COLLECTIVE EFFICACY, ORGANIZATIONAL CITIZENSHIP BEHAVIOR,

AND SCHOOL EFFECTIVENESS IN ALABAMA

PUBLIC HIGH SCHOOLS

by

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A DISSERTATION

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ABSTRACT

For several decades, researchers have searched for school-level properties that can overcome the negative consequences of student SES on school effectiveness. Two promising constructs that have been identified are collective teacher efficacy (CE) and organizational citizenship behavior (OCB). This study examined the relationship between these two constructs and their contributions toward school effectiveness.

A total of 1,859 teachers were surveyed from a random sample of 45 public high schools in Alabama. Established instruments were used to survey teachers' perceptions of CE, OCB, and school effectiveness in their schools. Three measures of school-level effectiveness were used in this study: teachers' perceptions, math achievement, and reading achievement. Achievement data were obtained for each school from the Alabama State Department of Education.

The findings for CE and school effectiveness supported past research findings. CE is significantly related to school effectiveness. This held for all measures of school effectiveness, even when controlling for SES and OCB. As CE levels rise in a school, so does school effectiveness. Findings for OCB and school effectiveness were mixed. Zero-order correlations found a significant relationship between OCB and all measures of school effectiveness. However, multiple regression analyses revealed the only significant relationship between OCB and school effectiveness, when controlling for SES and CE, to be with teachers' perceptions of effectiveness. OCB does not make unique contributions to school effectiveness as measured by student achievement. Findings did indicate a significant relationship between the constructs of CE and OCB.

DEDICATION

To my family--This journey has required many sacrifices of you. I have been absent or busy too much. Thank you for being so understanding.

To my wife, Leigh--Words cannot express my appreciation for your love and friendship. You have always been the rock in my life, always there, always supportive, and always encouraging. Through this endeavor it has been no different. Thanks for believing in me. You are the best. I love you dearly.

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CHAPTER 1

INTRODUCTION

Do certain characteristics of school organizations contribute to school effectiveness? The answer to this question has been sought by researchers for several decades. Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, et al. (1966), in their classic study, were among the first to study the impact of school-level variables on school effectiveness. Their findings cast a cloud of despair among the educational community as they reported that social and organizational characteristics of schools have only a minimal effect on school effectiveness in comparison to the overwhelming impact of socioeconomic status (SES). In response to Coleman et al.'s findings, numerous researchers have searched for school variables that do make a difference in student outcomes, in spite of the SES level of students in a school.

Edmonds (1979) was among the first to identify school-level properties that can overcome the negative consequences of student SES. He identified five factors that promote school effectiveness: strong instructional leadership by the principal, high expectations for student achievement, basic skills emphasis, orderly environment, and frequent and systematic student evaluations. Others have offered even more extensive lists (Purkey & Smith, 1983; Scheerens & Bosker, 1997). This line of research has been popularly labeled as effective schools research, but has been criticized due to its limited scope (Hoy, Tarter, & Hoy, 2006).

More extensive and controlled research efforts have indentified a small number of organizational properties that overcome the effects of SES and make a significant difference in school effectiveness. These properties include trust (Goddard, Tschannen-Moran, & Hoy, 2001),

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academic emphasis (Goddard, Sweetland, & Hoy, 2000), collective teacher efficacy (Goddard, LoGerfo, & Hoy, 2004), and organizational citizenship behavior (DiPaola & Hoy, 2005a).

Background of Study

Recent research efforts (DiPaola & Hoy, 2005a; Goddard, Hoy, & Hoy, 2000; Hoy, Sweetland, & Smith 2002) have tested the effects of collective teacher efficacy and organizational citizenship behavior on school effectiveness. However, there is little replication of these tests and no literature considering the joint effects of these two variables.

Collective efficacy (CE) is defined as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard et al., 2000, p. 480). Research has shown this construct to be significantly and positively related to student performance in schools and to be as important as or even more important than SES (Bandura, 1993; Goddard, Hoy et al., 2000; Goddard, LoGerfo et al., 2004; Hoy et al., 2002; Tschannen-Moran & Barr, 2004). The construct is solidly grounded in Bandura's (1977) social cognitive theory. This theory is concerned with how individuals and collectives exercise control over their lives through either human or collective agency. CE beliefs lie within the minds of the staff as a whole and affect its functioning as a whole (Bandura, 1997, 2000b). These beliefs also affect the collective's future goals, efficiency in the use of resources, level of effort exerted, and persistence and resiliency in the face of difficulties. CE beliefs are formed through cognitive processes and serve to motivate and regulate the coordinated actions of the group.

DiPaola, Tarter, and Hoy (2007) defined organizational citizenship behavior (OCB) in relation to schools as "voluntary and discretionary behavior of teachers that exceeds the formal requirements of the job" (p. 227). OCB is a relatively new construct, especially as it relates to

school organizations. Bateman and Organ (1983) first introduced the construct, although their research focused on organizations outside of education. They described OCB as those worker behaviors that are not formally prescribed, but freely occur and are important to the organization as whole.

DiPaola and Tschannen-Moran (2001) were the first to apply the construct to schools in two separate studies. They examined the relationship between OCB and school climate. The researchers concluded OCB has only one dimension in schools and not the five separate dimensions suggested earlier by Organ (1988). DiPaola and Tschannen-Moran's research found a positive relationship between OCB and four school climate characteristics: collegial principal leadership, teacher professionalism, academic press, and community engagement. Several other studies have studied the relationships between OCB and other school characteristics (DiPaola et al., 2007; DiPaola & Hoy, 2005b; Oplatka, 2006; Somech & Bogler, 2002; Somech & Ron, 2007). Research on the relationship between OCB and school effectiveness as measured by student achievement (Bazel, 2007;Cantrell et al., 2001; DiPaola & Hoy, 2005a; Jurewicz, 2004; Wagner, 2008) and teachers' perception of school effectiveness (DiPaola, Tarter, & Hoy, 2007) is limited to only a few studies. Results from studies examining the relationship between OCB and student achievement have been mixed. Early studies by Cantrell et al. (2001), Jurewicz (2004), and DiPaola and Hoy (2005a) revealed a positive and significant relationship between OCB and student achievement. However, later studies by Bazel (2007) and Wagner (2008) found no relation between the two.

Need and Purpose

The first need this study fulfilled was to extend the research on the construct of CE to Alabama public high schools. Researchers (Bandura, 1993; Goddard, Hoy et al., 2000; Goddard, LoGerfo et al., 2004; Hoy et al., 2002; Tschannen-Moran & Barr, 2004) have shown CE to be positively and significantly linked to student achievement at all school levels. However, there has been no large research effort in Alabama high schools to confirm this relationship. This study sought to confirm the relationship and to extend it to another measurement of school effectiveness: teachers' perceptions of school effectiveness.

A second need this study fulfilled was to extend the limited body of research on OCB in schools. Only three studies (Cantrell et al., 2001; DiPaola & Hoy, 2004; Juriewicz, 2004) have shown OCB to be significantly and positively related to student achievement. Two recent studies failed to find a significant relationship (Bazel, 2007; Wagner, 2008). The mixed results suggest a need to further analyze the effects of OCB. This study fulfilled the need to further examine OCB as a school-level property, especially in Alabama public high schools where no research has been completed in this area. As with CE, this study extended the examination of OCB to not only inquire about its relationship with student achievement, but also with teachers' perceptions of school effectiveness. DiPaola et al. (2007) explained the majority of research efforts on OCB have focused on the individual rather than the collective organization. This research effort fulfilled his call to examine OCB in a collective sense in schools.

The third need this study fulfilled was to simultaneously look at the school-level properties of CE and OCB. To date, no research effort has examined the two variables in one research effort. There is a need to understand how these two variables work together to affect school effectiveness.

The first purpose of this study was to examine the relationships between CE and school effectiveness. A second purpose was to examine the relationships between OCB and school effectiveness. A third purpose was to examine the relationship between CE and OCB. The fourth purpose was to simultaneously test the contributions of CE and OCB toward school effectiveness.

Definition of Concepts

The study of the relationships between CE, OCB, and school effectiveness requires an understanding of the following definitions:

Collective teacher efficacy (CE)--"the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard, Hoy, & Hoy, 2000, p. 480). Collective teacher efficacy was operationalized in this study with Goddard's (2002b) 12-item *Collective Efficacy Scale* (CES).

Organizational citizenship behavior (OCB)--worker behaviors that are not formally prescribed, but freely occur and are important to the organization as a whole (Bateman & Organ, 1983); "voluntary and discretionary behavior of teachers that exceeds the formal requirements of the job" (DiPaola et al., 2007, p. 227). OCB was operationalized in this study with the 12-item *OCB scale* developed by DiPaola et al. (2007, 2005a, 2005b).

School effectiveness--an assessment of school performance based on two contrasting means: student achievement and teachers' perceptions of effectiveness (Tarter & Hoy, 2004). Student achievement was operationally defined in this study by the percentages of 11th grade students in each school passing the AHSGE in both the reading and math subtests. Passage of the tests requires that a student score at Level III or higher. The passage rates were obtained from the

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Alabama State Department of Education's (2009a) online *Accountability Reporting System*.

Teacher's perceptions of effectiveness were operationalized in this study with Miskel et al.'s

(1979) *Index of Perceived Organizational Effectiveness* (IPOE).

Research Questions

The focus of this research study is summarized through the following set of research

questions:

1. What relationship exists between collective teacher efficacy and school effectiveness

in Alabama public high schools?

2. What relationship exists between collective teacher efficacy and organizational

citizenship behavior in Alabama public high schools?

3. What relationship exists between organizational citizenship behavior and school

effectiveness in Alabama public high schools?

4. When examined simultaneously, what type of relationships exists between collective

teacher efficacy, organizational citizenship behavior, and school effectiveness in Alabama public

high schools?

Scope

The scope of this study included a random sample of 45 Alabama high schools chosen

from a population of 202 Alabama public high schools. High schools were defined as those

schools with grade configurations of either 9-12 or 10-12.

Limitations

The research findings of this study were limited in the following ways:

1. Due to the population of this study being focused only on schools in Alabama, the findings may not be generalizable to other states.

2. Due to the population of this study being focused only on high schools with grade configurations of either 9-12 or 10-12, the findings are limited to high schools similar to the sample and may not be generalizable to schools with other grade configurations.

3. This study attempted to control for SES, but other school variables not controlled for may have impacted school effectiveness.

4. The findings are limited according to the constitutive and operational definitions set out in this study for the variables considered.

5. The findings are dependent on the voluntary nature of teachers and their accurate perceptions of the variables involved and must be considered in light of the reliability and validity of the instruments used to collect the data.

6. The findings are limited to the current timeframe due to the study using cross-sectional versus longitudinal data.

Summary

This study is divided into five chapters. Chapter 1 is an introduction to the study and includes the background of the study, the need and purpose, definition of concepts, the research questions that frame the study, the scope and limitations of the study, and a summary. Chapter 2 presents a comprehensive review of the constructs making up the conceptual framework of the study: CE, OCB, and school effectiveness. It also includes a proposed theoretical model and the

hypotheses that guided this study. Chapter 3 presents the research methodology used in the study and includes a description of the population, sample, measurements, data collection methods, and data analysis techniques. Chapter 4 presents the descriptive statistics, findings from correlational analyses, findings from multiple regression analyses, and a brief summary of data findings. Tables are included to assist in describing the results. Chapter 5 presents a summary of the research, findings, discussion of findings, implications for practice, and implications for further research.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The literature review presents the research history of three school-level constructs related to organizational theory: collective teacher efficacy (CE), organizational citizenship behavior (OCB), and school effectiveness. Using the constructs as a conceptual framework, a theory is constructed to explain the relationship between the three constructs. Hypotheses are derived to test the proposed theory.

Conceptual Framework

Collective Teacher Efficacy

The Emergence of Teacher Efficacy

The construct of teacher efficacy emerged from two different theoretical perspectives from the field of psychology: Rotter's (1966) locus of control theory and Bandura's (1977, 1986, 1997) social cognitive theory. This dual emergence has spurred much debate over the definition and measurement of teacher efficacy (Ashton, Olejnik, Crocker, & McAuliffe, 1982; Gibson & Dembo, 1984; Goddard, Hoy et al., 2000; Guskey & Passaro, 1994; Pajares 1996, 1997; Tschannen-Moran, Hoy, & Hoy, 1998). In order to present a guide for this study, teacher efficacy will be defined as, "the 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).

Rotter's locus of control. Locus of control serves as the framework for Rotter's (1954) social learning theory of personality. Rotter (1966) explained locus of control as the manner in which people control reinforcement of their actions. Individuals are either more internal or external in their sense of controlling of what happens in their lives. Rotter (1975) explained an individual's sense of locus of control is not an either/or typology; it lies on a continuum between internal and external. Those having a strong sense of internal control (*Internals*) tend to believe they have a sense of control in their life, attributing outcomes to their own abilities and efforts. Internals display characteristics of high achievement motivation and low outer-directedness, often attributing success to hard work. As a result, they are more willing to put in the extra effort needed to attain success (Rotter, 1966). Individuals with a strong sense of external control (*Externals*) attribute outcomes to external circumstances, such as luck or other uncontrollable environmental factors. They are less likely to attribute outcomes to their own efforts, feeling less in control of their lives. Externals are often more likely to be stressed and experience forms of depression than internals (Benassi, Sweeney, & Dufour, 1988).

