionary behaviors that helped connect job satisfaction and organizational performance. More recent studies of citizenship behaviors in schools suggest they are individual and voluntary teacher behaviors that are discretionary (not required), assistive, and help both students and teachers succeed (DiPaola & Tschannen-Moran, 2001; DiPaola & Hoy, 2005b).

This study incorporated a 12-item variant of the original Organizational Citizenship Behavior in School Scale (OCBS) developed and tested for construct validity and reliability by DiPaola and Hoy (2005a; 2005b) and DiPaola and Tschannen-Moran (2001). In their comprehensive studies of the relationship between OCB and school climate among two large samples of teachers from nearly 139 public schools, DiPaola and Tschannen-Moran (2001) found high factor reliability for 15 items on an initial OCB survey: (.96 for sample 1); (.87 for sample 2). Validity results were determined through correlational analysis between the OCB and climate scales ($p<.01$): OCB and collegial leadership ($r = .23$); OCB and teacher professionalism ($r = .83$); OCB and academic emphasis ($r = .63$); and OCB and community pressure ($r = .12$).

Participants responded to each of the twelve items along a six-point Likert-style scale ranging from "strongly agree" to "strongly disagree." The items measured the extent to which teachers engage in citizenship behaviors. Table 5 contains the items on the OCB Scale.

Table 5

Organizational Citizenship Behavior Survey Items

Teachers help students on their own time.
Teachers waste a lot of class time.
Teachers voluntarily help new teachers.
Teachers volunteer to serve on new committees.
Teachers volunteer to sponsor extra curricular activities.
Teachers arrive to work and meetings on time.
Teachers take the initiative to introduce themselves to substitutes and assist them.
Teachers begin class promptly and use class time effectively.
Teachers give colleagues advanced notice of changes in schedule or routine.
Teachers give an excessive amount of busy work.
Teacher committees in this school work productively.
Teachers make innovative suggestions to improve the overall quality of our school.

(DiPaola, Tarter & Hoy, 2005, p. 341).

Data Analysis Procedures

A school-level unit of analysis was employed for all survey data in this study. Individual teacher survey responses from each school were input into the Statistical Package for the Social Sciences (SPSS) to produce several school-level descriptive statistics: mean measures for each of the three dimensions of academic optimism (collective teacher efficacy, academic emphasis,

faculty trust in students and parents); organizational citizenship behavior; and mean scores for each individual survey item. Table 6 presents the research questions and data analysis techniques.

Table 6

Data Analysis

	Research Question	Data Analysis Tool
1.	Is academic optimism a single, unified characteristic of schools manifested through collective teacher efficacy, academic emphasis, and faculty trust in students and parents?	Factor Analysis
2.	Is there a relationship between academic optimism and student achievement?	Multiple Regression
3.	Is there a relationship between academic optimism and organizational citizenship behaviors in schools?	Correlation Analysis

Mean school scores on the 2006-07 Virginia Standards of Learning end-of-course assessments in Biology, United States History, English 11: *Reading,* and English 11: *Writing* were used as collective school-level student achievement measures for this study. These annual performance results are available from the Virginia Department of Education and are disaggregated by school, school division, and student demographic. This particular student performance measure was employed by this study for several reasons:

(a) Each high school student on a standard or advanced diploma is required to earn a proficient score (> 400 with a 600-point maximum) in order to graduate from high school;

(b) The overwhelming majority of eleventh grade students completes the United States

History and English 11 assessments during the same time period of the school year, thereby providing an equitable amount of instructional time per student;

(c) The test assesses cumulative content and skills at a single point-in-time.

An independent review (Hambleton, Crocker, Cruse, et. al., 1999) of SOL test items by the Virginia SOL Test Technical Advisory Committee (TAC) found strong internal consistency among test items for each grade level and content area, as well as "ample evidence in the Technical Manual that the procedures used to investigate the content validity of the assessments were adequate" (Hambleton, et. al., 1999, p. 3). In addition, correlations between longitudinal SOL results from grades four, six, and eight indicated strong relationships between SOL scores and standardized scores from other achievement tests such as the Stanford 9; correlation ranges between $r = .50$ and $r = .80$ were common. Reliability evidence ("Kuder-Richardson Formula 20" or KR-20) from the 1998, 1999, and 2000 test administrations demonstrates highest reliability coefficients were obtained for the high school writing assessment (.86 to .89).

This study controlled for student SES to help determine a more accurate effect of academic optimism on student achievement. Baseline data for socioeconomic status for this study was established through school-level student participation in the federal free and reduced lunch program (FRL), a statistic that typically characterizes family income level or poverty as represented by the percentage of students in a particular school receiving free or reduced-price lunch (FRL). In this study, data for FRL was obtained from school division reports available from the Virginia Department of Education (VDOE).

All data collected and used in this study were aggregated at the school level. First, survey items were scored to produce mean values for each item. Second, school-level means were calculated for each survey item. Third, items within each variable were aggregated to produce

mean school values for each of the variables. Finally, mean school values were compared across the sample of 36 schools.

CHAPTER 4

Analysis of Data

This study investigated the relationship between academic optimism of high school teachers and student achievement. The study also examined the relationship between academic optimism and organizational citizenship behaviors of high school teachers. Academic optimism is believed to be a single, unified characteristic of schools manifested through the cumulative effect of its three component dimensions: collective teacher efficacy; academic emphasis; and faculty trust in students and parents. Mean school values for academic optimism were calculated from the individual additive means for each of these dimensions.

Collective teacher efficacy was measured using a 12-item short form developed by Goddard (2001, 2002). Each of the items was rated by participants along a 6-point Likert-style scale ranging from "strongly agree" to "strongly disagree." Scores for negatively-worded items were reversed. Academic emphasis was measured using an 8-item form originating from the Organizational Health Inventory (OHI) first developed by Hoy (Hoy, et. al., 1991; Hoy & Tarter, 1997). Each of the items was rated along a 4-point Likert-style scale ranging from "very frequently occurs" to "rarely occurs," with reversed scores for negatively-worded items. Faculty trust in students and parents was measured using a 10-item measure extrapolated from the 26-item Omnibus Trust Scale first developed by Hoy and Tschannen-Moran (2003). Each of the survey items was rated along a 6-point Likert-style scale ranging from "strongly agree" to "strongly disagree." Scores for its single negative item on this scale were reversed.

Organizational citizenship behavior was measured with a 12-item variant of the original Organizational Citizenship Behavior in School Scale (OCBS) developed and tested by DiPaola and Hoy (2005a; 2005b) and DiPaola and Tschannen-Moran (2001). Participants responded to

each of the twelve items along a six-point Likert-style scale ranging from "strongly agree" to "strongly disagree." Scores for negatively-worded items were reversed.

The survey was administered to full-time instructional faculty during regularly-scheduled faculty meetings and was completed by 1,218 participants from 36 Virginia high schools serving grades 9 through 12. Student achievement data were collected from mean school scores on four Virginia Standards of Learning end-of-course tests from the 2006-07 academic year: Biology; United States History; English 11: *Reading*; and English 11: *Writing*. The socioeconomic status of each participating school was determined by the percentage of students receiving free and reduced-priced lunches (FRL), a school-level statistic obtained for the 2006-07 academic year from the Virginia Department of Education.

Findings

The three research questions were answered using the Statistical Package for Social Sciences (SPSS). Descriptive statistics were computed for organizational citizenship behavior, student achievement in Biology, United States History, English 11: *Reading* and *Writing*, and each of the three dimensions of academic optimism—collective teacher efficacy, academic emphasis, and faculty trust in students and parents. For the first research question, mean scores for each survey item were calculated and analyzed using a factor analysis from the 1,218 completed surveys. For the school-level collective statistics, mean scores for organizational citizenship and the three dimensions of academic optimism were determined by the average scores for all items within each factor. The mean school-level value for academic optimism was determined by averaging the collective values for each of the three dimensions—collective teacher efficacy, academic emphasis, and faculty trust in students and parents.

The mean school scores for student achievement for the 2006-07 academic year were obtained from the Virginia Department of Education and measure proficiency with standard scores ranging from 200 to 600. A score of 400 is the minimum proficient passing score and a score of 500 represents advanced proficiency. Table 7 contains the descriptive statistics for each of the variables.