Rotter (1966) developed the *Internal-External Locus of Control* (I-E) scale to measure an individual's beliefs in whether he or she attributes outcomes in his or her life to either external or internal forces. The scale was used to support Rotter's locus of control theory. Rotter's locus of control theory greatly influenced researchers (Armor et al., 1976; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977) during the RAND Corporation studies, from which the construct of teacher efficacy first emerged.

Bandura's Influence: Social Cognitive Theory and Self-efficacy

A second theoretical perspective on teacher efficacy was Bandura's (1977) social cognitive theory. According to this theory, "individuals are producers of events and shapers of their environment" (Bandura, 2000b, p. 75). Bandura (1977) explained this process as an action of human agency, where individuals select and construct the environments in which they function. The most fundamental mechanism of human agency is personal or self-efficacy. Goddard, Hoy, and Hoy (2004) stated, "The most fundamental assumption of social cognitive theory involves the choices that individuals and collectives make through the exercise of agency" (p. 3). Self-efficacy is defined as a cognitive process in which individuals develop perceptions of their capability to produce actions at a given level of competence (Bandura, 1977). From this field of thought, Bandura also explained teacher efficacy as a type of self-efficacy, where teachers develop their own thoughts of efficacy through cognitive processes.

Social cognitive theory, according to Bandura (1986, 1997, 2001), should be viewed in an agentic perspective, where humans are active in shaping their lives and exercise control over it through human agency. People develop self-efficacy beliefs about their capabilities through an interactive process between themselves and their environment (Bandura, 1986, 1997). Self-efficacy beliefs assist individuals in determining courses of action to take, how much effort to exert, their reaction to obstacles they may face, their reaction to adversity or failure, their reflection on outcomes, and their future accomplishments (Bandura, 1993, 1997).

Core features of human agency. As previously mentioned, human agency is central to Bandura's social cognitive theory (Goddard Hoy et al., 2000). Human agency refers to intentional actions of individuals or their free will in choice of direction (Bandura, 1986, 1997).

Bandura (2001) explained four core features of human agency: intentionality, forethought, self-reactiveness, and self-reflectiveness. An individual's intentions are not expectations or predictions of future actions. Intentions are a commitment toward future actions. The power of individuals to formulate intentions or plans of action is the key feature of personal agency. Forethought provides individuals with direction, coherence, and meaning in their lives. It motivates them and serves to guide their future actions. Self-reactiveness involves setting plans of action into motion and the ability of the individual to self-motivate and self-regulate during the process. The ability to monitor cognitive and environmental conditions is central to self-reactiveness. When an individual's actions reflect personal goals, standards, and values, actions are more meaningful and serve to motivate the individual's actions. Self-reflectiveness is a metacognitive process in which individuals self-examine their motivations, values, and meanings of their actions.

Bandura (1986) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). Efficacy beliefs are future oriented, concerning future self-judgments about one's ability to organize and carry out actions necessary for the attainment of desired outcomes in a specific context (Bandura, 1997).

Sources of Self-efficacy

Efficacy beliefs are developed through individual cognitive processing, which is influenced by four sources identified by Bandura (1977, 1986, 1997, 2000c): mastery experience, vicarious experience, physiological and emotional stimulation, and social influence/persuasion. Although mastery experience is the strongest source of efficacy, an individual's sense of self-

efficacy is shaped by each of the four sources, with varying amounts from each depending on the situational context (Bandura, 1997).

Mastery experience. Mastery experience is successful performance of a given task using personal skill and effort (Bandura, 1986, 1997). As an example, a teacher's sense of efficacy in teaching writing skills is enhanced when writing assessment scores reveal his or her students scored at a high proficiency level. Positive results build the teacher's sense of efficacy in teaching writing skills to future students. Successful experiences serve to increase one's self-efficacy beliefs and lead to expectations of success in future performances (Bandura, 1986, 1997). However, if one fails in performing a task, self-efficacy beliefs may be diminished, leading one to question the likelihood of success in future performances (Pajares, 2000; Tschannen-Moran et al., 1998). Self-efficacy may also be enhanced or diminished through attributions (Bandura, 1993, Pintrich & Schunk, 1996). Self-efficacy is likely enhanced when one attributes success to internal or controllable causes, but diminished when success is attributed to luck or other uncontrollable factors.

Vicarious experience. Bandura (1977) described vicarious experiences as those in which one is able to observe others at a given task. For example, when a first-year math teacher is able to observe a veteran math teacher successfully teach a difficult concept to students, the observation will positively enhance the young teacher's future sense of efficacy in teaching the difficult concept. Vicarious experiences must provide observational learning opportunities that are purposeful, constructive, interactive, and motivational in order to be effective (Bandura, 1986). Vicarious observations may either enhance or diminish self-efficacy, or have no effect at

all depending on the performance of the model and the degree to which the observer can identify with the model. The closer the observer is able to identify with the model, the more likely self-efficacy will be affected. Successful modeling may enhance the observer's self-efficacy, while poor modeling performances may actually diminish efficacy expectations (Bandura, 1977). Self-efficacy beliefs may improve through internal validation as an individual observes successful experiences of others (Bussey & Bandura, 1984; Harter, Waters, & Whitesell, 1998).

Physiological or emotional stimulation. The sense of self-efficacy can be influenced by environmental and situational factors. Self-efficacy is enhanced when individuals do not feel adversely aroused, stressed, or pressured by these factors (Bandura, 1997). As an example, Bandura explained how a teacher's moderate level of arousal in a specific teaching area can serve to focus energy and attention to the task at hand. Goddard (1998) explained that physiological and emotional states may affect the effort and persistence of individuals by influencing their feelings of proficiency, competence, and accomplishment. Positive or negative feelings associated with a specific task will affect self-efficacy beliefs and direct one's approach toward a task. Those with a positive affective state will be more likely to have a stronger sense of self-efficacy than those who have a negative affective state. Affective states may affect an individual's perception and recorded memory of an event. They may also affect future effort and persistence in addressing a specific task (Bandura, 1997). Bandura also explained a successful individual's sense of efficacy is often enhanced by emotional and physical arousal, while low-achieving individuals find these to have a diminishing effect.

Social persuasion. According to Bandura (1997), the fourth source of self-efficacy beliefs is social persuasion. Social persuasion may come in the form of an expression by one of status or feedback from peers, family, co-workers, and others of influence (Bandura, 1997; Goddard, 1998; Goddard, LoGerfo et al., 2004). As an example, a teacher's efficacy may be enhanced when an administrator offers words of encouragement or specific strategies for addressing difficult tasks. Social persuasions are limited in effect, but may enhance self-efficacy beliefs when an individual receives positive feedback that is acceptable and reasonable (Bandura, 1997). This type of feedback encourages one to be persistent and to exert greater effort toward the task at hand.

Bandura (1997) contended that teacher efficacy is a form of self-efficacy where individual teachers construct their beliefs about their abilities to perform through cognitive processing. The individual's level of effort, duration of persistence, resiliency, and the level of stress they experience when coping with difficult situations are affected by their efficacy beliefs.

Self-efficacy Processes

Bandura (1993) explained that perceived self-efficacy exerts influences through four major processes: cognitive, motivational, affective, and selection processes. Perceived self-efficacy contributes to an individual's cognitive development and functioning through these processes.

Cognitive. According to Bandura (1991, 1993), humans often shape courses of action in forethought, which is influenced by self-efficacy beliefs. Individuals, through a sense of self-appraisal of capabilities, set goals for action. The stronger one's sense of self-efficacy is the

higher one's goals and commitment toward those goals. Accomplishment of goals requires skills and knowledge as well as a strong sense of self-efficacy belief in being able to use them. Researchers (Bouffard-Bouchard, 1990; Bouffard-Bouchard, Parent, & Larivée, 1991; Collins, 1982) have found self-efficacy beliefs important to skill utilization. Individuals with a strong sense of self-efficacy will exert more effort, be more diligent, and be more resilient toward reaching their goals (Bandura, 1997; Pajares, 2000). Bandura (1993) explained that some individuals view ability as an acquirable skill in which they are able to expand their knowledge and skills. These individuals develop a strong sense of self-efficacy through experience and see environmental obstacles as something they can control. Others who possess a low sense of self-efficacy view ability as an inherent capacity and often are reluctant in their actions due to what they see as nonexpandable intellectual capabilities. They are also more likely to view environmental factors as obstacles they cannot overcome.

Motivational. Human motivation serves to guide an individual's actions and is affected strongly by self-efficacy beliefs (Bandura, 1991). Self-efficacy beliefs operate through three forms of cognitive motivators: casual attributions, outcome expectancies, and cognized goals. Cognized goals are well-defined, challenging goals and are carried out through an individual's self-influence process. People with a strong sense of self-efficacy see challenges as something to be mastered and not a threat. They are motivated to overcome and achieve, attributing their failures to their own lack of effort. Those with a low sense of self-efficacy avoid difficult situations due to their doubt in their own ability to achieve difficult tasks. "Self-efficacy beliefs contribute to motivation in several ways: They determine the goals people set for themselves,

how much effort they expend, how long they persevere in the face of difficulties, and their resilience to failures" (Bandura, 1993, p. 131).

Affective. Bandura (1993) explained that individuals with high levels of self-efficacy believe they can exercise control over threatening or difficult situations and are often optimistic about the possibility of accomplishing difficult tasks. Their thought patterns are not disturbed by stress. Perceived coping efficacy and perceived efficacy to control disturbing thoughts allow them to avoid stress. Low self-efficacious individuals cannot control disturbing thoughts. They often feel stressed in difficult situations or avoid them all together. A low sense of efficacy may produce anxiety and/or depression through unfulfilled aspirations, a low sense of social efficacy, and ruminative thought.

Selection processes. People's choices of activities and environments are shaped by their sense of self-efficacy (Bandura, 1993). Individuals are constantly making conscious choices in their lives. "By the choices they make, people cultivate different competencies, interests, and social networks that determine life courses" (p. 135). Successful experiences or mastery of tasks create optimism about the possibility of accomplishment in similar tasks that may arise in the future, while negative experience may cause individuals to avoid similar situations.

Modes of Human Agency

Bandura (2001) distinguishes between three different modes of human agency in his social cognitive theory: personal, proxy, and collective.

Personal agency. According to Bandura's social cognitive theory, "personal agency operates within a broad network of sociostructural influences" (Bandura, 1997, p. 6). Human or personal agency refers to intentional actions of individuals or their free will in choice of direction (Bandura, 1986, 1997). As previously discussed, Bandura (2001) identified four agentic features of personal agency: intentionality, forethought, self-reactiveness, and self-reflectiveness.

Proxy agency. Individuals cannot personally control all facets of their lives due to their lack of direct control or their lack of time, energy, skills, and resources needed to do so (Bandura, 2001). In this case, Bandura explains that individuals trust in proxy agencies to protect their well-being, security, and valued outcomes. Individuals relinquish personal agency because a proxy is likely to be more successful and efficient in obtaining desired outcomes.

Collective agency. Social cognitive theory also extends to collective agency (Bandura, 1997). Bandura (2001) explained, "People do not live their lives in isolation. Many of the things they seek are achievable only through socially interdependent effort" (p. 13). Group success in a task at hand is dependent on the members' shared intentions, knowledge, and skills, as well as their interactive and coordinated actions. People act with other group members in a concerted effort to produce desired results.

Triadic Reciprocal Causation

Triadic reciprocal causation theory emerged from Bandura's (1986, 1997) social cognitive theory. Bandura's (2000b) explicated social cognitive theory rejects the contentious dualism of personal agency versus social structure, which pits psychological theories against sociostructural theories in explaining human behavior. Instead, Bandura (2001) remarked that

through triadic reciprocal causation there is an interaction between internal personal factors (e.g., cognitive, affective, and biological events), behavioral patterns, and environmental influences, which all interact together and influence each other in a bidirectional manner (see Figure 1).
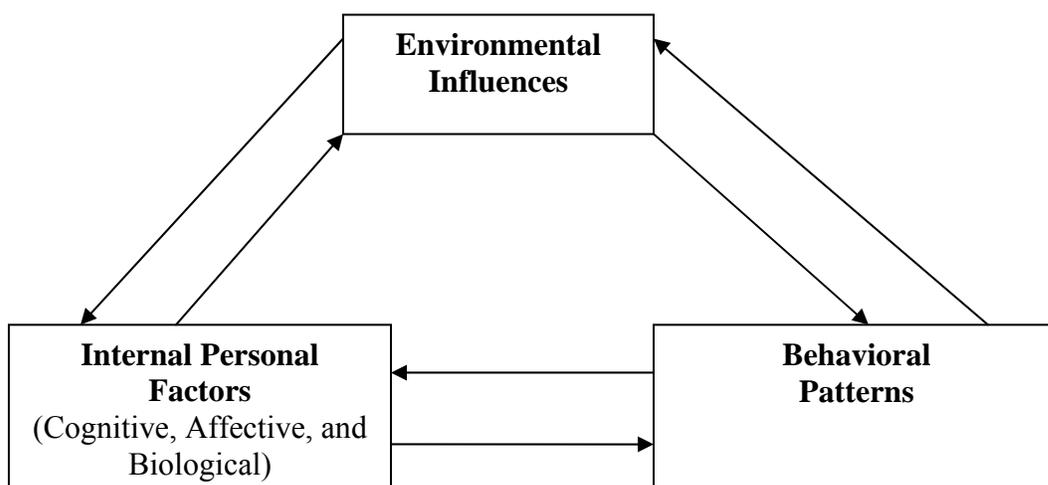
Figure 1. Model of Bandura's (2001) triadic reciprocal causation theory.

Bandura (2001) argued that we cannot separate sociostructural and psychological determinants into separate influences on behavior. Pajares (1996) explained the foundation of Bandura's conception of reciprocal determinism: "How individuals interpret the results of their performance attainments informs and alters their environments and their self-beliefs, which in turn inform and alter their subsequent performances" (p. 544). The following passage by Bandura (2001) assists in understanding the bidirectionality between people and their environment:

> The self system is not merely a conduit for sociostructural influences. Although the self is socially constituted, by exercising self-influence human agents operate generatively and proactively, not just reactively, to shape the character of their social systems. In these agentic transactions, people are producers as well as products of social systems. Personal agency and social structure operate interdependently. Social structures are created by

human activity, and sociostructural practices, in turn, impose constraints and provide enabling resources and opportunity structures for personal development and functioning. (p. 15)

Thus, both humans and social systems adapt and change through bidirectional, agentic interactions (Bandura, 2000b). Through triadic reciprocal causality, efficacy has the potential to grow due to the cyclic nature of efficacy (Bandura, 1997). For example, as humans interact positively with their environment, their sense of efficacy grows stronger. Bandura clarified the theory of triadic reciprocal determinism, "In this model of reciprocal causality, internal personal factors in the form of cognitive, affective, and biological events, behavior patterns, and environmental influences all operate as interacting determinants that influence one another bidirectionally" (pp. 14-15). A continuous and influential interaction occurs between personal factors, the environment, and human behavior.

Differentiating Between Self-efficacy, Self-esteem, Self-concept, and Locus of Control

Self-efficacy is often confused with other conceptions of self. The literature has not always been clear in differentiating between self-efficacy, self-esteem, self-concept, and locus of control. These constructs have often mistakenly been used synonymously (Pajares, 1996). Others have recognized their shared characteristics, while struggling to develop differentiating ways to measure them (Bandura, 1986; Pajares 1996; Bong & Skaalvik, 2003). It is important for this study to differentiate between these constructs.

Self-concept. Schunk (1991) clarified self-efficacy to be an individual's context-specific assessment of their capabilities to perform a given task, while the construct of self-concept is a much broader self-assessment. Pajares (1996) stated, "Self-concept is measured at a broader

level of specificity and includes the evaluation of such competence and the feeling of self-worth associated with the behaviors in question" (p. 561). While self-efficacy is task specific, self-concept is domain specific, but not task specific. An example of the difference between the two constructs might be an individual who has a strong self-concept of being a successful math student, but low self-efficacy beliefs in successfully working mathematical quadratic equations. Individuals may fail in a specific task, which may lower their self-efficacy in regard to that task, but feel little diminishment of self-concept in the general area in which the task falls. Self-concept is much less vulnerable than self-efficacy to changes in context (Mone, Baker, & Jefferies, 1995).

Self-esteem. Gist and Mitchell (1992) provided an explanation of the difference between self-efficacy and self-esteem: "Self-esteem usually is considered to be a trait reflecting an individual's characteristic affective evaluation of self (e.g., feeling of self-worth or self-liking). By contrast, self-efficacy is a judgment about task capability that is not inherently evaluative" (p. 185). According to Bandura (1997), an individual who is inefficacious toward a certain activity may not suffer any less self-esteem due to the fact they have little interest in completing the activity with success. In contrast, one may complete an activity with great success, yet still question their self-worth due to the fact their accomplishments are not valued by others, their success causes others harm, or society gives little value to the group in which they belong. Self-efficacy is all about self-perceptions of capabilities, while self-esteem is affected by others' perception of the individual (Mone et al., 1995). The two are not necessarily independent of each other though; they work in unison to affect personal functioning (Bouffard-Bouchard, 1990). A

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teacher's self-esteem may be diminished when they feel their hard work goes unnoticed and unappreciated, but their self-efficacy in their abilities to teach is not affected.

   Locus of control. The literature is often confusing when trying to differentiate between the two constructs of Bandura's (1997) self-efficacy and Rotter's (1966) locus of control. Goddard, Hoy et al. (2000) explained, "The existence of the two separate but intertwined conceptual strands growing from two theoretical perspectives has contributed to some confusion about the nature of teacher efficacy" (p. 481). Bandura (1997) distinguished between the two constructs. He explained the two are not simply the same construct measured at different levels. Self-efficacy is an individual's perception of his/her capability to produce certain actions, while locus of control concerns an individual's belief of whether their actions will affect outcomes. One can have an internal locus of control, believing they can internally control the outcome of actions, but still have a low sense of self-efficacy in accomplishing the task successfully. Bandura produced statistical data showing the two constructs having little or no relationship.

Confusion over Defining and Measuring Teacher Efficacy

   Due to the dual emergence of the construct of teacher efficacy from both Rotter's (1966) locus of control and Bandura's (1977) self-efficacy theories, much debate has centered on the exact meaning of teacher efficacy, as well as how to effectively measure the construct (Ashton et al., 1982; Gibson & Dembo, 1984; Guskey, 1987; Guskey & Passaro, 1994; Pajares, 1997; Tschannen-Moran et al., 1998). Berman et al. (1977) defined teacher efficacy as "the extent to which the teacher believes he or she has the capacity to affect student performance" (p. 137). Guskey and Passaro (1994) defined the construct as "teachers' belief or conviction that they can

influence how well students learn, even those who may be difficult or unmotivated" (p. 4). As a result of this confusion, several different researchers have attempted to identify and measure the construct. The literature review will now present several of these attempts.

RAND Influence in Defining and Measuring the Construct of Teacher Efficacy.

Rand studies. Teacher efficacy was first suggested as a construct during the RAND Corporation's research on the effectiveness of reading instruction in 20 elementary schools of the Los Angeles Unified School District (Armor et al., 1976; Berman et al., 1977). Using Rotter's (1954, 1966) work as a theoretical base, RAND researchers (Armor et al., 1976) first defined teacher efficacy as "the extent to which the teacher believes he or she has the capacity to produce an effect on the learning of students" (p. 23).

To assess teachers' predispositions, Armor and his colleagues (1976) measured the sense of efficacy in dealing with minority students. Teachers responded to two survey questions:

> *RAND Item 1:* When it comes right down to it, a teacher really can't do much (because) most of a student's motivation and performance depends on his or her home environment. RAND Item 2: If I try really hard, I can get through to even the most difficult or unmotivated students. (p. 23)

RAND Item 1 was used to measure the sense of how teachers feel environmental factors compare to the teachers' influence in affecting success in schools (Armor et al., 1976). Environmental factors might include factors such as conflict, violence, value of education, SES, class, race, and gender. This sense of capability extended beyond the individual teacher to teachers in general. Ashton et al. (1982) later labeled this teachers' belief *general teaching efficacy* (GTE). Teachers who expressed agreement with this item believed environmental factors were more powerful than teachers' influences in affecting student achievement. These

teachers were considered to have more of what Rotter (1966) deemed an external locus of control.

RAND Item 2 was used to measure the degree in which teachers believed they could overcome any external factors in affecting student achievement (Armor et al., 1976). This item was more specific and related more to the individual teacher's belief in how teachers could be effective in promoting student achievement (Tschannen-Moran et al., 1998). The item has been labeled *personal teaching efficacy* (PTE). Teachers indicating agreement to this item would have more of an internal locus of control.

RAND researchers (Armor et al., 1976; Berman et al., 1977) summed the scores from each of the two items to identify what they termed teacher efficacy. This construct revealed the degree in which teachers believed they could control external factors and personally affect student motivation and achievement. In regard to Rotter's (1966) locus of control, these teachers would have a strong internal locus of control.

Several school and classroom variables were examined during the RAND research effort in order to reveal their relationship to gains in reading achievement. Two groups of teacher attributes were analyzed: background characteristics and predispositions. Armor et al. (1976) found no relation between characteristics such as race, ethnicity, education level, and teaching experience. Nor was there evidence of a relationship between teachers' background characteristics and student gains in reading achievement. However, Armor et al. (1976) did find teacher efficacy to have a powerful affect on student reading achievement.

Teachers who were more efficacious had a major influence on student learning (Berman et al., 1977). Moreover, a teacher's sense of efficacy again had a significant effect on student achievement, the percentage of project goals achieved, the amount of teacher change in

instruction, and the continuation of project methods and materials after the project came to an end. Berman and his colleagues were also one of the first to raise the question of how school projects or staff activities might be planned in the future to enhance teacher efficacy.

With the success of the RAND study in finding positive effects of teacher efficacy, several research efforts have attempted to build upon the research. One major concern driving these research efforts was the reliability of a two-item scale. Several attempts to develop a more powerful scale in capturing the construct of teacher efficacy resulted. The review of three attempts follows.

Responsibility for Student Achievement scale. Guskey (1981) developed a scale he called the *Responsibility for Student Achievement* (RSA). The RSA was a 30-item scale that measured teachers' beliefs in how much responsibility the teacher has in affecting student outcomes. Teachers were asked to assign percentage points between two alternatives, one where the event was controlled by the teacher and the other where events were controlled by external factors. Three different types of scores regarding the degree of teacher responsibility were tallied using the RSA: (a) responsibility the teacher assumed for student outcomes in general, (b) responsibility for student success (R+), and (c) responsibility for student failure (R-). Guskey (1982, 1988) compared the scores of the RSA with the RAND researchers' (Armor et al., 1976) construct of teacher efficacy. Both responsibility for student success and responsibility for failure correlated significantly and positively to teacher efficacy. Scores for general responsibility of student outcomes and for both student success and student failure showed strong correlations. However, when comparing responsibilities of student success to that of student failure, little or no correlation was found. Guskey (1987) explained that teacher efficacy is affected

independently by positive and negative student outcomes, with positive outcomes having a greater effect than negative outcomes. In other words, teachers have a greater belief in their capabilities to influence positive student outcomes than they do in preventing student failures.

Teacher Locus of Control. The development of the *Teacher Locus of Control* (TLC) scale was influenced by research from Rotter and the RAND Corporation. Rose and Medway (1981) developed the 28-item scale in an effort to measure teachers' perceptions of whether student success was controlled internally by them or by external factors beyond their control. The items were divided evenly between those situations describing student successes and those describing student failures. Teachers were asked to assign responsibility based on whether they attributed internal or external factors as the major contributor toward student outcomes. The TLC was proven to be better than Rotter's (1966) *Internal-External Scale* in predicting other teacher behaviors, most likely because it was specifically related to a teaching context. For example, the TLC predicted willingness to implement new instructional techniques, while Rotter's scale did not.

Webb Scale. The *Webb Scale* was developed by researchers (Ashton et al., 1982) in an effort increase the reliability of the RAND teacher efficacy questions. Researchers attempted to maintain a narrow conceptualization of teacher efficacy, while expanding the scale further than the two RAND items. The scale consisted of seven items in which responders were forced to choose which of two statements they agreed most strongly with. Results using the *Webb Scale* showed a significant and positive relationship between teacher efficacy and student achievement in both math and language. Also, teachers with a higher sense of teacher efficacy were affected little by external negative factors. The *Webb Scale* also strongly correlated to *RAND Item 1*.

Measures of Teacher Efficacy Influenced by Bandura's Concept of Self-efficacy

Teacher efficacy is a type of self-efficacy that is specific to a teaching context (Bandura, 1977). Bandura (1993) explained that successful classroom environments are partly determined by a teacher's sense of efficacy. Bandura's concept of self-efficacy has influenced the development of several scales to measure teacher efficacy. The review of such examples follows.

Teacher Efficacy Scale. Gibson and Dembo (1984) developed the *Teacher Efficacy Scale* in an effort to create a more reliable and extensive measure of teacher efficacy. Starting with the RAND researchers' (Armor et al., 1976) concept of teacher efficacy, they applied Bandura's (1977, 1986) social cognitive theory to the construct by assuming the RAND items reflected both of Bandura's constructs of self-efficacy and outcome efficacy. The *Teacher Efficacy Scale* consisted of 30 items, with teachers responding using a 6-point Likert-type scale to indicate the level to which they agreed or disagreed with the items (Gibson & Dembo, 1984). The scale provided a global measure of teacher efficacy from the sum of all items. The researchers used the scale in a study of 208 elementary schools. Results showed the emergence of two subscales: personal teaching efficacy and general teaching efficacy. Gibson and Dembo related personal teaching efficacy to that of Bandura's self-efficacy and general teaching efficacy to Bandura's outcome expectancy. They posited that teachers with a higher sense of both general teaching efficacy and personal teaching efficacy would be successful in influencing student achievement. Those with a low sense of efficacy in these two areas would be unsuccessful. In further research using Gibson and Dembo's items, researchers have found very little correlation between the two factors; however, many have confirmed the two factors do exist (Hoy & Woolfolk, 1993; Moore & Esselman, 1992; Soodak & Podell, 1993).