Table 7

Descriptive Data (N=36)

Variables	Mean	Standard Deviation	Minimum	Maximum
Organizational Citizenship Behavior	4.30	0.23	3.85	4.75
Academic Optimism	3.54	0.31	2.93	4.33
Collective Teacher Efficacy	4.02	0.33	3.54	4.96
Academic Emphasis	2.70	0.25	2.18	3.32
Faculty Trust	3.62	0.36	2.79	4.39
Biology SOL	443.61	15.94	409.0	483.0
United States History SOL	477.17	14.07	446.0	517.0
English 11: *Reading* SOL	482.92	19.59	436.0	529.0
English 11: *Writing* SOL	465.47	20.73	397.0	506.0
Free and Reduced Lunch (in Percent)	29.08	16.81	1.62	71.57

Note: Survey responses for organizational citizenship behavior, collective teacher efficacy, and faculty trust in students and parents were measured on a scale from 1 to 6, while responses for academic emphasis were measured on a scale from 1 to 4. Results for each of the four Virginia Standards of Learning (SOL) end-of-course assessments are reported on a scale from 200 to 600.

First Research Question

Is academic optimism a single, unified characteristic of schools manifested through collective teacher efficacy, academic emphasis, and faculty trust in students and parents?

Results from the factor analysis of the 1,218 completed surveys indicate that the three dimensions of academic optimism operated as a single, unified characteristic of schools. Factor analysis is a tool for statistical reduction that collates numerous qualitative observations and resolves them into explicit patterns of occurrence and variability. On the initial unrotated factor structure, all 30 survey items for academic optimism (12 for collective efficacy, 8 for academic emphasis, and 10 for faculty trust in students and parents) loaded together as a single component explaining 32.12% of the total variance among all items. A total of six significant components were extracted overall (item suppression <.3; eigenvalues > 1) that accounted collectively for 54.9% of the total variance among all variables.

Additional interpretation with *Varimax* rotation confirmed the 6-component structure, with the first three principal factors aligning closely with the three dimensions of academic optimism and accounting for 35.13% of the variance among all items. Factor 1 loaded almost exclusively with faculty trust in students and parents, with nine of the eleven survey items in the factor measuring faculty trust. Factor 1 loadings for faculty trust were high, ranging from .79 to .45. Factor 2 loaded strongly with collective teacher efficacy but slightly less distinctly, with six of the nine total items from the collective teacher efficacy scale. Two faculty trust items from Factor 1 also loaded with Factor 2: "Students in this school can be counted on to do their work" (.47 and .32 respectively); and, "Teachers here believe students are competent learners" (.45 and .48 respectively). Factor 2 also contained one item from the academic emphasis scale that co-

loaded in Factor 3: "Students in this school can achieve the goals that have been set for them" (.33 and .51 respectively). Factor 2 loadings for efficacy were high (.68 to .33).

Factor 3 loaded almost exclusively with academic emphasis, with seven of the eight total items in the factor emerging from the academic emphasis scale. Factor 3 loadings were high (.68 to .31).

Factor 4 contained a contradictory blend of each of the three dimensions of academic optimism, with four items emerging from academic emphasis, three from faculty trust, and two from collective teacher efficacy. Contradictory trust items were "Students in this school care about each other" (faculty trust, .31) and "Students here are secretive" (faculty trust, .34). Factor 4 contained contradictory items for collective teacher efficacy, as well: "These students come to school ready to learn (.37) and "Students here just aren't motivated to learn" (.33). Only three of the nine items in Factor 4 were unique to the factor with no prior shared loadings: "Students seek extra work so they can get good grades" (academic emphasis); "Students here are secretive" (faculty trust); and "Students here just aren't motivated to learn" (collective teacher efficacy). These contradictions suggest residual variability among responses to survey items with similar meaning to those already captured among the first three primary factors.

The remaining items for collective teacher efficacy emerged exclusively in Factor 5 and Factor 6. All seven items in Factor 5 are negatively-worded items with reversed scores. Two of the items are exclusive to Factor 5: "Learning is more difficult here because students are worried about their safety;" and "Drug and alcohol abuse in the community make learning difficult for students here." The four items in Factor 6 suggest community influence on learning ("The opportunities in this community help insure that these students will learn") and three of the four items share significant loadings among the first three principal factors. One item, "Home life

Table 8

Factor Analysis for Dimensions of Academic Optimism

Variable	Survey Item	Component Structure 1	2	3	4	5	6
FT	Teachers can believe what parents tell them.	.79					
FT	Parents in this school are reliable in their commitments.	.78					
FT	Teachers in this school trust the parents.	.77					
FT	Teachers can count on parental support.	.68					
FT	Teachers think that most of the parents do a good job.	.68					
FT	Teachers in this school trust their students.	.64					
FT	Students in this school care about each other.	.60					
FT	Students in this school can be counted on to do their work.	.47					
CE	These students come to school here ready to learn.	.39					
CE	Teachers in this school believe that every child can learn.		.68				
CE	Teachers here are confident they will be able to motivate their students.		.63				
CE	Teachers in this school are able to get through to the most difficult students.		.63				
FT	Teachers here believe students are competent learners.		.48				
CE	If a child doesn't want to learn, teachers here give up.		.44				
AP	The school sets high standards for academic performance.			.68			
AP	Parents exert pressure to maintain high standards.			.63			
AP	Academic achievement is recognized and acknowledged by the school.			.62			
AP	Parents press for school improvement.			.61			
AP	Students in this school can achieve the goals that have been set for them.			.51			
AP	Students seek extra work so they can get good grades.				.69		
AP	Students try hard to improve on previous work.				.66		
AP	Students respect others who get good grades.				.55		
CE	Learning is more difficult here because students are worried about their safety.					.65	
CE	Drug and alcohol abuse in the community make learning more difficult for students here.					.63	
FT	Students here are secretive.					.55	
CE	Teachers here do not have the skills to deal with student disciplinary problems.					.47	
CE	Students here just aren't motivated to learn.					.42	
CE	Home life provides so many advantages that students here are bound to learn.						.72
CE	The opportunities in this community help insure that these students will learn.						.42
CE	Teachers here don't have the skills needed to produce meaningful learning.						-.41

Extraction Method: Principal Component Analysis. Varimax Rotation Converged in 9 Iterations. Absolute values < 0.3 suppressed.

provides so many advantages that students here are bound to learn," loaded very high (.72) and only in Factor 6. Table 8 contains the rotated component matrix and factor loadings for all 30 survey items for academic optimism.

After controlling for free and reduced lunch statistics for each of the 36 schools, the correlations among the three dimensions of academic optimism also were highly significant, suggesting further that the survey items are valid and reliable measures. Table 9 contains the correlations for the three dimensions of the construct.

Table 9

Correlational Analysis of Dimensions of Academic Optimism

	2.	3.
1. Collective Teacher Efficacy	.89**	.89**
2. Academic Emphasis		.84**
3. Faculty Trust in Students and Parents		

**p<.01

The factor analysis confirmed that academic optimism is a unified characteristic of schools comprised of three primary dimensions—collective teacher efficacy; faculty trust in students and parents, and academic emphasis. Factor loadings and correlations among the three dimensions were significantly high.

Second Research Question

Is there a relationship between academic optimism and student achievement?

The data indicate that there are significant relationships between academic optimism and each of the four measures of student achievement, even after controlling for socioeconomic status. In addition to the regression analyses, several correlational analyses were performed to fully isolate those variables with the strongest predictive relationships.

Correlational Analyses

Correlational analyses indicate that academic optimism is strongly associated with all four measures of student achievement: English 11: *Reading* ($r = .45$, $p<.01$); English 11: *Writing* ($r = .36$, $p<.05$); Biology ($r = .57$, $p<.01$); and United States and Virginia History ($r = .43$, $p<.01$). These findings suggest that students experience higher rates of achievement in schools where the instructional faculty are generally more optimistic about the academic conditions and focus of their school. Academic optimism correlates most strongly with Biology achievement, helping to explain slightly more than 32% of the variance in mean school Biology performance even after controlling for student socioeconomic status. Although academic optimism had the least significant relationship with English 11: *Writing* as compared to *Reading* achievement, ($r = .36$, $p<.05$; $r = .45$, $p<.01$ respectively), both measures of English achievement were highly correlated with one another ($r = .88$, $p<.01$). Table 10 contains correlations for academic optimism and each measure of student achievement.

Table 10

Correlational Analysis of Student Achievement and Academic Optimism

	2.	3.	4.	5.
1. Academic Optimism	.57**	.43**	.45**	.36*
2. Biology SOL		.44**	.61**	.56**
3. United States History SOL			.69**	.62**
4. English 11: *Reading* SOL				.88**
5. English 11: *Writing* SOL				

**p<.01

Although not specifically addressed in the research question, additional correlational analyses were calculated for student achievement and each of the three dimensions of academic optimism to help identify any differences in the relative strength of these individual variables within the singular construct. In Biology achievement, collective teacher efficacy demonstrated the strongest effect ($r = .58$, $p < .01$) explaining slightly more than 33% of the variance in mean school Biology SOL scores. Academic emphasis, however, was the most significant independent variable explaining achievement variance for United States History and each of the English measures. For all four achievement measures, faculty trust in students and parents demonstrated the least significant predictive relationships, with no independent significant relationship in English 11: *Writing* performance at all. This result suggests that student writing ability has little to do with the co-relationships between teacher, parent, and student. Table 11 contains correlations for each measure of student achievement and the three dimensions of academic optimism.

Table 11

Correlational Analysis of Student Achievement and Dimensions of Academic Optimism

	2.	3.	4.	5.	6.	7.
1. Collective Teacher Efficacy	.89**	.89**	.58**	.43**	.45**	.37*
2. Academic Emphasis		.84**	.56**	.49**	.50**	.42**
3. Faculty Trust in Students and Parents			.50**	.33*	.36*	.26
4. Biology SOL				.44**	.61**	.56**
5. United States History SOL					.69**	.62**
6. English 11: *Reading* SOL						.88**
7. English 11: *Writing* SOL						

**p<.01

Simple Regression –Academic Optimism and Student Achievement

Results from the simple regression analyses indicate that academic optimism has a significant and independent effect on all four measures of student achievement. Consistent with, but more significant than, the correlational analysis, academic optimism has the strongest effect on Biology achievement ($\beta = .72$, $p<.01$), explaining 50% of the variance in mean school scores. Academic optimism had similarly significant effects on school-wide achievement in United States History ($\beta = .60$, $p<.01$), English 11: *Reading* ($\beta = .65$, $p<.01$), and English 11: *Writing* ($\beta = .60$, $p<.01$), explaining 34%, 40%, and 34% respectively of the variance in mean school scores for each achievement measure. The results for the regression analysis for academic optimism and each of the four measures of school-level student achievement are displayed in Table 12.

Table 12

Summary of Stepwise Regression Analyses for Academic Optimism Predicting Student Achievement (N=36)

Predictor Variable Dependent Variable	B	Beta (β)	R^2	Adjusted R^2	SE (β)
Academic Optimism					
Biology	37.1	.72**	.52	.50	6.14
United States History	27.2	.60**	.36	.34	6.25
English 11: *Reading*	41.0	.65**	.42	.40	8.28
English 11: *Writing*	39.9	.60**	.35	.34	9.24

**p<.01

Multiple Regression –Academic Optimism, Student SES, and Student Achievement

When controlling for student socioeconomic status, academic optimism continues to have a significant and independent effect on mean school scores for each of the achievement measures. In Biology achievement, academic optimism ($\beta = .52$, $p<.01$) was a more significant

predictor than student SES, accounting for 50% of the variance in mean school Biology scores. Student SES (β = -.36, p<.01) accounted for an additional 9% of the total variance in mean Biology performance. The negative β value (-.36) indicates the expected inverse relationship between student socioeconomic status and student performance (Coleman et. al., 1966; Hoy, et. al. 2006; Hoy & Hannum, 1997). Table 13 displays the findings for the regression analysis for academic optimism, student socioeconomic status, and Biology performance.

For United States History, the multiple regression data indicate that student SES was not even a factor in explaining variance in mean school scores and was excluded from the regression models altogether. Academic optimism (β = .60, p<.01) accounted for 34% of the total variance in mean school performance as shown in Table 14.

Table 13

Summary of Stepwise Regression Analyses for Academic Optimism Predicting School-Level Performance on Biology SOL Test (N=36)

Dependent Variable Predictor Variables	B	Beta (β)	R^2	Adjusted R^2	SE (β)
Biology					
Academic Optimism	27.0	.52**	.52	.50	6.70
SES[1]	-.34	-.36**	.61	.59	.15

**p<.01

[1] Explained by Percent of Students on Free and/or Reduced Lunch

Table 14

Summary of Stepwise Regression Analyses for Academic Optimism Predicting School-Level Performance on United States History SOL Test (N=36)

Dependent Variable Predictor Variable	B	Beta (β)	R^2	Adjusted R^2	SE (β)
United States History					
Academic Optimism	27.2	.60**	.36	.34	6.25

SES[1]	(Insignificant predictor excluded from all models)

**p<.01
[1] Explained by Percent of Students on Free and/or Reduced Lunch

In English 11: *Reading* performance, student SES accounted for 46% of the variance in mean school scores and also demonstrated the inverse relationship between student SES and achievement (β = -.48, p<.01). However, even after further regressing *Reading* achievement, academic optimism remained a significant predictor that accounted for an additional 9% of the total variance (β = .65, p<.01) despite being an excluded variable in the stepwise regression model. Table 15 contains the multiple regression results for academic optimism, SES, and English 11: *Reading.*

Table 15

Summary of Stepwise Regression Analyses for Academic Optimism Predicting School-Level Performance on English 11: Reading SOL Test (N=36)

Dependent Variable Predictor Variables	B	Beta (β)	R^2	Adjusted R^2	SE (β)
English 11: *Reading*					
SES[1]	-.56	-.48**	.48	.46	.16
Academic Optimism	24.5	.39**	.58	.55	8.53

**p<.01
[1] Explained by Percent of Students on Free and/or Reduced Lunch

In English 11: *Writing* performance, student SES accounted for 47% of the variance in mean school scores and also demonstrated the inverse relationship between socioeconomic status and achievement (β = -.70, p<.01). Despite being an excluded variable in the regression model, academic optimism continued to have a positive and significant effect on mean school performance (β = .31, p<.05), explaining an additional 5% of the total variance in mean school

Writing achievement. Table 16 contains the findings for the regression analysis for English 11: *Writing* and academic optimism.

Table 16

Summary of Stepwise Regression Analyses for Academic Optimism Predicting School-Level Performance on English 11: Writing SOL Test (N=36)

Dependent Variable Predictor Variables	B	Beta (β)	R^2	Adjusted R^2	SE (β)
English 11: *Writing*					
SES[1]	-.86	-.70**	.48	.47	.17
Academic Optimism	20.67	.31*	.55	.52	9.36

**p<.01
*p<.05
[1] Explained by Percent of Students on Free and/or Reduced Lunch

Multiple Regression – Dimensions of Academic Optimism and Student Achievement

Considering that academic optimism is a collective characteristic of three individual dimensions, it was worthwhile to investigate further the effects of the three components to determine any significant or individual influences on student achievement. Data from these multiple regression analyses indicate that collective teacher efficacy had the strongest independent effect on mean school achievement scores in Biology (β = .53, p<.01) that accounted for 51% of the variance in mean school performance. For United States History performance, academic emphasis had the strongest independent effect (β = .60, p<.01) explaining 35% of the variance in mean school scores. After controlling for student SES, academic emphasis also had a positive and significant effect on the additional variance in achievement for English 11: *Reading* (β = .40, p<.01) and English 11: *Writing* (β = .33, p<.05), explaining 12% and 9% respectively of the additional variance in mean school scores. These findings suggest that academic optimism and its component dimensions remain a significant and

robust force in overall school performance, while particular subject or content areas may be influenced or affected more specifically by one or more particular dimensions. Table 17 contains the findings for the multiple regression analysis for the significant predictor variables for each of the dimensions of academic optimism and the four measures of student achievement.