Researchers have noted problems with Gibson and Dembo's *Teacher Efficacy Scale*. Guskey and Passaro (1994) questioned whether there was a true difference between personal teaching efficacy and general teaching efficacy, or whether the distinction is simply between an internal versus an external locus. Others (Hoy & Woolfolk, 1990, 1993; Soodak & Podell, 1993; Woolfolk & Hoy, 1990) argue that Gibson and Dembo's first factor, which is similar to *RAND Item 1* and is supposed to assess outcome expectations about the consequences of teaching, does not represent an outcome expectation as suggested by Bandura (1986) and Gibson and Dembo (1984). Hoy and Woolfolk (1993) argued, "Instead, it appears to reflect a general belief about the power of teaching to reach difficult children and has more in common with teachers' conservative/liberal attitudes toward education" (p. 357).

Ashton vignettes. Ashton, Buhr, and Crocker's (1984) suggested teacher efficacy is context specific. As a result, they developed a series of 50 vignettes, with each describing problem situations a teacher may experience. Teachers were asked to respond to how they would perform in each vignette, using two different references--self-reference and norm-reference. In addition, teachers were asked to indicate the level of stress they would encounter for each situation. Results revealed the self-referenced items were not significantly correlated to the RAND items, but the norm-referenced items were. In regard to the correlation between stress and teacher efficacy, results showed no correlation.

Science Teaching Efficacy Belief Instrument. Riggs and Enochs (1990) modified the Gibson and Dembo (1984) instrument in an effort to specifically measure the effects of teacher efficacy on science teaching and learning. The *Science Teaching Efficacy Belief Instrument*

(STEBI) consisted of 25 items using a 5-point Likert-type scale from *strongly agree* to *strongly disagree* (Riggs & Enochs, 1990). As with the Gibson and Dembo instrument, results revealed two separate, but uncorrelated factors--personal science teaching efficacy (PSTE) and science teaching outcome expectancy (STOE). Both factors were strongly correlated to quality teaching in science. Further studies showed those with a high sense of PSTE spent more time teaching science, better developed concepts for their students, and more often employed the use of science activities (Riggs & Jesunathadas, 1993). Those with a low sense of PSTE were more apt to use a text-based approach than using activities, were rated weaker in teacher observations, were more negative in their beliefs of how students learned science, and were less likely to choose to teach science (Riggs, 1995).

Bandura's Teacher Efficacy Scale. Bandura (1997) explained that previous attempts in the development of scales to measure teacher efficacy was flawed due to the blending of the construct into uniformity, with scales being too general and measuring across all teaching tasks. He suggested the need to develop a scale to measure across a wide range of teacher activities and tasks. In response, he developed the *Teacher Self-Efficacy Scale*. The scale consisted of 30 items addressing seven subscales of teacher efficacy: (a) efficacy to influence decision making, (b) efficacy to influence school resources, (c) instructional efficacy, (d) disciplinary efficacy, (e) efficacy to enlist parental involvement, (f) efficacy to enlist community involvement, and (g) efficacy to create a positive school climate. A 9-point scale was used with each item. Teachers responded to the degree in which they believed they had influence over the task. Unfortunately, reliability and validity information about the measure have not been made available due to the fact the scale was never published and used only on a limited basis by Bandura.

An integrated model of teacher efficacy: Ohio State Teacher Efficacy Scale. Tschannen-Moran et al. (1998) proposed an integrated model of teacher efficacy using both RAND's (Armor et al., 1976; Berman et al., 1977) and Bandura's (1977) conceptual strands of efficacy. They accepted Bandura's idea of attributional analysis and four sources of information for efficacy. But, they also explained a need to look at the contextual specificity of teacher efficacy (Tschannen-Moran et al., 1998). "In making an efficacy judgment, a consideration of the teaching task and its context is required. In addition, it is necessary to (an) assess one's strengths and weaknesses in relation to the requirements of the task at hand" (p. 228). Two dimensions of the model, analysis of teaching task and assessment of personal teaching competence, were introduced as being related, but not identical to the GTE and PTE factors from the RAND studies. In the analysis of teaching task, the teacher weighs factors of possible difficulties versus resources available to facilitate learning. Factors to consider might be abilities and motivation of students, instructional strategies required, management issues, availability of needed resources, quality of resources, availability of technology, principal leadership, school climate, and teacher supportiveness. In assessing personal teaching competence, the teacher makes judgment of his/her skills, knowledge, strategies, or personality traits versus their own weaknesses in a specific teaching context. The researchers clarified, "In our model, self-perception of teaching competence is seen as part of, but not the whole of, teacher efficacy" (p. 233). Self-perception of current functioning does contribute to the future capabilities, or teacher efficacy.

Both of the teacher judgments concerning teaching task and teaching competence are affected by the four sources Bandura (1977) introduced in his social cognitive theory (Tschannen-Moran et al., 1998). The four sources are important, but more important to teacher efficacy beliefs is the teacher's interpretations of the sources. It is through the teacher's cognitive

processes that they determine how these sources are interpreted and how they influence their analysis of teaching task and teaching competence, and in turn their level of teacher efficacy.

Tschannen-Moran and Woolfolk Hoy (2001) noted several teacher efficacy research studies (Anderson, Greene, & Loewen, 1988; Burley, Hall, Villeme, & Brockmeier, 1991; Hoy & Woolfolk, 1993; Moore & Essselman, 1992; Saklofske, Michaluk, & Randhawa, 1988; Soodak & Podell, 1993) have confirmed the existence of two factors: PTE and GTE, although the factors were only moderately related. They recognized Gibson and Dembo's instrument as being the most extensively used, but pointed to conceptual and statistical problems related to the instrument. The instrument was unable to provide a clear meaning of the two factors and was consistently unstable in its factor structure. The researchers explained a general agreement among scholars on the factor of PTE, but a prevailing question about the second factor of GTE.

Tschannen-Moran and Woolfolk Hoy (2001) set out to develop a new instrument in response to the confusion over the construct of teacher efficacy and the lack of a quality instrument to effectively measure it. With assistance from graduate students at The Ohio State University, the researchers used the integrated model for teacher efficacy developed by Tschannen-Moran et al. (1998) in an extensive effort encompassing three different studies. A central focus was to create an instrument that captured teachers' assessments of both analysis of teaching task and personal competence across a wide range of activities (Tschannen-Moran & Woolfolk Hoy, 2001). The researchers initially used Bandura's *Teacher Efficacy Scale* (1997) as a starting point because they agreed with his recommendation of including various levels of tasks demands, although they were concerned with the degree of specificity to use in the scale. Through preliminary research, the scale was expanded to include three-factors: efficacy for student engagement, efficacy for instructional strategies, and efficacy for classroom

management. The final results provided an instrument called *The Ohio State Teacher Efficacy Scale* (OSTES) that consisted of a unified and stable factor structure. The OSTES was made available in both a 24-item and 12-item version. Both showed strong validity and reliability in measuring the construct of teacher efficacy.

Effects of Teacher Efficacy

   Teacher factors. Teacher efficacy affects the behavior and attitudes of teachers. Allinder (1994) explained that teacher efficacy affects a teacher's level of effort, planning, organization, aspiration, and goals he or she may have individually and for his or her classroom. Strong teacher efficacy beliefs promote persistence and resiliency in teachers when they face difficulties (Ashton & Webb, 1986; Gibson & Dembo, 1984). Highly efficacious teachers are more satisfied with their jobs (Caprara, Barbaranelli, Borgogni, & Steca, 2003), exhibit enthusiasm for teaching (Allinder 1994; Guskey 1984), have greater commitment to the teaching profession (Colardarci, 1992; Evans & Tribble, 1986), are less likely to leave the profession (Burley et al., 1991; Glickman & Tamashiro, 1982), and exhibit low levels of stress (Greenwood, Olejnik, & Parkay, 1990; Parkay, Greenwood, Olejnik, & Proller, 1988). They are more at ease with teaching students with varying levels of abilities, are less likely to refer struggling students for special education (Meijer & Foster, 1988; Soodak & Podell, 1993), have a low negative affect in teaching (Ashton et al., 1982), and are more effective in meeting the needs of culturally diverse student groups (Tucker et al., 2005). Research has found that teachers with a strong sense of efficacy were less likely to use whole class instruction at all times, were comfortable in small group instructional settings (Gibson & Dembo, 1984), and were more progressive in experimenting with new instructional techniques and materials (Allinder, 1994). They are also

less likely to criticize students following incorrect responses. Ashton and Webb (1986) found highly efficacious teachers hold high expectations for all students and are more likely to establish warm and caring relationships with their students. Teacher efficacy affects the willingness teachers have in implementing innovation (Berman et al., 1977; Guskey, 1984; Smylie, 1988). Woolfolk and Hoy (1990) found that teachers with a high sense of teacher efficacy were less custodial in their approach to student control than those with a low sense of teacher efficacy. Teachers tend to gain a stronger sense of personal teaching efficacy the longer they stay in the profession, but their general sense of teaching efficacy diminishes due to their perception of their inability to control external factors (Hoy & Woolfolk, 1993). Morine-Dershimer and Corrigan (1997) found teacher efficacy beliefs influence how teachers manage their classrooms, select their content to teach, deliver instruction, and interpret and respond to interactions with their students.

Student factors. Armor et al. (1976) were one of the first to give a hint of the power teacher efficacy can have in education. They revealed a high sense of teacher efficacy was significantly and positively related to student reading achievement. A multitude of studies followed the RAND studies, also offering evidence of the powerful relationship between the construct of teacher efficacy and student outcomes (Allinder, 1994; Anderson et al., 1988; Ashton & Webb, 1986; Gibson & Dembo, 1984; Moore & Esselman, 1992; Ross, 1992; Tracs & Gibson, 1987). Moore and Esselman's (1992) research revealed that second and fifth graders, who had teachers with a high sense of GTE, scored higher on the math section of the *Iowa Test of Basic Skills*. Ross (1992) found that students, with teachers who possessed high senses of both GTE and PTE, scored higher on the *Ontario Assessment Instrument Pool*. Correlations for PTE

were stronger than those for GTE. Ashton and Webb (1986) found significant correlations between student achievement in math on the *Metropolitan Achievement Test* and teacher efficacy at four secondary schools. Watson (as cited by Tschannen-Moran et al., 1998) found evidence of PTE and GTE being significantly related to reading and math achievement. Woolfolk, Rosoff, and Hoy (1990) found GTE to be positively correlated to their students' interests in and value of school, and PTE to be positively correlated to students' evaluations of their teacher. Midgley, Feldlaufer, and Eccles (1989) found a significant relationship between teacher efficacy and student efficacy in mathematics. Students who had highly efficacious math teachers in both the sixth and seventh grade, showed no decline in their math interests, while students' interests diminished for those who had teachers with a low sense of teacher efficacy. Other studies have shown that a teacher's sense of efficacy affects students' own sense of efficacy (Anderson et al., 1988) and motivation (Midgley et al., 1989).

School factors. Ashton and Webb (1986) explored environmental factors that might cause a teacher's sense of efficacy to be diminished. Environmental factors found to lower a teacher's sense of efficacy included excessive role demands, low morale, inadequate salaries, lack of recognition, low status, professional isolation, uncertainty, and alienation. Teachers who have a strong sense of teacher efficacy are more collegial toward other teachers, which assist in the collective efforts for school improvement (Hoy & Woolfolk, 1993; Newmann, Rutter, & Smith, 1989; Ross, 1992). Research has revealed the more teachers are involved in the decision-making process of the school, the greater their sense of teacher efficacy (Moore & Esselman, 1992). Ashton and Webb (1986) found school structure at the middle grade levels affected teacher efficacy. Teachers who taught in a middle school structure had greater degrees of teacher

efficacy than did teachers who taught in a junior high school structure. Chester and Beaudin (1996) found that for newly hired teachers, teacher efficacy was significantly and positively correlated with both the number of observations experienced and the more opportunities for collaboration with other teachers. Rosenholtz (1989) found four school factors that were significantly related to teacher efficacy: positive feedback on performance, teacher collaboration, parental involvement, and school-wide student behavior coordination. Lee, Dedick, and Smith (1991), using the *High School and Beyond* data, reported a sense of community was the single greatest predictor of teacher efficacy. Other school-level correlates of teacher efficacy include positive school atmosphere (Moore & Esselman, 1992), strong press for academic achievement (Hoy & Woolfolk, 1993), and strong principal influence with superiors (Lee et al., 1991).

Bandura (1993) explained that teachers do not work in isolation; they work collectively in interactive social systems. "The belief system of staffs creates school cultures that can have vitalizing or demoralizing effects on how well schools function as a social system" (Bandura, 1993, p. 141). Higher teacher efficacy within a school correlates positively to the strength of collective efficacy in the school (Goddard & Goddard, 2001; Newman et al. 1989; Tschannen-Moran et al., 1998).