Table 17

Summary of Stepwise Regression Analyses for Significant Dimensions of Academic Optimism Predicting Student Achievement (N=36)

Dependent Variable Significant Predictor Variable	B	Beta (β)	R^2	Adjusted R^2	SE (β)
Biology					
Collective Teacher Efficacy	25.53	.53**	.52	.51	6.28
SES[1]	-.34	-.36**	.61	.59	.12
United States History					
Academic Emphasis	33.56	.60**	.36	.35	7.61
SES[1]	-.30	-.36*	.47	.44	.12
English 11: *Reading*					
SES[1]	-.61	-.52**	.48	.46	.14
Academic Emphasis	30.82	.40**	.61	.58	9.32
English 11: *Writing*					
SES[1]	-.86	-.69**	.48	.47	.15
Academic Emphasis	27.41	.33*	.57	.55	10.25

**p<.01
*p<.05
[1] Explained by Percent of Students on Free and/or Reduced Lunch

Third Research Question

Is there a relationship between academic optimism and organizational citizenship behaviors in schools?

The data from the bivariate correlation indicates there is a significant, positive relationship between academic optimism and organizational citizenship behaviors in schools ($r = .87$, $p<.01$). When controlling for student SES, the partial correlation between the two constructs remains nearly as significant ($r = .83$, $p<.01$). These findings suggest that in schools where teacher assistive behaviors are practiced more frequently, the more likely the school environments foster trust, academic focus, and collective teacher efficacy. Further analysis reveals significance between organizational citizenship behaviors and each of the dimensions of academic optimism, with the strongest correlation between citizenship behaviors and collective teacher efficacy ($r = .82$, $p<.01$). Both academic emphasis and faculty trust in students and parents share the same strong correlation, as well ($r = .77$, $p<.01$). Table 18 outlines the correlations between academic optimism and organizational citizenship behaviors in schools.

Table 18

Correlational Analysis of Academic Optimism and Organizational Citizenship Behaviors

	2.	3.	4.	5.
1. Organizational Citizenship Behaviors	.83**	.82**	.77**	.77**
2. Academic Optimism		.97**	.94**	.96**
3. Collective Teacher Efficacy			.89**	.89**
4. Academic Emphasis				.84**
5. Faculty Trust in Students and Parents				

**p<.01

Additional Results

Considering the strong correlations between academic optimism and organizational citizenship behaviors in schools, it is worthwhile to extrapolate further the individual influences of each construct on student achievement. Data from multiple regressions for student achievement, academic optimism, and organizational citizenship behaviors, even after controlling for student SES, indicated that academic optimism had a significant and positive independent effect on the four measures of student achievement. The regression data also indicated that academic optimism had a more significant effect than student SES on mean school achievement scores in Biology ($\beta = .52$, $p<.01$) and United States History ($\beta = .60$, $p<.01$), explaining 50% and 34% respectively of the variance in mean school scores. Although academic optimism was a significant secondary predictive variable for achievement in English 11: *Reading* ($\beta = .39$, $p<.01$) and English 11: *Writing* ($\beta = .31$, $p<.05$), it accounted for an additional 9% and 5% of the variance in mean school performance after factoring for student socioeconomic status.

Regression data also demonstrate that student socioeconomic status continued to have a significant and negative independent effect on achievement in Biology ($\beta = -.36$, $p<.01$), English 11: *Reading* ($\beta = -.48$, $p<.01$), and English 11: *Writing* ($\beta = -.69$, $p<.01$). However, student SES had no significant and independent effect on achievement in United States History ($\beta = -.31$). While these findings suggest that schools with higher proportions of students receiving free or reduced-priced lunches experienced lower mean school achievement scores on some Standards of Learning SOL tests, the absence of any significant effect of SES on mean school score variance in United States History warrants additional research. Moreover, the regression data indicated there were <u>no</u> significant, independent effects of organizational citizenship behavior on mean school achievement scores when factoring for student SES.

Interestingly, the impact of OCBs on achievement in English 11: *Reading* and *Writing* was slightly negative. While several studies of OCB confirm a strong link between the prevalence of OCBs and student achievement (DiPaola & Hoy, 2005a; 2005b; Jurewicz, 2004), the findings of this study emphasize the stronger potential of academic optimism in schools to have a significant and positive impact on student achievement despite student family background. Table 19 contains the regression analysis data for academic optimism, organizational citizenship behavior, student achievement, and student SES.

Conclusion

In this study, academic optimism was found to be a singular, unified characteristic of schools. Results from the unrotated factor analysis of the survey items for academic optimism confirmed this singular component; however, the additional rotated interpretation confirmed a three-factor primary structure with faculty trust in students and parents, collective teacher efficacy, and academic emphasis emerging as the principal dimensions that accounted for 35 percent of the total variance among survey items.

Significant relationships also were found between the variables in this study. The Pearson correlation (r) statistics revealed that academic optimism was positively and significantly related to mean school achievement scores in Biology, United States History, English 11: *Reading*, and English 11: *Writing*. The strongest and most significant relationships were found between academic optimism and achievement in Biology and United States History, both of which are true "end-of-course" assessments administered at the conclusion of the specific coursework. Considering that English 11: *Reading* and English 11: *Writing* assessments are more cumulative—that is, they represent more longitudinal skill development in language arts—the stronger impact of academic optimism on the more-singular Biology and United States History

assessments presents an interesting basis for additional discussion in this study. Subsequent correlation statistics also demonstrated that each of the dimensions of academic optimism was positively related to mean school achievement with one exception: faculty trust in students and parents was not significantly related to English 11: *Writing* achievement.

Additional multiple regression analysis also revealed that academic optimism had a significant and positive independent effect on student achievement when controlling for student socioeconomic status. Additional regressions also indicated that organizational citizenship behaviors had no significant impact on student achievement when factoring for student SES. For two achievement measures (English 11: *Reading* and *Writing*), OCBs had a slightly negative effect on achievement. Considering the strong correlations between academic optimism and organizational citizenship behaviors in the sample of schools in this study, this characteristic provides a worthwhile basis for further discussion.

Table 19

Summary of Stepwise Regression Analyses for Academic Optimism and Organizational Citizenship Behavior (OCB) Predicting Student Achievement (N=36)

Dependent Variable Significant Predictor Variable	B	Beta (β)	R^2	Adjusted R^2	SE (β)
Biology					
Academic Optimism	27.0	.52**	.52	.50	6.70
SES[1]	-.34	-.36**	.61	.59	.12
OCB		.12			
United States History					
Academic Optimism	27.24	.60**	.36	.34	6.25
SES[1]		-.31			
OCB		.02			

English 11: *Reading*					
SES[1]	-.56	-.48**	.48	.46	.16
Academic Optimism	24.46	.39**	.58	.55	8.53
OCB		-.08			
English 11: *Writing*					
SES[1]	-.86	-.69**	.48	.47	.15
Academic Optimism	20.67	.31*	.55	.52	9.36
OCB		-.01			

**p<.01
*p<.05
[1] Explained by Percent of Students on Free and/or Reduced Lunch

CHAPTER 5

Summary of the Findings

As local, state, and national pressure for achievement for all students continues to build, this research study of the relationships between academic optimism, organizational citizenship behaviors in schools, and student achievement has considerable practical implications for school leaders and school improvement efforts. This chapter provides a brief summary of the research findings, a discussion of the results, implications for school practice, and recommendations for additional related research.

Introduction

For more then forty years, school researchers and reformers have sought to identify and examine social and organizational attributes of schools that have contributed to student achievement beyond the grasp of student socioeconomic status. Although the Coleman Report (Coleman, et. al., 1966) and later research has continued to confirm the dominant relationship between social class and student achievement (Hoy, Tarter, & Woolfolk-Hoy, 2006; Hoy, Sweetland, & Smith, 2002; McGuigan & Hoy, 2005), additional school-level variables also have been shown to significantly impact student achievement, including: teacher quality, training, and professional development; curriculum and instructional planning and strategy; and school leadership (Jurewicz, 2004). New accountability standards and legislation, and especially for minority subgroups of ethnicity, poverty, disability, and limited English proficiency, have motivated school leaders to identify and explore organizational factors associated with school effectiveness and improvement (Hallinger & Murphy, 1986; McGuigan, 2005).

The roots of academic optimism and organizational citizenship behaviors in schools can be traced to early research on organizational effectiveness and climate (Deal, 1983; Hoy, et. al.,

1991). Chester Barnard (1938) sought to characterize workplace management and efficiency by suggesting that organizational hierarchy and effectiveness were underscored by employees' social relationships and informal professional interconnections in the workplace. Katz and Kahn (1966) extended Barnard's work by arguing that organizational effectiveness functioned from employees' innovative and spontaneous "extra-role" behaviors that occurred outside of their traditional workplace roles. These behaviors, such as congeniality and helpfulness, were considered acts of professional compassion and occurred more frequently as feelings of "citizenship" arose within an organization (Burns & Collins, 1995).

Bateman and Organ (1983) first used the term "organizational citizenship behavior" (OCB) to describe employee behaviors and performance that "lubricated the social machinery of the organization" (p. 588). They found that such behaviors were commonplace in nearly all organizational settings and existed outside more traditional reward systems. Moreover, these individually altruistic, willing, and discretionary behaviors that helped coworkers with problems or needs were found to be crucial to organizational functioning and more influential than traditional task-related performance (DiPaola & Hoy, 2005a; 2005b; Podsakoff, et. al., 2000).

The application and extension of organizational citizenship behaviors from the commercial workplace to school settings is relatively new (DiPaola, et. al., 2005; DiPaola & Hoy, 2005b; DiPaola & Tschannen-Moran, 2001; Jurewicz, 2004) and has identified a more singular dimension of OCB existing in schools that emerged from the collective mission of all school employees—helping students.

A number of recent studies confirm the strong relationship between the prevalence of OCBs in schools and student achievement (DiPaola & Hoy, 2005b). In their study of 97 high

schools in Ohio, DiPaola and Hoy (2005b) found positive and significant correlations between OCBs and achievement in Math (partial $r = .30$, $p<.01$) and Reading (partial $r = .28$, $p<.01$). In her study of OCB and student achievement in middle schools, Jurewicz (2004) found strong correlations between OCBs and achievement in English ($r = .35$, $p<.01$) and Math ($r = .35$, $p<.01$). Even when controlling for student socioeconomic status, data confirmed the association between OCBs and achievement in English ($\beta = .22$, $p<.05$).

Early work on organizational climate began in the 1950s and suggested that a more "informal" organization occurred within traditional departments and divisions of labor that influenced employee actions (Deal, 1983). Subsequent studies of climate in schools found a strong relationship between school leadership and school atmosphere that helped describe the potential of a school's "personality" to influence behaviors of teachers and principals (Halpin & Croft, 1963). More recent research indicates that student achievement is positively influenced by school climate, as characterized by the attitudinal attributes of teachers and the quality of their interactions with students (DiPaola & Hoy, 2005b; DiPaola, Tarter, & Hoy, 2005; DiPaola & Tschannen-Moran, 2001; Jurewicz, 2004; Wang, Haertel, & Walberg, 1997).

More recently, the academic optimism construct has emerged from a number of significant studies linking several key organizational characteristics of school climate and student achievement: collective teacher efficacy; academic emphasis of the school; and faculty trust in students and parents. Each of these dimensions has been shown to correlate strongly with student achievement, even after isolating the effect of student SES (Hoy, et. al., 2006; McGuigan, 2005). In fact, Hoy and his colleagues (2006) suggest that these three components are so interdependent that they operate as a singular unified trait of schools that captures the

collective attitudes and perceptions among teachers about their school's potential to influence student performance.

Like school climate and OCBs in schools, academic optimism also has been shown to have a significant, positive, and independent effect on student achievement. In their study of 96 high schools, Hoy and his colleagues (2006) found that "academic optimism was directly related to student achievement (.27)" (p. 439) even after controlling for student SES. In her study of 146 elementary schools, McGuigan (2005) confirmed the work of Hoy and his colleagues (2005; 2006) that academic optimism was a singular trait of schools; however, she did not identify a significant or independent effect of academic optimism on value-added achievement gains, presumably because of the inter-classroom variability of classes at the same grade level (2005).

This study investigated the structure of the academic optimism construct in a convenience sample of Virginia public high schools and revisited the relationship between academic optimism and student achievement. In addition, this study explored the relationship between academic optimism and organizational citizenship behaviors in schools. Academic optimism was measured using a compilation of valid and reliable excerpts from existing survey instruments for collective teacher efficacy (Goddard, 2002), academic emphasis (Goddard, Hoy, et. al., 2000), and faculty trust in students and parents (Hoy & Tschannen-Moran, 2003). Organizational citizenship behavior in schools was measured using a 12-item variant of the Organizational Citizenship Behavior in School Scale (OCBS) (DiPaola, Tarter, & Hoy, 2005). Student achievement was measured by several Virginia Standards of Learning (SOL) Tests in Biology, United States History, and English 11: *Reading* and English 11: *Writing*. The SOL assessment results and free and reduced lunch statistics were obtained from the Virginia Department of Education.

Discussion of the Results

This research study has yielded a number of significant results that support the earlier work of Hoy and his colleagues (2006) regarding the potential of academic optimism in schools to positively influence student achievement. The three dimensions of academic optimism—collective teacher efficacy, academic emphasis, and faculty trust in students and parents—have been shown to correlate significantly with student achievement even when controlling for student family background (Hoy, et. al., 2005; McGuigan, 2005). Academic optimism is a collective attribute of schools characterized by the aggregated belief of teachers that conditions exist in their schools that work to promote student performance, resulting in a collective "optimism" among the faculty that students can and will achieve (McGuigan, 2005).

Factor Analysis: Academic Optimism

The first part of this research study examined the component structure of the academic optimism construct and confirmed that the three dimensions of academic optimism manifested themselves as a singular, unified characteristic of schools. Results from the unrotated factor analysis support the unified construct hypothesis of Hoy and his colleagues (2006) and McGuigan (2005), with each of the 30 survey items for academic optimism loading as a singular, primary component. Subsequent rotational analysis confirmed that academic optimism was comprised of three principal factors aligning with collective teacher efficacy, academic emphasis, and faculty trust in students and parents, with the two most distinctive factor analysis components containing survey items for faculty trust and academic emphasis. In addition, this study found significantly strong correlations between school-level means for each of the dimensions of academic optimism, thus confirming that the survey items are valid, reliable, and capture their intended construct.

Correlational Analysis: Academic Optimism and Student Achievement

This study also explored the relationship between academic optimism and student achievement measured by mean school scores on Virginia Standards of Learning Tests in Biology, United States History, English 11: *Reading*, and English 11: *Writing*. In the initial correlational analyses, results indicated strong and significant partial correlations between academic optimism and each of the four school-level achievement measures when controlling for student SES; however, the link between academic optimism and English 11: *Writing* was the least significant ($r = .36$, $p<.05$) and the only achievement measure with significance measured at the $p<.05$ level. The results of this study suggest that skill development and performance in writing may be less a function of work that is specific to one course or one academic year as other end-of-course assessments such as Biology and United States History provide; rather, writing proficiency and related skills likely are more a function of cumulative skill development and practice over a protracted period of at least one academic year.

Additional partial correlations for each of the dimensions of academic optimism and the four achievement measures also produced strong independent relationships. Collective teacher efficacy was shown to have the most significant correlation with Biology performance, while academic emphasis was the principal predictor of performance variance in United States History and both English 11 assessments. The interpretation of these findings is more subjective: for Biology, the link between efficacy and achievement may be more a function of a faculty's perception of content complexity. While Biology may represent students' first experience with novel and more abstract scientific concepts and reasoning, it also appears to be influenced more significantly by inherent teacher attitude toward student learning.

A speculative interpretation of the relationship between academic emphasis and the remaining three measures of student achievement may suggest that student performance on these assessments results from a faculty's belief that a more aggressive academic focus is critical to success on tests with less abstract content. Nonetheless, academic emphasis is a significant factor that accounted for nearly 18% of the performance variance for English 11: *Writing* and 25% of the variance for English 11: *Reading* and United States History. Consistent with the relationship between the collective construct of academic optimism, performance in English 11: *Writing* demonstrated the least significant relationship with its primary predictor variable, academic emphasis ($r = .42$, $p<.01$).