Collective Teacher Efficacy Emerges as a Construct

Just as a strong sense of teacher efficacy has been significantly and positively related to student achievement, research efforts have also revealed this same correlation to exist between collective teacher efficacy (CE) and student achievement (Bandura, 1993; Goddard, Hoy et al., 2000; Goddard, LoGerfo et al., 2004; Hoy et al., 2002; Tschannen-Moran & Barr, 2004). Bandura (1993, 1997) was one of the first to extend the construct of teacher efficacy to an

organizational level. He used his social cognitive theory (Bandura, 1986, 1993, 1997) to explain

that personal agency does not operate in isolation, but instead within an arena of sociocultural

influences. Bandura (2000b) explicated his thoughts in the following statement:

> Social cognitive theory extends the conception of human agency to collective agency. People's shared beliefs in their collective power to produce desired results are a key ingredient of collective agency. A group's attainments are the product not only of shared knowledge and skills of its different members, but also of the interactive, coordinative, and synergistic dynamics of their transactions. (pp. 75-76)

Goddard, Hoy et al. (2000), using Bandura's social cognitive theory as a basis, defined

the construct of CE as "the perceptions of teachers in a school that the efforts of the faculty as a

whole will have a positive effect on students" (p. 480). Bandura (1977) explained human agency

to be the ways in which people exercise control over their lives. Individuals select and construct

their environments in which they function. The most fundamental mechanism of human agency

is personal or self-efficacy (Bandura, 1997, 2000a). Bandura (1977, 1986, 1997) explained that

teacher efficacy is a type of self-efficacy which involves cognitive processes where teachers

develop future-oriented beliefs about their capabilities to carry out specific courses of action in

order to attain desired outcomes. CE beliefs affect the functioning of the staff as a whole, just as

teacher efficacy affects individual teacher functioning (Bandura, 1997, 2000b). They also affect

the groups' future goals, efficiency in the use of resources, level of effort exerted, and

persistence and resiliency in the face of difficulties. CE beliefs lie within the minds of the group

as a whole. As these beliefs are formed through cognitive processes, they serve to motivate and

regulate the coordinated actions of the group. Teacher efficacy beliefs and CE beliefs differ in

the ways they produce effects; however, they do serve similar functions, operate through similar

processes, and are formulated through similar sources as teacher efficacy.

Triadic Reciprocal Causality in CE

The theory of triadic reciprocal causation suggests there is an interaction within the organization between internal cognitive factors, behavioral patterns, and environmental influences. All of these interact together and influence each other bi-directionally (Bandura 1986, 1997). This theory emerged from Bandura's social cognitive theory and can be extended to CE, just as with self-efficacy (Goddard, Hoy et al., 2004). The triadic transactions imply interdependence between collective agency and the organizational structure. People within the collective are producers as well as products of the organizational social systems. Social structures within the organization are created by collective human activity. In turn, sociostructural practices impose constraints and provide enabling resources and opportunity structures for collective functioning. Using the theory of triadic reciprocal causality and the positive correlation between CE and student achievement, we can infer CE will enhance student achievement, while at the same time improved student achievement will strengthen CE. Bandura (1997) explained that once efficacy is well-established, it is more likely to grow rather than diminish because of triadic reciprocal causality. Thus, organizational effectiveness and a strong sense of CE serve to feed and strengthen each other (Goddard, Hoy et al., 2000).

Sources of CE

Social cognitive theory asserts that self-efficacy beliefs are developed through individual cognitive processing, which is influenced by four different types of information: mastery experience, vicarious experience, physiological and emotional stimulation, and social influence/persuasion (Bandura, 1977, 1986, 1997, 2000c). Bandura also explained these same four sources serve in the development of CE.

Mastery experience. Mastery experience is important because it assists organizations in developing beliefs they will be successful in future performances (Goddard, Hoy et al., 2000, Goddard, Hoy et al., 2004; Goddard, LoGerfo et al., 2004). Organizations learn by experience as individuals do. CE beliefs are either strengthened by successful experiences or reduced through failures. When schools are successful in their endeavors, teachers' beliefs in the likelihood of future success are strengthened. Goddard, Hoy et al. (2004) warned that when schools experience success frequently and with ease, they may be more prone for discouragement when failure does arise. Those staffs who are persistent in their efforts to succeed are more resilient when difficulties surface. Research has shown that prior student achievement, which is an example of mastery experience, is a stronger predictor than SES or race in predicting school achievement (Goddard, 2001a).

Vicarious experience. An organization's collective efficacy may be strengthened by vicarious experience, the observing of other successful organizations. Social cognitive theory may be extended to the organizational level with the example of organizational learning through vicarious experience (Goddard, Hoy et al., 2000, Goddard, Hoy et al., 2004; Goddard, LoGerfo et al., 2004). Schools often imitate or borrow from other successful schools through their school improvement efforts. The closer the observing school can identify with the model, the more likely their CE can be enhanced.

Social persuasion. Social persuasion in the form of positive feedback, professional development, and encouraging conversations can strengthen the CE of a teaching staff (Goddard, Hoy et al., 2000, Goddard, Hoy et al., 2004; Goddard, LoGerfo et al., 2004). Words from

colleagues, supervisors, community members, or other outside sources can have either a positive or negative effect on CE. The ability of social persuasion to affect the CE is dependent on the degree of cohesiveness in the group (Bandura, 1986). The more cohesive the group, the more effect social persuasion will have on CE. Group members are socially persuaded through the norms of the group (Goddard, Hoy et al., 2004). High levels of CE foster high expectations for success and encourage teachers' efforts in order to conform to group norms. Goddard, Hoy et al. (2004) explained, "These expectations are an important part of organizational socialization and fundamental aspects of an organization's culture and its influence on group member performance" (p. 6).

Affective states. Affective states are the emotions an organization possesses as it collectively reacts to situations. Organizations, just like individuals, react to difficult situations in different manners (Goddard, Hoy et al., 2000, Goddard, Hoy et al., 2004; Goddard, LeGerfo et al., 2004). The affective states of schools determine how each handles pressure and crises. Those that have a high sense of CE can weather the storm in difficult times. Schools learn to adapt and cope with pressures, often becoming even stronger through addressing its challenges. Those schools with a low sense of CE often misinterpret the situation. As a result, its actions are often misaligned. These organizations react to pressure in a dysfunctional manner, which negatively affects its future sense of CE.

Approaches to Measuring CE

Bandura (1993) elaborated on two different approaches to measure how CE affects organizational performance. The first approach involved using individual teacher's efficacy

beliefs of how he or she could affect his or her students' learning and then aggregating each of

the teachers' responses for the specific school. The second approach involved aggregating the

teacher's beliefs of their school's capability to affect learning as a whole. Bandura (2000)

elaborated further that the two different approaches differ in the weight given to individual

versus interactive group factors. The predictiveness of each approach is dependent on the degree

of interdependence needed for success. Since the success of schools is highly dependent on the

coordinated work of the teachers, the aggregated holistic approach is most suitable for measuring

the CE of a school.

Goddard, Hoy et al. (2004) offered four different approaches in which CE could be

measured: (a) aggregate measures of individual self-efficacy, (b) aggregate measures of

individuals' perceptions of group-referent capability, (c) group consensus through discussion,

and (d) focus on the extent to which there is agreement among group members across their

individual perceptions. Both Bandura (1997) and Goddard, Hoy et al. (2004) have argued that

the best way to measure CE is to aggregate measures of individuals' perception of group-referent

capability. "Aggregating individual perceptions of *group* (as opposed to *self*) capability serves to

assess perceived collective efficacy as an emergent organizational property by combining

individual group members' interdependent perspectives on group capability" (Goddard, Hoy et

al., 2004, p. 7).

Goddard, Hoy et al. (2000) used Bandura's (1997) concept of self-efficacy and

Tschannen-Moran et al.'s (1998) integrated model of teacher efficacy to develop an integrated

model for CE (see Figure 2). This model identified CE as a school property as Bandura (1997)

first suggested. In this sense, group dynamics interact to formulate CE beliefs of group

capabilities to carry out a course of action (Goddard, Hoy et al., 2000). Teacher efficacy assists

in understanding the effect of teachers on student achievement, while CE sheds light on how

schools as a whole may affect student achievement. The model is also based on the assumptions

of organizational learning and the four sources of efficacy first introduced by Bandura (1977,

1986, 1997, 2000c). Goddard, Hoy et al. (2000) identified two key elements in the formation of

CE: *analysis of teaching task* and *assessment of teaching competence*. Both of these occur

simultaneously. Cognitive processing and interpretation of the efficacy sources are critical

aspects in these tasks. The analysis of teaching task occurs at both individual and school levels.

Factors to be considered may include general barriers to overcome, student attributes, availability

of resources, community restraints, and available facilities. Assessment of teaching competence

involves teachers making judgments of their colleagues' teaching competence, while at the same

time considering the teaching task at hand. These consequential assessments serve to formulate

the level of CE for a specific teaching staff as a whole.
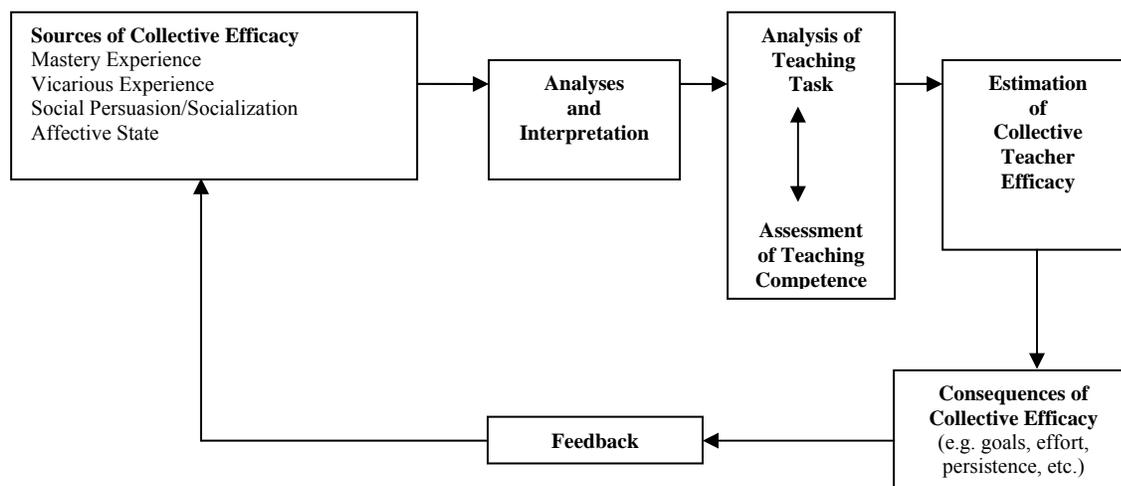
Figure 2. A simplified model of collective teacher efficacy. *Note*. From "Collective Teacher Efficacy: Its Meaning, Measure, and Impact on Student Achievement," by R. D. Goddard, W. K. Hoy, and A. W. Hoy, 2000, American *Educational Research Journal, 37* (2), p. 486. Copyright 2004 by Sage Publications. Reprinted with permission.

Collective Teacher Efficacy Scale (CTES). Goddard, Hoy et al. (2000) used Gibson and Dembo's (1984) *Teacher Efficacy Scale* as a basis to develop a measure of CE based on their theoretical model of collective efficacy. The researchers stressed the need to focus on the beliefs of the collective capabilities rather than the individual capabilities of teachers. Questions were developed using a group orientation to better reflect the collective experiences of the group. Items from earlier developed teacher efficacy scales most often used "*I*" statements reflecting the individual nature of teacher efficacy. Goddard, Hoy et al. (2000) used a collective nature to operationalize a group-level construct in the development of the CTES scale. The following sample item reflects the collective nature of the scale: "*Teachers in this school can get through to the most difficult students*". The researchers developed four types of items for the CTES. They included both positively (+) and negatively (-) worded items in the scale in order to not influence respondents. They also included items related to both group competence (GC) and task analysis (TA). The four types of elements included in items were GC+, GC-, TA+, and TA-. Sixteen of the original Gibson and Dembo items were changed from individually oriented items to be group oriented. The researchers also added additional items to better balance the instrument. Two pilot studies and peer reviews proved the CTES to be both reliable and valid in measuring CE. The final instrument consisted of 21 items. Teacher responses to each item were aggregated to the school level and a mean score was calculated for each individual item and for the school as a whole.

Collective Efficacy Scale (CES). Goddard (2002b), in an effort to create a more valid and parsimonious scale than the CTES, developed the 12-item *Collective Efficacy Scale* (CES).

Goddard subjected each of the CTES's 21 aggregated items from an earlier study to a principal axis factor analysis. The original CTES instrument was found to be weighted more heavily with GC items (13) than with TA items (8). Goddard, in an attempt to balance the two categories, created a 12-item version, the CES. Three items represented each of the four elements originally targeted in the CTES instrument. The CES version proved to be more theoretically pure than the original CTES. It was also shown to have high internal consistency (alpha = .94), and a principal axis factor analysis revealed it explained a greater amount of variance (64.10%) than did the CTES (57.89%). The CES items were highly correlated (r = .983) to the CTES items. Hierarchical linear modeling also showed the CES to positively predict between-school variability in student mathematics achievement.