Both collective teacher efficacy and academic emphasis were strong predictors of all four achievement measures; however, although the factor analysis in this study found faculty trust in students and parents to be the principal component extracted from the total number of survey items, it had no significant independent relationship with achievement in English 11: *Writing* ($p=.26$). In fact, faculty trust in students and parents exhibited the least significant relationships among all four achievement measures despite its strong correlations with collective teacher efficacy ($r = .89$, $p<.01$) and academic emphasis ($r = .84$, $p<.01$). While this discrepancy may be unique to this sample, it warrants additional consideration and is an avenue for additional research. Nonetheless, this study consistently found that cumulative writing knowledge and skills, as measured by the English 11: *Writing* assessment, were much more dependent upon teacher attitudes about rigor and learning than upon their perceptions of trust among students and parents.

Regression Analysis: Academic Optimism and Student Achievement

Regression analyses of student achievement and academic optimism yielded more significant results even after factoring for student socioeconomic status. Consistent with a number of related studies on the effects of student socioeconomic status and student achievement (Buttram & Carlson, 1983; Coleman, et. al., 1966; Edmonds, 1979; Hoy & Sweetland, 2001; Hoy, Sweetland, et. al., 2001; Jurewicz, 2004; McGuigan, 2005; Purkey & Smith, 1983), this study also yielded significant effects of student SES on student academic performance. In Biology achievement, student SES was found to be an independent secondary predictor variable accounting for 35% of the variance in mean Biology scores ($\beta = -.36$, $p<.01$). In English 11: *Reading* and English 11: *Writing* achievement, student SES was found to be an independent primary predictor variable accounting for approximately 21% ($\beta = -48$, $p<.01$) and 22% ($\beta = -.70$, $p<.01$) of the variance in mean school scores, respectively. Negative Beta weights indicated that schools with higher proportions of students receiving free and reduced lunches experienced lower achievement in Biology and both English 11 assessment measures. Interestingly, however, this study found that student SES was not a significant predictor of achievement in United States History. This finding was unexpected and surprising.

Despite the inverse relationship between student SES and achievement, academic optimism continued to demonstrate its potential for positively impacting student performance. In Biology ($\beta = .52$, $p<.01$) and United States History ($\beta = .60$, $p<.01$), academic optimism was a powerful primary predictor of variance in mean school scores and more significantly related to performance than student SES. For English 11: *Reading* ($\beta = .39$, $p<.01$) and English 11: *Writing* ($\beta = .31$, $p<.05$), academic optimism was a secondary predictor of variance in performance accounting for additional significant variance beyond the primary effect of student SES. These results are fairly consistent with the prior research by Hoy and his colleagues (2006), whose

sample of 96 high schools from a Midwestern state found (through Structural Equation Modeling) that academic optimism was statistically significant and directly related to achievement variance in science and math (path coefficient = .21) and achievement variance in reading, writing, and social studies (path coefficient = .27) even after controlling for student SES and prior student achievement. The results of this study, however, are slightly contradictory: notwithstanding the significant relationship between academic optimism and achievement in United States History, data in this study suggest that academic optimism may be a more powerful predictor of science achievement and less powerful for reading and writing achievement.

The results of this study also are not consistent with the work of McGuigan (2005), whose correlational analyses of academic optimism and value-added achievement gains in fourth and fifth grade reading and math were not significantly related. In her convenience sample of 40 Ohio elementary schools, McGuigan (2005) found a strong relationship between value-added gain scores within the same grades and between all subjects; however, she found either no relationship or a negative relationship between value-added gain scores in fourth grade and value-added gain scores in fifth grade. In fact, she found "a significant negative relationship between fourth grade and fifth grade scores in reading ($r = -.40$, $p<.05$)" (p. 127).

With two confirming introductory studies of high schools and one non-confirming study of elementary schools, the possibility exists for academic optimism to have a more significant impact at the secondary level where responsibility for learning may shift away from the instructor and more toward the individual student. There remains strong potential for additional research in this area at all school levels.

This study also examined the relationship between each of the dimensions of academic optimism and the four student achievement measures through additional regression analyses.

Similar to the results from the regression analyses of academic optimism and achievement, this study found that variance in Biology and United States History achievement was most influenced by singular dimensions—collective teacher efficacy and academic emphasis, respectively—even after controlling for student SES. Similar to the collective effect of academic optimism, achievement variance in Biology and United States History appears to be more related to the concurrent effects of teacher and school rather than the cumulative effects of longitudinal skill development manifested in reading and writing performance.

Correlational Analysis: Academic Optimism and Organizational Citizenship Behavior in Schools

Finally, this study also explored the relationship between academic optimism and organizational citizenship behavior in schools. As expected, the strong correlation between organizational citizenship behavior and academic optimism ($r = .83$, $p<.01$) suggested a positive, reciprocal relationship: strong collective beliefs among teachers about their ability to positively impact learning results in more prevalent helping behaviors associated with organizational citizenship.

Regression Analysis: Academic Optimism, Organizational Citizenship, and Student Achievement

To further explore the related significance of the two constructs, subsequent regression analyses that included student SES and achievement yielded powerful—but somewhat inconsistent—results. For each of the four achievement variables, academic optimism had a more significant and independent positive effect on achievement variance than did OCB, even when factoring for student SES. Of particular interest was that organizational citizenship behavior in schools was found to be less influential than student SES and demonstrated no significant relationship among any of the achievement variables. In fact, OCB was found to have a slightly inverse effect on achievement in reading and writing. The absence of any significant correlation

between OCBs and student achievement in the initial multiple regression analyses was confounding, especially considering the strong correlation between OCBs and academic optimism and the significant effects of OCBs on student achievement found in prior research.

In her study of the effects of OCB on English and math achievement in 82 Virginia middle schools, Jurewicz (2004) found significant, positive, and independent effects of OCB on middle school reading achievement after controlling for student SES; however, her regression analysis found no significant effects of OCB on middle school math achievement.

In their seminal study of the relationship between organizational citizenship behavior and student achievement in a sample of 97 Ohio high schools, DiPaola and Hoy (2005b) found through regression analysis that OCBs had significant, positive, and independent effects on both reading and math achievement after controlling for student socioeconomic status. In fact, they found that OCB was a stronger predictive variable than SES for reading achievement. Although there were discrepancies between the effects of OCBs on math achievement, the two studies did reveal significant effects of OCB on reading achievement. With strong correlations found between OCB and academic optimism in the current study, as well as a consistent pattern of significant effects of OCB on reading achievement in prior research, then why did OCB demonstrate such insignificant relationships with achievement in the initial regression analyses of the current study? This discrepancy required further exploration and discussion.

In addition to the inherent differences in student background knowledge, teacher experience and quality, school size and attendance, class size, and a host of other school and classroom variables, there likely are broad differences between the sampled middle and high schools that made achievement comparisons challenging. Differences in curriculum, instructional scheduling and design, length of school day and year, and differences in proficiency

standards and instruments all have the potential to produce inconsistent effects of specific organizational variables on achievement. For example, the middle school study (Jurewicz, 2004) incorporated Virginia Standards of Learning Tests for Grade 8, the Ohio high school study (DiPaola & Hoy, 2005b) incorporated Ohio Department of Education proficiency tests for Grade 12, and the current study employed the Virginia End-of Course and Grade 11 English assessments. Nonetheless, the absence of any significant relationships in the current study between OCB and achievement seemed unreasonable.

Given the strong correlations between academic optimism and organizational citizenship behaviors in schools, it is more likely that organizational citizenship in this study was masked by the dominant effects of academic optimism. In fact, the two constructs likely are highly congruent and reciprocal. Similar to an outlier in factor analysis, multiple regression permits the extraction of only one explanatory correlate at a time. Because academic optimism and student SES were either primary or secondary predictors of achievement, the residual variance likely was insignificant. As a result, OCB as a tertiary variable demonstrated insignificant effects.

OCBs in schools characterize the collective behavioral perceptions among teachers of their colleagues' discretionary behaviors—what teachers *do* to help their school communities. Academic optimism, however, characterizes the collective cognitive, affective, and behavioral perceptions among teachers of what colleagues *believe about learning* in their school communities. Unlike behaviors, beliefs and values typically are not discretionary; rather, they are steadfast and work to underscore behavior. Academic optimism appears to harness the cognitive and affective dimensions (efficacy and trust) into actions (academic emphasis) that influence teaching and learning.

The negative beta weights for OCB and reading and writing achievement were so close to zero that they likely did not constitute an authentic inverse relationship. Given the strong correlations between OCB and academic optimism found in this study, it may be more sensible to consider the small negative effects as byproducts of the insignificant residual achievement variance.

To confirm the possible masking effect of academic optimism on OCBs, a secondary regression analysis of organizational citizenship behavior in schools and student SES was performed on each of the achievement variables. Academic Optimism was removed from the regression model. Results from these confirmatory regression analyses confirm the significant, positive, independent effects of organizational citizenship behaviors in school on each of the achievement variables except writing:

1. English 11: *Writing* – Student SES was the singular predictive variable; OCB was excluded entirely from the model.

2. English 11: *Reading* - OCB had a significant, positive secondary effect on reading achievement ($\beta = .30$, $p<.05$) behind the primary negative effect of student SES ($\beta = -.55$, $p<.05$) and explained an additional 6% of the achievement variance.

3. United States History - OCB had a significant, positive secondary effect on United States History achievement ($\beta = .34$, $p<.05$) behind the primary negative effect of student SES ($\beta = -.38$, $p<.01$) and explained an additional 7% of the achievement variance.

4. Biology – The effect of OCB on Biology achievement was the most significant, emerging as the primary predictor of Biology achievement variance ($\beta = .45$, $p<.01$) at the .01 level of significance and explaining 41% of the initial variance in Biology achievement before the effects of SES were extrapolated.

The results for OCB in this regression of both English achievement variables were more definitive and demonstrated consistency with the prior studies. Like the results from the Ohio sample (DiPaola & Hoy, 2005b) and Virginia middle school sample (Jurewicz, 2004), the current study also found that OCB was a significant predictor for English reading; however, the absence of a significant relationship between English 11: *Writing* achievement and OCB in the current study is perplexing and warrants additional exploration, especially considering the strong correlation between mean school scores in English 11: *Reading* and *Writing*.

With the potential masking effects of academic optimism on organizational citizenship behaviors explained, comparisons of the regression analyses yielded intriguing results: in all achievement regressions, academic optimism produced a stronger and more significant independent beta weight than OCB when controlling for student socioeconomic status. Although strongly correlated to OCB, academic optimism clearly is the more robust construct and demonstrated more significant effects on student performance than organizational citizenship behaviors. Academic optimism appears to reach farther than OCB to produce even greater achievement results by releasing and enacting teachers' fundamental beliefs about instruction, learning, and the potential for higher levels of student achievement. The results of this study are convincing: prolific gains in student achievement are cultivated in the most optimistic school environments.

Implications for Practice

The nationwide movement toward greater school accountability has gained considerable momentum in recent decades and has initiated a host of new research aimed at identifying malleable attributes of schools with the potential to positively influence student achievement. The introduction of *No Child Left Behind* (2001) legislation has pressured school leaders to meet

increasing minimum federal standards of performance for all students—but also to avoid the consequences for schools that do not. In Virginia, for example, sanctions for underperforming schools include state-mandated technical assistance models that impose corrective actions designed to enhance school performance in several areas including curriculum alignment, professional development, and data analysis (Jurewicz, 2004). The results from the current and related studies suggest, however, that such a conventional and linear approach to improving school effectiveness fails to address the underlying social contexts within schools that have been shown to impact student achievement.

Few school-level variables have demonstrated as much influence on student academic achievement as socioeconomic status. A growing body of research has shown strong connections between achievement and school climate (Hoy & Hannum, 1997; Hoy, et. al., 1990; 1996; 1998), organizational citizenship (DiPaola & Hoy, 2005a; 2005b; Jurewicz, 2004), and the three dimensions of academic optimism—collective teacher efficacy (Goddard, 2001; 2002; Goddard, Hoy, et al., 2004; 2000; Goddard, Sweetland, et. al., 2000; Tschannen-Moran & Woolfolk-Hoy, 2001; Tschannen-Moran, Woolfolk-Hoy, et. al., 1998), academic emphasis (Bryk, et. al., 1993; Goddard, Sweetland, et al., 2000), and faculty trust in students and parents (Bryk & Schneider, 2003; Goddard et al., 2001; Hoy & Tschannen-Moran, 1999; Tschannen-Moran & Hoy, 1998; 2000).

Recent research by Hoy and his colleagues (2005; 2006) suggests that these three dimensions comprise a singular construct —academic optimism—that is manifested in teacher attitudes and perceptions about teaching and learning and exerts a powerful influence on student performance. Certainly there are other factors beyond the grasp of schools—individual student ability and background knowledge, motivation, and learning style, for example—that also

influence achievement; however, the current study confirms that Hoy and his colleagues are correct: academic optimism is a unified construct of triadic school variables that works in ways that improve student achievement. Given the strong significance of such organizational variables, how can school leaders engender academic optimism in schools? Some obvious strategies involve enhancing its component parts (Hoy, et. al., 2006).

Collective Teacher Efficacy

Bandura's (1986, 1989) pioneering work on self-efficacy helped establish links between efficacy in schools and student achievement (Bandura, 1993). The sources of Bandura's self-efficacy concepts were mastery and vicarious experiences, social (or verbal) persuasion, and affective states (Bandura, 1989), all of which helped positively influence teacher behaviors in schools (Bandura, 1993). School leaders can help impact student performance by considering ways to improve teacher efficacy through high quality, relevant, professional development activities that are job- or task-embedded and foster professional growth, targeted development, and performance mastery. Examples of such experiences include: professional release time for colleagues to collaborate on instructional best practices or data analysis; quality mentorship programs that provide individualized support for new and veteran teachers; vicarious learning experiences such as peer coaching and observing others who model effective instructional behaviors; school-wide recognition of commitment and hard work; and scheduling or team-building activities for teachers that foster collegiality, collaboration, and shared responsibility. Such experiences have the potential to promote affective states of professional emotional arousal that strengthen and reinforce desirable teacher behaviors (Bandura, 1989). Principals that model efficacious behaviors by structuring their schools in ways that encourage these types of

experiences for teachers are more likely to improve collective teacher efficacy and academic optimism (Hoy, et. al., 2006).

Academic Emphasis

Schools share a common, primary goal for students: learning and academic achievement. Schools with strong measures of academic emphasis are structured in ways that make learning central for teachers and students. These schools establish high achievement goals for students but also believe that students can be motivated and supported to work hard and meet expectations. School leaders can enhance the academic emphasis of their schools in a number of important ways: limiting disruptions to the instructional schedule and maximizing time on task and opportunity to learn; reviewing achievement data regularly to identify and resolve barriers to student performance; providing targeted assistance to low-achievers; and recognizing and celebrating the hard work and academic achievement of students in ways that reinforce student performance, such as achievement assemblies, honor rolls, and the display of student work.

Despite these efforts, however, principals also must be careful not to push too hard, too quickly, or too far. While the recent accountability movement has imposed rigorous demands upon schools, an overly-aggressive approach to achievement may have negative consequences, especially in high-stress environments where teacher efficacy and student achievement are marginal, or in higher-performing environments where teachers and students already perceive that they are successful. In these instances, developing stronger academic emphasis may be a long-term goal as students—and teachers—learn to accept and internalize higher standards of performance. The challenge for principals is to lead by example to "create school conditions in which teachers believe they [and their students] are up to the task" (Hoy, et. al., p. 441).

Faculty Trust in Students and Parents

Like collective teacher efficacy, trust in schools is a reciprocal and reinforcing construct: building mutual trust among teachers, students, and parents is an enabling force that promotes interconnected relationships whose shared focus is student achievement (Goddard, et. al., 2001; Hoy, 2002). Research on direct mechanisms that build trust are scant (Hoy, et. al., 2006); however, faculty trust in students and parents can be developed through a number of formal and informal exchanges. School leaders can enhance trust in their schools by considering actions or behaviors that appeal to each of the facets of trust (Hoy & Tschannen-Moran, 2003).

Benevolence

School leaders can improve trust in their school communities by assuming that teachers, students, and parents will act in good faith. Such assumptions by school principals suggest that teachers are professionals who inherently act responsibly and fairly, and students are young citizens who exhibit their best efforts to behave responsibly and achieve in school. These assumptions also suggest that teachers and parents are eager and willing partners who collaborate to maximize student success. Efficacious behaviors and organizational citizenship behaviors in schools are examples of benevolent behaviors that improve trust.