Collective Teacher Efficacy Belief Scale. Tschannen-Moran and Barr (2004) developed the *Collective Teacher Efficacy Belief Scale* (CTEBS). They used the *Ohio State Teacher Efficacy Scale* (OSTES) as a basis for developing the CTEBS. The CTEBS is a 12-item assessment of the collective perceptions of the school's instructional practices and its capacity for student discipline. This instrument has been used scarcely as a research instrument. Schechter and Tschannen-Moran (2006) developed and used a Hebrew version of the instrument while exploring the construct of CE in 66 Israeli elementary schools.

Early Research Related to CE

Even though the construct of CE was not well established and valid measurements were lacking, several early studies hinted about the possibilities of CE (Hoover-Dempsey, Bassler, & Brissie, 1987; Newmann et al., 1989; Esselman & Moore, 1992). Hoover-Dempsey et al. (1987)

was one of the first to describe teacher efficacy as a school-level characteristic. They aggregated individual teacher efficacy to the organizational level to show how teacher efficacy was correlated to organizational characteristics such as parental support and involvement. Newman et al. (1989) used data from the 1984 *High School and Beyond Teacher/Administrator Survey* to consider how 10 organizational attributes of schools may reduce teacher alienation and improve school organizations. The three dependent variables in the study were efficacy, community, and expectations. The researchers posited that high efficacy would reduce teacher alienation because it promotes teachers' agency, engagement, and positive regard for work. Results revealed a strong correlation between teacher efficacy and the organizational attributes of community and expectations. Results also showed organizational features had a far more powerful relationship to efficacy than did student background variables. This study was one of the first to aggregate teacher responses to a group level. In another study, Esselman and Moore (1992) found teacher efficacy beliefs to be correlated to school climate variables such as collegiality and teacher involvement in school-based decision making. Each of these three studies hinted of efficacy as a school-level characteristic, consistent to what Bandura (1993) would eventually coin *collective efficacy*.

CE Research

According to Bandura (1993, 1997), CE varies among schools and is an important property of each school. His argument is based on the strong and positive link between teacher efficacy and student achievement. Bandura (1993) conducted research on how CE can contribute to school-level achievement. Bandura explained, "Although the level of academic progress achieved by a school largely reflects the summed contributions of teachers in their individual

classrooms, schools involve organizational interdependencies that contribute to teachers'

collective sense of efficacy" (p. 141). Bandura used his own instrument to aggregate individual

perceptions of CE to the group level. Teacher and student body characteristics and prior student

achievement were combined with CE in a path analysis to measure their effect on school

performance. Results revealed CE was significantly and positively related to the school's level of

academic achievement. Most importantly, the research revealed CE had a greater effect on

student achievement than did student SES. Prior academic achievement was also found to be

significantly and positively correlated to both CE and current academic achievement.

Goddard, Hoy et al. (2000) used their newly developed integrated model of CE and their

CTES instrument to study the relationship between CE and other school characteristics in urban

elementary schools. The researchers pointed to a major distinction between their research and

prior research (Bandura 1993; Esselman & Moore, 1992; Newmann et al., 1989). They did not

aggregate student achievement or student SES to the school level as earlier researchers.

Hierarchical liner modeling was used to allow them to measure only the amount of variance in

student characteristics between different schools. Researchers specifically analyzed how CE was

associated with math and reading achievement as measured by the seventh edition of the

Metropolitan Achievement Test (MAT). Correlations were also sought between CE and other

school characteristics such as teacher efficacy, teacher trust in colleagues, environmental press,

and teacher powerlessness. Results indicated a moderate and positive relationship between CE

and teacher efficacy aggregated at the school level. There was a positive and significant

relationship found between CE beliefs and trust in colleagues, a negative relationship to teacher

powerlessness, and no relationship to environmental press. Most importantly, and similar to

Bandura's (1993) results, Goddard, Hoy et al. (2000) found CE to be significantly and positively

related to both math and reading achievement. CE explained 53.27% of the between-school variance for math and 69.64% for reading. CE was also shown to have a greater effect on student achievement than any other demographic control such as student SES, gender, or race.

Goddard (2001a) applied social cognitive theory to the group level to further study the impact of CE at the elementary level and to provide support for the theory's extension to the group level. He used hierarchical liner modeling to study data from 52 urban elementary schools in one large Midwestern urban school district. Mastery experience was operationalized in the study using students' MAT achievement scores in reading and mathematics from the previous year. Results supported the argument that mastery experience is important to the formation of CE. In fact, past achievement explained more variance in student achievement than did SES or race when considered independently and also when combined. Goddard also found a positive and significant relationship between CE and differences between schools in student achievement even after controlling for students' demographics and prior achievement. A third finding revealed group consensus of CE not to be a strong predictor of student achievement. The best CE predictor of student achievement proved to be group mean. CE beliefs influence the collective agency and individual choices teachers make in a school.

Goddard (2002a) studied the relationship between CE and the levels of influence teachers have in a school. He found teachers were encouraged to use organizational agency when they were allowed to participate in instructionally relevant school decisions such as curriculum, materials, activities, professional development, parent communications, student placement, and student discipline. A .41 standard deviation increase in teacher influence was positively related to one standard deviation increase in CE. Strong teacher influence in instructionally relevant school decisions builds a strong sense of CE, which serves to promote stronger teacher

commitment toward school goals. This collective effort promotes high levels of student achievement.

Hoy, Sweetland et al. (2002) proposed CE as the key variable in a theoretical model to explain mathematics achievement in high schools. They also postulated that both academic press and SES would have a positive and significant relationship with both mathematics achievement and CE in high schools. They cited several CE (Bandura 1992, 1997; Goddard, Hoy et al., 2000; Goddard, Sweetland et al., 2000) and academic press (Hoy & Sabo, 1998; Hoy, Tarter, & Kottkamp, 1991; Sweetland & Hoy, 2000) studies that had already identified each construct to be a positive predictor of student achievement. "Academic press is the extent to which the school is driven by a quest for academic excellence" (Hoy, Sweetland et al., 2002, p.79). Academic press influences the behavior of teachers through social norms of the group members. Teachers' actions are strongly influenced by their beliefs of individual efficacy and CE. Coleman (1985, 1987) explained how norms of the group allowed group members some control over individual behaviors within the group. If a group member's behavior does not conform to expected norms, he or she will likely be socially sanctioned by the group. As a result, Hoy, Sweetland et al. (2002) explained how teachers in a highly efficacious collective environment experience pressures to meet high expectations. Also, when academic press is high in a school, teachers are motivated to persist and take responsibility for learning. Both CE and academic press are emergent characteristics of schools. Both are formulated through the collective perceptions of staff members. They serve to either enhance or diminish teacher performance and other collective behaviors within the organization.

Hoy, Sweetland et al. (2002) studied 97 high schools in Ohio. Results revealed both CE and academic press of the school to be significantly and positively related to school achievement

in mathematics. The correlations remained significant even after controlling for SES. Path analysis showed both SES and CE to have a significant and direct effect on school mathematics achievement. SES also indirectly affected student mathematics achievement through CE. Surprisingly, academic press did not show the same direct relationship and only affected school mathematics in an indirect path through CE. SES and academic press were both directly related to CE. The three variables combined to explain 45% of the school variance in school mathematics achievement, with collective efficacy by far being the greatest predictor. The research confirmed the influence that collective norms have on teacher behavior. Reflecting the assumptions of social cognitive theory, a high sense of CE shapes the normative environment of a school in a manner which motivates teachers' behaviors and promotes student achievement.

Ross, Hogaboam-Gay, and Gray (2003) studied 2,170 teachers in 141 elementary schools to examine the antecedents to CE. They specifically looked at how CE is affected by prior student achievement and school processes such as shared school goals, school-wide decision making, fit of plan with school needs, teacher learning opportunities, and empowering principal leadership. The five school processes were also examined collectively to measure their relationship to CE. Just as previous research efforts (Bandura, 1993; Goddard, 2001b) had revealed, prior student achievement was shown to be significantly and positively related to CE. Results also showed each of the five school processes to have a positive and significant effect on CE (Ross et al., 2003). More importantly, when all of the variables, except teacher learning opportunities, were combined together under the collective construct of teacher ownership of school processes, they had a stronger effect on CE than did prior student achievement. The researchers pointed to how their findings supported Goddard's (2001a, 2001b, 2002a) earlier findings in that CE contributes to teacher ownership and influence in school processes, and vise

versa. There is a reciprocal relationship that exists between the two constructs of decision making and CE.

Caprara et al. (2003) studied 103 Italian junior high schools in an effort to measure the effects of efficacy beliefs on job satisfaction of teachers. Results showed both individual teacher efficacy and CE to be significantly and positively related to job satisfaction. However, the greatest effect on teacher job satisfaction comes from CE. Teachers' perceptions of other constituencies' behavior, such as the principal, teacher colleagues, staff, parents, and students, explain a significant amount of the variance in the CE of a school. Perceptions of the principal's and colleagues' behavior are most important in the formation of CE.

Goddard, Hoy et al. (2004) completed an analysis of existing research in an attempt to synthesize the effects of CE on teachers' practices and student achievement, and to propose a hypothetical model for the formation, influence, and change of CE in schools. Figure 3 is a representation of the model. One important distinction the researchers highlighted in regard to the concept of efficacy was that efficacy beliefs are future oriented beliefs of capability and not always precise assessments. Performance is positively affected in individuals and collectives that slightly overestimate their efficacy beliefs. The mutual relationship between a teacher's sense of efficacy and teachers' sense of CE was also stressed to be important in the attainment of organizational goals. The normative expectations within a school affect an individual teacher's sense of efficacy. Strong CE beliefs motivate teachers, inspiring their effort and persistence. The researchers also stressed the importance of teacher influence in a school. Enabling teachers' participation in instructional decisions will strengthen the CE of the staff and ultimately enhance their efforts to promote student achievement.

Sources of Collective Efficacy
- Mastery Experience
- Vicarious Experience
- Social Persuasion/Socialization
- Affective State

Analyses, Attributions, and Interpretations

Analysis of The Teaching Task

Assessment of Teaching Competence

Perceived Collective Efficacy

Outcomes
- Student Achievement
- Dropout/Attendance
- College Attendance
- Student Course Selection
- Teacher Satisfaction
- Teacher Commitment
- Teacher Learning & Innovation
- Teacher Empowerment

Teacher Sense of Self-efficacy

Effort
Persistence
Resilience

Consequences of Cultural Norms

Effort
Persistence
Resilience

Figure 3. Proposed model of the formation, influence, and change of perceived collective efficacy. *Note*. From "Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions," by R. D. Goddard, W. K. Hoy, and A. W. Hoy, 2004, *Educational Researcher, 33*(3), p. 11. Copyright 2004 by Sage Publications. Reprinted with permission.

Goddard, LoGerfo, et al. (2004) studied the relationship between CE and high school student achievement in 96 high schools from a large, Midwestern state. Results indicated CE was positively influenced by past mastery experience and negatively related to school SES. After controlling for other variables, CE was a positive and significant predictor of student achievement in all content areas tested. A one standard deviation increase in CE was associated with a .24 standard deviation increase in verbal achievement. It was associated with a .23 increase in math. Mastery experience was operationalized through prior student achievement and was a positive predictor of CE. On average, a one standard deviation increase in prior achievement was associated with a .44 standard deviation increase in CE. School SES was positively and significantly related to CE. No significant relationship was found between school urbanicity or school minority enrollment and CE. However, when these were included in the

analysis, they did slightly reduce the effect of SES on CE. School context and mastery experience accounted for 40% of the variance in CE.

Tschannen-Moran and Barr (2004) used their CTEBS instrument to study the relationship between CE, student achievement, and student discipline. This instrument has two dimensions of CE: *instructional strategies* and *student discipline*. Results revealed a significant and positive relationship between CE and student achievement in the areas of 8th grade mathematics, writing, and English. After controlling for student SES, CE still had a significant independent effect on writing achievement, but did not independently explain achievement in English and mathematics. Significant and positive relationships were also found between both of the instructional and discipline subscales and achievement in all three academic areas.

Cybulski, Hoy, and Sweetland (2005) used variables from both economic and organizational theory to explore explanatory models of student achievement in 146 Ohio elementary schools. Results indicated only a weak relationship between the economic variable of school efficiency and the organizational variable of CE. No relationship was found between school efficiency and student achievement. However, consistent with prior research, results did indicate a significant and positive relationship between CE and student achievement, even when controlling for SES and prior student achievement.

Goddard and Skrla's (2006) research focused on factors that influence perceived CE in schools, especially school social composition. Both teacher-level and school-level predictors of CE were studied. Findings showed past academic achievement, the rate of special program placement for gifted children, and faculty ethnic composition explained 46% of the variation among schools for CE. Teachers' race and experience were also significantly related to CE, but to a lesser degree. Both Hispanic and African American teachers had higher levels of efficacy

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than did non-minority teachers. Experienced teachers' levels of CE were slightly higher than

those with less experience. There was no significant relationship between gender and CE.

Results from the analysis of between-school variables and CE were the most powerful findings

of the research. Prior reading proficiency, the proportion of students in gifted education, and the

proportion of Hispanic teachers were positively and significantly related to CE.