Reliability

Trust in schools can be fostered by school leaders who establish and model clear, consistent, and reasonable expectations for behavior and performance. Examples for teachers include principals who follow through on appointments and instructional observations and who establish time during the school day for informal contact with teachers. Examples for students include teachers who share specific performance expectations and learning objectives in advance of assignments or assessments. Examples for parents include teachers and principals who

communicate regularly regarding student performance and school news. When actions or communications occur regularly and purposefully, others gain confidence that performance will occur as expected.

Competence

Similar to reliability, school leaders can demonstrate professional competence by communicating and modeling high expectations and standards of performance for students and teachers. Such actions are more likely to elicit beliefs among teachers, students, and parents that school leaders possess the professional qualifications and skills necessary to operate the school efficiently and effectively. These feelings of competence can inspire others to believe in their own capabilities, as well.

Honesty

Finally, school leaders can engender trust among teachers, parents, and students by modeling and supporting open—and honest—communication and action. "Openness" is an important trait and refers to available and accessible communication channels. Examples for school leaders include regular office hours, parent meetings, newsletters, e-mail groups, and other formal or informal contact. "Honesty," however, is a more critical characteristic that refers to the accuracy, sincerity, and truthfulness of the intended message. Communications and behaviors that are interpreted by others as ambiguous, incomplete, unreliable, or dishonest are more likely to result in feelings of mistrust and suspicion.

Periodic newsletters or other informational memoranda from teachers or principals to students and parents can help communicate important news items and exemplary student performance that strengthen school-home relations and link parents to their child's school. The rise of e-mail distribution lists and other forms of electronic communication such as school or

teacher web pages and other software has enabled parents to remain current about school events, review student progress from home, and communicate more directly with teachers or administrators. These types of regular correspondence can reinforce school expectations in ways that promote academic emphasis and teacher efficacy. Such open lines of communication are important seeds of authentic trust among students and parents.

Principals can invoke trust among teachers that can have a reciprocal effect on students and parents. Professional development activities that address specific knowledge and skills for teachers can positively influence teaching attitudes and behaviors in ways that promote teacher persistence, commitment, motivation, and ultimately higher student achievement. McGuigan (2005) argues:

> A principal who, within the limits of his or her power, runs the school in a way that teachers see as enabling their work, and who is sensitive to effects of school management on teachers' work, is likely to be perceived as competent and caring. He or she is also likely to be seen as supporting the key academic mission of the school rather than enhancing his or her own power through hierarchies, rules and regulations. In this environment, teachers will be optimistic that students can be taught and will be academically successful (p. 153).

Organizational Citizenship Behaviors in Schools

The findings in this study confirm that academic optimism and organizational citizenship behaviors in schools are strongly correlated. Despite the stronger and more significant effects of academic optimism on achievement than OCB, the two constructs appear highly congruent and reciprocal: higher levels of teachers' perceptions of their school's ability to impact achievement are indicative of a professional environment characterized by a higher prevalence of

discretionary, helpful teacher behaviors. Additional findings in this study confirm that OCBs in schools are significantly related to student achievement in reading, Biology, and United States History.

Principals should consider ways to maintain or increase the potential for citizenship behaviors in schools by promoting and recognizing the types of behaviors characteristic of OCB in schools. Principals can model timeliness and a respect for professional time by starting and ending meetings promptly and recognizing those teachers who arrive on time. Principals can lead by example by providing personal assistance to teachers whenever possible and recognizing and celebrating the extra efforts and volunteerism of teachers. Finally, principals who promote organizational informality and establish fewer rules are more likely to foster greater flexibility, motivation, and behaviors that are less prescribed by formal rules and regulations (Jurewicz, 2004).

Academic Optimism

This study supports the premise that academic optimism is a singular construct associated with student academic achievement in schools even when factoring student socioeconomic status. Given the significance of academic optimism in this study, as well as its strong correlation to organizational citizenship behaviors in schools, educational leaders are wise to continue investing energy and resources into actions and organizational structures that promote positive teacher attitudes and behaviors that foster greater student achievement. This study provides clear and confirming evidence that in schools where teachers believe they can have a positive impact on student achievement, students experience higher levels of academic performance.

The relationship between academic optimism and student achievement is commutual; that is, each reinforces the other. High achievement expectations yield high achievement results,

which then yield high achievement expectations (McGuigan, 2005). No matter the interventions, however, principals should act in ways that support all three dimensions of academic optimism:

> For example, some ways of enhancing academic emphasis, such as more competitive grading and greater punishment for failure, could undermine the development of trust among teachers, students, and parents. Similarly, a focus on developing trust could come as a result of diminishing standards and rewarding students for merely adequate work, that is, providing only positive feedback (Hoy, et. al., 2006, p. 442).

The implication for educators is clear: enhancing the contextual characteristics of schools—collective teacher efficacy, faculty trust in students and parents, and academic emphasis—are more likely to result in stronger measures of academic optimism and higher levels of student academic achievement.

Recommendations for Further Research

Schools are dynamic institutions where a myriad of cognitive, affective, and behavioral variables intersect at multiple levels to influence academic achievement. The findings from this study confirm recent research on the positive effects of academic optimism in schools (Hoy, et. al., 2006; McGuigan, 2005) and are consistent with earlier research on the social characteristics of effective schools (Hallinger & Murphy, 1986; Purkey& Smith, 1983). This study emphasizes the importance of understanding the social, professional attributes of schools that underscore teacher attitudes and beliefs about learning to enhance student achievement.

Despite the variety of the convenience sample of 36 Virginia high schools in this study, the results nonetheless are limited and cannot be generalized to all Virginia high schools in all settings. Additional research is needed in diverse settings and states that incorporates differences in local and state achievement standards for students, and professional standards for teachers.

Moreover, additional studies at all levels—elementary, middle, and high school—would prove beneficial to the current understanding and provide additional insight into how academic optimism manifests itself in different learning communities. It is possible that elementary schools, for example, experience higher or lower measures of academic optimism, on average, than high schools, even after controlling for student SES and student achievement.

Related qualitative research on academic optimism is recommended, as well. In particular, would focus group discussions support the anonymous survey results? What are some of the common characteristics of schools that exhibit similarly high or low measures of academic optimism? How do these environments compare? What might teachers report as the single most influential attribute of their schools? In what ways do other variables interplay to influence academic optimism? School size, class size, teacher experience, content specialty, school schedule, and prior student achievement all are examples of variables that might exhibit antecedent effects on academic optimism. Thorough, qualitative exploration of academic optimism in schools would help identify those latent characteristics of schools in which the dimensions of academic optimism are rooted.

Although the relationship between academic optimism and reading achievement was demonstrated by this study and the two prior studies (Hoy, et. al., 2006; McGuigan, 2005), additional research with other subject areas is needed to confirm the results of this study. Are the effects of academic optimism consistently more significant in science classes, or would academic optimism be the most significant predictive variable for math achievement? Would additional research from other grade levels suggest that cumulative writing skills are less influenced by academic optimism than reading ability? The significant, positive, and independent impact of

academic optimism on student achievement found in this study certainly is encouraging but requires additional inquiry.

The current research on academic optimism is limited to public schools. Further exploration of the construct in the private or parochial school setting may be worthwhile, as well. For example, will high-achieving college preparatory schools exhibit similarly high levels of academic optimism compared to public schools? Such correlations in private schools with more homogenous student characteristics might prove to be invaluable to the current string of research.

Finally, the results of this study suggest that academic optimism and organizational citizenship behaviors in schools both have positive, independent—and intersecting—relationship to student achievement. The OCB construct measures teacher perceptions about discretionary, helpful behaviors that characterize what teachers *do* to help their schools. Academic optimism captures teacher attitudes and beliefs about learning that characterize how teachers *feel* about the academic potential of their schools. Results from this study indicate that academic optimism is the more robust predictive variable; however, additional research is recommended to determine the consistency of this potential significance.

Conclusion

Results from this study affirm the notion that academic optimism has a strong and significant relationship to student academic achievement, even after controlling for the significant effects of student socioeconomic status. School leaders who foster instructional environments that promote more optimistic attitudes among teachers are more likely to experience greater school-level achievement for all students. The evidence provided by this study offers hope for schools and students who struggle within them: principals who enact organizational structures that enhance academic optimism can make significant and profound

differences in the experiences of teachers that work to promote professional commitment and persistence, high quality instruction, assessment, and feedback, and greater student achievement.

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