Ross and Gray (2006) found transformational leadership of the principal to have a strong

positive effect on CE. They argued this finding is important because of the positive relationship

that researchers (Bandura, 1993; Goddard, 1998, 2001a; Goddard, Hoy et al., 2000; Goddard,

Hoy et al., 2004; Goddard, LoGerfo et al., 2004; Hoy, Sweetland et al., 2002; Ross et al., 2003;

Tschannen-Moran & Barr, 2004) have established between CE and student achievement. They

also found that a high sense of teacher efficacy enhances relationships between teachers and

parents. Teachers with strong efficacy beliefs are more willing to reach out to and involve

parents. Strong parent/teacher relationships have been positively linked to high student

achievement (Edward & Young, 1992; Griffith, 1996).

Schechter and Tschannen-Moran (2006) explored the construct of CE efficacy in 66

Israeli elementary schools. A Hebrew version of the CTEBS (Tschannen-Moran & Barr, 2004)

instrument was created for this study. Construct validity and reliability was established for the

instrument. The researchers explained that since the Hebrew version and the original CTEBS

were constructed in different languages, the established validity and reliability of the new

instrument supports the constitutive meaning of the construct of CE. The research also sought to

identify context and demographic variables related to CE. Results did reveal urban teachers to

have a statistically significant higher sense of CE than did teachers from suburban areas. The

researchers attributed this difference to the fact that Israeli suburban schools had not operated in

the same highly competitive environment which urban schools have for several years. Correlational analyses were conducted using CE and three demographic variables: years of teaching experience in the current school, total years of teaching experience, and teachers' workload. No significant correlations were found between CE and any of the three variables.

Ware and Kitsantas (2007) studied the relationship between teacher efficacy, CE, and professional commitment. Four types of teacher commitment were identified by the researchers; however, they were only interested in the relationship between teacher efficacy beliefs and the affective and normative commitment of teachers. Affective commitment is related to the value and support teachers feel from their school along with their own emotional attachment to the school. Normative commitment is related to the moral obligation teachers feel to remain in the profession. Results showed all teacher efficacies to be positively related to teachers' professional commitment. Teacher efficacy beliefs explained 18% of the variance of teacher commitment to their profession. The strongest predictor of teacher commitment was CE related to the teachers' influence in decision making.

Knoblauch and Hoy (2008) examined how student teachers' efficacy beliefs were influenced by contextual factors of the school. In regard to contextual factors, school settings for rural, suburban, and urban schools were studied. The researchers also studied the relationships between student teacher efficacy beliefs and their perceptions of CE and teacher efficacy of the cooperating teacher. Results revealed that a student teacher's sense of efficacy in all three settings was enhanced significantly following his or her student teaching experience. The researchers explained their surprise in the increase of teacher efficacy beliefs for those in urban settings, but suggested mastery experience in coping with difficult tasks may explain the results. Student teachers' sense of CE was enhanced in both rural and suburban settings, but was

negatively affected in urban settings. Finally, the student teachers' efficacy beliefs were moderately and positively shown to be related to their perceptions of their cooperating teachers' sense of teacher efficacy. Those that perceived their cooperating teacher to be highly efficacious also had stronger efficacy beliefs.

Summary of CE

In summary of the literature on CE, the construct relates to the collective beliefs of staff members in a school that they as a group have the capabilities through their efforts to positively affect student achievement. The construct is based on social cognitive theory and its related concepts of human agency and triadic reciprocal causality. CE is developed through four sources: mastery experience, vicarious experience, social persuasion, and affective arousal. Instruments, which aggregate individual teacher CE to the organizational level, to measure CE have been developed. Research has shown CE to be an important school level property. CE has been shown to be significantly and positively related to various student achievement areas at all school levels. This relationship has been shown to exist even after controlling for student SES and other school demographic variables. The construct has also been significantly and positively related to individual teacher efficacy, teacher job satisfaction, professional commitment of teachers, parent and teacher relationships, teacher participation in instructionally relevant school decisions, teacher ownership in school processes, prior student achievement, and transformational leadership of the principal. Strong CE beliefs inspire teachers through the collective norms of the schools. Schools that are highly efficacious have teachers who exert great effort and persist when difficulties arise. These teachers also have a high sense of resiliency, set

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high expectations for their students, are willing to develop and work toward shared goals of the organization, and are more willing to assist colleagues.

Organizational Citizenship Behavior (OCB)

DiPaola et al. (2007) defined OCB in schools as "voluntary and discretionary behavior of teachers that exceeds the formal requirements of the job" (p. 227). OCB is a relatively new construct. It has been widely researched in the business community, but only a small amount of research has been directed toward its applicability to schools. OCB is an organizational characteristic that was first introduced by Bateman and Organ (1983). They suggested OCB "lubricate(s) the social machinery of the organization" (p. 588). They also described OCB as those worker behaviors that are not formally prescribed, but freely occur and are important to the organization as whole.

Early Research Related to OCB

OCB related research can be traced to the early 20th century. Bernard's (1938) research on organizational effectiveness examined personal functions, communication, and relationships of employees, and how these relate to the overall effectiveness of the organization. He explained that social relationships and modes of communication exist throughout the different levels of an organization. Both influence employees' efforts toward the successful functioning of the organization. Bernard described what he called the *zone of indifference* as a range of employees' willingness to comply to the organization's mission. This zone could be expanded with effective organizational communication, resulting in an increase in employees' willingness to contribute toward the organizational purpose of the company.

Katz (1964) identified three employee behaviors necessary for successful organizational functioning: (a) dependability in carrying out roles, (b) willingness to enter and commitment to stay with the company, and (c) participation in spontaneous and innovative actions beyond formal obligations. Those organizations where employees only perform formally prescribed duties are at a high risk for failure (Katz, 1964; Katz & Kahn, 1966). Organizational effectiveness is dependent on the open or informal roles within the organization. Katz and Kahn (1966) explained employees' behaviors can be classified as either *in-role* or *extra-role* behaviors. Both types of behaviors are important to organizational functioning. However, extra-role behaviors carry organizational functioning to an optimal level. Extra-role behaviors are those where actions go beyond formal job descriptions.

Development of the OCB Construct

Bateman and Organ (1983) formally introduced the construct of OCB when they attempted to connect job satisfaction with organizational functioning. Smith, Organ, and Near (1983) examined organizational characteristics of two large Midwestern banks to measure their effect on OCB in the organization. Results indicated OCB to have two dimensions: altruism and generalized compliance. Altruism is voluntary behavior in a manner to help another specific individual. Assisting a fellow employee with a task in which they have sought help would be an example of altruistic behavior. Organizational characteristics of job satisfaction and educational level of employees were found to have significant and direct effects on altruism. DiPaola and Hoy (2005a, 2005b) described this behavior as "going the extra mile" to help specific individuals. Leader supportiveness was another organizational characteristic found to indirectly affect altruism through job satisfaction and directly affect generalized compliance (Smith et al.,

1983). Job satisfaction promotes OCB and productivity, which ultimately allows management more free time to commit to important organizational tasks.

Generalized compliance is where one acts upon the lines of what is considered moral and proper for the best interest of organizational functioning. Proper use of time in the workplace is an example of generalized compliance (DiPaola & Hoy, 2005b). Other findings by Smith et al. (1983) illuminated the relationship between employees' OCB and both mood states and job satisfaction. They also communicated the importance of leaders in an organization to model OCB because of the likelihood of it promoting OCB throughout the rest of the organization via social exchanges.

Organ (1988) added to his earlier explanation of OCB, saying it "included 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" (p. 4). He further clarified the construct of OCB by offering five different types of discretionary behavior: (a) altruism, (b) conscientiousness, (c) sportsmanship, (d) courtesy, and (e) civic virtue. Altruism concerns discretionary behaviors that are directed toward helping a specific individual complete an organizationally related task. Conscientiousness is behavior that goes beyond the expectations of meeting formal organizational obligations. DiPaola and Hoy (2005b) gave the effective use of time as an example of this type of behavior. They also described how both altruism and conscientiousness serve to enhance both the performance of the individual and the organization. Organ (1988) described sportsmanship behaviors as those that reflect such things as team concept, flexibility, avoidance of complaining, respect for organizational resources, and acceptance of reasonable organizational standards. These behaviors promote productive time spent toward organizational goals. Courtesy concerns effective communication and assistance

toward others in order to improve effectiveness of the organization. Civic virtue concerns the involvement of employees in efforts to promote organizational interests. DiPaola and Hoy (2005b) cited examples of this behavior to be voluntary attendance of organizational functions or serving on organizational committees.

Non-Educational OCB Research

Numerous studies in a variety of organizational settings have studied OCB since Bateman and Organ first coined the term. Researchers (Mackenzie, Podsakoff, & Fetter, 1991; Podsakoff & Mackenzie, 1994) have found positive correlations between OCB and positive personnel evaluations. This highlights the degree of importance organizational management places on employees' behaviors that go beyond formal job descriptions. Research by Becker and Randall (1994) claimed to validate the use of managerial ratings of OCB when they found a moderate correlation between OCB and objective behavior criterion. However, Organ (1988) warned against such ratings due to the difficulty supervisors have in separating OCB from other worker behaviors. Podsakoff, Mackenzie, Paine, and Bachrach (2000) found OCB, as evidenced by performance evaluations in a multitude of different careers, to positively affect personnel decisions within an organization. They also concluded that OCB carries an even greater weight than prescribed task performances in employee performance evaluations. Research has shown both technical performance and contextual performance of employees to be important to organizational productivity (Borman & Motowidlo, 1993; Skarlicki & Latham (1995). However, it is contextual performance in the form of employee behaviors that nurture social environments within the organization and promote quality technical performances. Technical performances are the prescribed roles of the employees. Job satisfaction has been shown to impact OCB, in that it

explained a significant amount of variance in both employee altruism and compliance of employees in both the Untied States and Britain (Organ & Lingl, 1995; Organ & Ryan, 1995). Perceived fairness, organizational commitment, leader supportiveness, and conscientiousness have also been identified as job attitudes that are significantly and positively correlated to OCB (Organ & Ryan, 1995). Perceived fairness was shown to be a greater predictor of OCB than either job satisfaction or employee morale. Allison, Voss, and Dryer (2001) found a significant and positive relationship between OCB and academic performance when studying 222 undergraduate students enrolled in business education courses. Chen, Hui, and Sego (1998) studied OCB and job turnover. They found that organizational departments that displayed high rates of OCB to have lower levels of turnover than those with lower levels of OCB. OCB contributes to the group's cohesiveness and prevents employee disengagement, withdrawal, and turnover. Wagner and Rush (2000) found organizational characteristics such as trust in management, job satisfaction, and organizational commitment to be positively and significantly related to the altruistic dimensions of OCB. This was especially true in younger employees. Nguni, Sleegers, and Denessen (2006) found transformational leadership dimensions to have strong positive effects on job satisfaction, organizational commitment, and OCB.

Although limited, school research has shown OCB to be positively and significantly linked to student achievement and other positive school characteristics (DiPaola & Hoy, 2005a; DiPaola & Tschannen-Moran, 2001; DiPaola et al., 2007; Oplatka, 2006; Somech & Bogler, 2002; Somech & Ron, 2007). For example, DiPaola and Hoy (2005a) found a significant relationship between student achievement and OCB in high schools. The literature review will now turn attention toward this limited research.

Measurements of OCB in Schools

     Organizational Citizenship Behavior in Schools Scale. DiPaola and Tschannen-Moran

(2001) were the first to apply the construct of OCB to schools. They completed a factor analysis

and adapted Smith et al.'s (1983) OCB scale used in earlier private-sector organizational

research to develop the 15-item *Organizational Citizenship Behavior in Schools Scale* (OCBSS).

The researchers applied the construct in two separate studies in order to establish construct and

predictive validity. Factor analysis and confirmation of research hypotheses confirmed validity

and predictability. The researchers concluded that OCB has only one dimension in schools and

not the five separate dimensions suggested earlier by Organ (1988), nor other multiple dimension

structures suggested in many other studies (Mackenzie et al., 1991; Podsakoff & Mackenzie,

1994; Skarlicki & Latham, 1995). In schools, individual benefits and organizational benefits as a

result of OCB combine into one, bipolar construct (DiPaola & Tschannen-Moran, 2001).

DiPaola et al. (2007) explained why this is not surprising due to the fact that schools are service

organizations where both professional workers and the organization are committed to students'

interests, and past research has shown OCB to be context specific. There is congruence in the

goals of schools. "The distinction between helping individuals and furthering the organizational

mission is blurred because in schools the mission is synonymous with helping student-clients –

schools are people-helping organizations" (DiPaola et al., 2007, p. 230).

     Organizational Citizenship Behavior Scale. Researchers (DiPaola et al., 2007; DiPaola &

Hoy, 2005a, 2005b) attempted to operationalize the construct of OCB in all levels of schools.

After completing a thorough review of the literature to identify the conceptual underpinnings of

the construct, the researchers concluded that much of the previous research had focused on

organizations outside of the school. Using previous research by DiPaola and Tschannen-Moran (2001), in which they operationalized the construct for high schools using the *Organizational Citizenship Behaviors in Schools Scale* (OCBSS), the researchers sought to develop a measurement for the OCB construct at all levels of schooling. Therefore, the research consisted of three separate tests using a total of 281 sample schools for the different levels--elementary, middle, and secondary schools. The studies refined the original 15-item OCBSS scale (DiPaola & Tschannen-Moran, 2001) to a 12-item scale, the *Organizational Citizenship Behavior Scale* (OCB scale). At the high school level, the researchers were able to replicate and confirm the factor analysis of the earlier study by DiPaola and Tschannen-Moran. They were also successful in creating a shorter form, the OCB scale. The correlation between the previous OCBSS and the newly developed OCB scale was .97; therefore, the researchers were able to establish validity and reliability for the OCB scale at the high school level. At both the middle and elementary school levels, all hypotheses were supported by the findings. As a result, validity and reliability of the scale at those levels were established. OCB was significantly and positively related to all five independent variables: collegial leadership, teacher professionalism, academic press, school mindfulness, and perceived organizational effectiveness. These studies confirmed the validity of the new and shorter OCB scale in measuring OCB at three different levels of schooling.

OCB Research in Educational Settings

DiPaola and Tschannen-Moran (2001) were the first to apply the construct of OCB to schools. They used their newly developed OCBSS in two separate studies to examine the relationship between OCB and school climate. In the first study, they examined 664 teachers in 42 elementary, middle, and high schools in Virginia and Ohio. Results from this study revealed a

positive relationship between OCB and each of the four school climate characteristics: collegial principal leadership ($r = .67$, $p < .01$), teacher professionalism ($r = .92$, $p < .01$), academic press ($r = .81$, $p < .01$), and community engagement ($r = .74$, $p < .01$). The sample in the second study consisted of over 1,000 teachers in 97 Ohio high schools. The researchers administered both the OCBSS and the *School Climate Index* (SCI) in this study. Results from the second study again confirmed the relationship between OCB and school climate. The results showed a strong positive and significant relationship between OCB and both teacher professionalism ($r = .83$, $p < .01$) and academic press ($r = .63$, $p < .01$). A small, but positive and significant relationships was found between OCB and collegial leadership ($r = .23$, $p < .05$). Both of these studies confirmed the bipolar construct of OCB in schools, where interests of the individual and the organization are folded into one dimension.

Somech and Bogler (2002) examined the distinctive relationships of teacher professionalism and organizational commitment with participation in decision making and with OCB. The study was conducted in Israel and included 983 teachers from 25 middle schools and 27 high schools. Results revealed that participation in the managerial domain was positively associated with both the professional and the organizational commitment of teachers. Participation in the technical domain was positively related to only professional commitment. Professional commitment was positively related to teachers' OCB toward the student. Organizational commitment was positively related to three different domains of OCB: the student, the team, and the organization.

DiPaola and Hoy (2005a) reviewed the construct of OCB and applied it to schools. Three concerns of inquiry shaped their study:

(a) Does the OCB behavior facilitate student achievement within a school?
(b) If so, how does such behavior work to improve achievement?
(c) How can the school improve the OCB of faculty? (p. 38)

A hypothesis was formulated and tested in an effort to link OCB to student achievement in high schools, while controlling for SES. The research sample consisted of 97 high schools in Ohio representing an entire range of SES. Research results supported a significant relationship between OCB and student achievement for both mathematics ($r = .34$, $p < .01$) and reading ($r = .30$, $p < .01$). The study also indicated the significance of SES. High SES and student achievement were significantly and positively related to both reading ($r = .27$, $p < .01$) and mathematics ($r = .37$, $p < .01$). When SES was controlled for, the correlations for student achievement in both areas were still significant--reading (partial $r = .28$, $p < .01$) and mathematics (partial $r = .30$, $p < .01$). A regression equation using both SES and OCB was used in this study. Results indicate standardized beta weights of OCB ($\beta = .27$, $p < .01$) slightly higher than SES ($\beta = .23$, $p < .01$) for reading achievement. With mathematics, SES ($\beta = .33$, $p < .01$) was slightly more important in predicting achievement than OCB ($\beta = .28$, $p < .01$). Results indicated that faculty OCB was important to student achievement in schools, even when controlling for SES. Both OCB and SES have a similar impact on student achievement.

DiPaola and Hoy's (2005b) research analyzed the characteristics of school organizations which possibly promote OCB. The sample consisted of 75 middle schools from 11 counties in a Midwestern state. Three independent variables were examined: collegial leadership (CL), teacher trust (TT), and achievement press (AP). CL was defined by characteristics of the principal such as treating faculty members as equals, being friendly and approachable, letting the faculty know what is expected, and putting suggestions of the faculty into action. TT was constitutively defined as characteristics among teachers where they trust each other, look out for each other,

have faith in the integrity of their colleagues, and are open with each other. AP was defined as behaviors in schools such as students respecting other students who get good grades, students seeking extra work in pursuit of good grades, and a school environment where the school recognizes and acknowledges academic achievement. CL ($r = .66$, $p < .01$), TT ($r = .67$, $p < .01$), and AP ($r = .77$, $p < .01$) were each found to be significantly and positively related to OCB in schools. There was no relationship found between the SES of students in the school and OCB, CL, TT, or AP. The researchers used multiple regression analysis to analyze the impact all independent variables simultaneously had on the dependent variable. SES was controlled by entering the SES into a regression equation. All three independent variables had standardized beta weights that were significant in predicting OCB: CL ($\beta = .22$, $p < .01$), TT ($\beta = .18$, $p < .01$), and AP ($\beta = .56$; $p < .01$). All three variables are important factors in the level of OCB in schools. A linear composite was formed by the three independent variables explaining two-thirds of the variance in OCB (Adjusted $R^2 = .73$). Each also had a significant effect on OCB when controlling other variables.

Oplatka (2006) conducted a qualitative study of 70 Israeli educators to explore the components and determinants of OCB. He organized teacher OCBs into four domains: pupil, classroom, staff room, and school as a whole. Four components of OCB emerged from the study: (a) supportive behaviors toward students and colleagues, (b) initiation of changes and innovations in teaching, (c) strong orientation toward the organization, and (d) strong loyalty to the teaching profession. Determinants of OCB were placed into three categories: personal, organizational, and leadership influences. Three major personal determinants of OCB were a sense of calling in teaching, other-oriented personality, and high work commitment. Organizational determinants identified were positive collegial communication, good atmosphere,

and norms supporting OCBs. Leadership characteristic that promoted OCBs were initiating and innovating behaviors, positive feedback, democratic leadership style, and empathetic and sensitive emotions.

Somech and Ron's (2007) study focused on contextual variables that may foster OCB for both individuals and the organization. The study was a mixed methods study using a sample of 104 teachers in eight elementary schools located in the northern Israeli district of Haifa. A mixed models analysis revealed that supervisor support and collectivism were positively related to OCB. A negative relation was found between negative affectivity and OCB, but a positive relation was not found between positive affectivity and OCB. Collectivism was identified as the most effective predictor of OCB when variables were examined simultaneously. The researchers conducted a mixed linear models analysis with all variables to test the relative impact of individual characteristics and organizational characteristics on teachers' OCB. Results indicated a positive and significant relationship between the organizational characteristic of individualism-collectivism and the overall OCB Scale ($t(60) = 2.28$, $p < .05$). Individual characteristics of perceived superior support and negative affectivity had no significant relations with the overall OCB Scale.

Only three dissertation studies were found that examined the relationship between OCB and school variables. Jurewicz (2004) investigated the relationship between OCB, school climate, and student achievement in 82 Virginia middle schools. Results showed a significant and positive relationship between OCB and student achievement in English and mathematics. When controlling for SES, the relationship remained for student achievement in English. Results also showed a significant relationship between OCB and four dimensions of school climate: (a) collegial leadership, (b) teacher professionalism, (c) academic press, and (d) community

engagement. Two other dissertation studies failed to show a relationship between OCB and student achievement (Bazel, 2007; Wagner, 2008). Bazel (2007) studied the relationships between OCB, student achievement, and school district size in Salem County, New Jersey. Research results indicated no significant relationship between OCB and student achievement or school district size. Wagner (2008) studied 36 Virginia high schools while examining the relationships between academic optimism, OCB, and student achievement in biology, United States history, and English. Results indicated a positive and significant relationship between academic optimism and student achievement in all content areas, even when SES was controlled. There was also a strong and significant relationship found between academic optimism and OCB. However, OCB was not significantly linked to student achievement in any of the content areas.

Summary of OCB Research

In summary of the literature on OCB, the construct is relatively new, especially as it relates to schools. The construct is an organizational characteristic that relates to worker behaviors that are not formally prescribed in a job description or contract, but freely occur and benefit the organization as a whole. The underpinnings of the construct can be traced to organizational effectiveness research in the early 20th century. However, the construct was formally introduced by Bateman and Organ (1983) in their research on job satisfaction and organizational functioning. The construct was first applied to schools by DiPaola and Tschannen-Moran (2001). Limited research has shown the construct to be positively and significantly related to student academic achievement and other positive climate characteristics in schools such as collegial principal leadership, teacher professionalism, academic press,

community engagement, teacher trust, supervisor support, collectivism, positive affectivity, and academic optimism.

School Effectiveness

Hoy and Ferguson (1985) explained little agreement exists over the concept of organizational effectiveness in schools. Hoy and Miskel (2008) suggested the definition of the construct is not constant. "As preferences of constituencies change, constraints and expectations evolve to define school effectiveness in new ways" (p. 293). Another problem with grasping the construct is there are multiple stakeholders in schools, and each may prefer conflicting criteria for effectiveness.

Parsons (1958) suggested schools are bureaucratic organizations, and the theory of bureaucracy has traditionally focused on the managerial level when examining organizational functioning. He challenged this narrow focus and suggested organizational studies should look beyond the managerial level to all levels and also to the external relations of the organization in the environment which surrounds it. Parsons made a distinction between three different levels of a formal organization that are relatively independent of each other: technical, managerial, and institutional. In schools, the technical level is related to the area of teaching and learning. The managerial level is related to the school administration, while the institutional level is related to the school board. Parsons explained there is a two-way relationship between each level, each influencing each other's actions. However, there is also a two-way relationship between each level and the public's interests. In other words, schools function as open social systems. At each linkage point of the three different levels there are different possibilities of how they may work together. Parsons suggested there is a qualitative break in the "line" authority between each of

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the three levels with none of the higher levels simply dictating the actions of the lower level. He explained functions at each level are qualitatively different and are characterized by distinct competencies and responsibilities. Two-way interactions regarding inputs and outputs between each level within the organization and also its environment must take place in order for effective organizational decisions to be made.

Hoy and Miskel (2001, 2008) used an open social-systems framework of schools to examine school effectiveness. An open-systems framework is based on the assumption that organizational elements and interactions within the organization affect each other and are also subjected to constraints from their environment. Organizations such as schools, according to Hoy and Miskel (2008), "must solve the basic problems of adaptation, goal achievement, integration, and latency if they are to survive and prosper" (p. 25). Hoy and Miskel explained an open-systems approach to school effectiveness research uses an input-throughput-output systems perspective that considers all elements within the organization, the interaction between each, and constraints by its environment. This approach has been popularly referred to as effective-schools research.

Hoy and Miskel (2008) explained schools are formal organizations where effectiveness can be influenced in any of the three phases of an open-systems cycle: inputs, transformations, and outputs. Inputs are environmental components that may be either monetary or nonmonetary resources provided to the school. Inputs affect the school's beginning capacity and potential for effectiveness. The transformational phase is concerned with internal processes and structures within the organization. These are affected by environmental forces and transform inputs into outputs. Behavior within the transformational phase is influenced by five major elements: structural, individual, political, cultural, teaching, and learning. Hoy and Miskel also explained

their congruence hypothesis related to these transformational elements, "other things being equal, the greater the harmony among the transformational elements, the more effective the system" (p. 293). Outputs are concerned with both the quantity and quality of products and services produced by the school for all stakeholders. Examples may include student achievement, teacher job satisfaction, and societal perceptions of effectiveness.

Two common ways to examine school effectiveness are to examine student achievement and/or teachers' perceptions of school effectiveness. Much of the effective schools research has focused on student achievement on standardized tests as an indicator of school effectiveness. Edmonds (1979) identified five factors that promote school effectiveness: strong instructional leadership by the principal, high expectations for student achievement, basic skills emphasis, orderly environment, and frequent and systematic student evaluations. More extensive factors have been provided though other research efforts (Purkey & Smith, 1983; Scheerens & Bosker, 1997). Theoretical models of school effectiveness have been improved over the past 2 decades to include interacting variables that are apparent in school organizations (Hoy & Miskel, 2008). Research shows several organizational properties of school climate that effect student achievement: trust (Goddard, Tschannen-Moran et al., 2001), academic emphasis (Goddard, Sweetland et al., 2000), collective teacher efficacy (Goddard, LoGerfo, et al., 2004), and organizational citizenship behavior (DiPaola & Tschannen-Moran, 2001).

Teachers' perceptions of school effectiveness are another focus of research. Miskel et al. (1979) used this approach in their study of organizational structures and processes that promote school effectiveness. They defined perceived organizational effectiveness as, "the subjective evaluation of a school's productivity, adaptability, and flexibility" (p. 98). Productivity is the component of organizational effectiveness that includes the quantity, quality, and efficiency of

products and services produced by the organization. Mott (1972) explained the adaptability of an organization can be divided into two different types: symbolic adaptability and behavioral adaptability. Symbolic adaptability involves the organization's ability to effectively anticipate and plan for solutions to problems or challenges they may face. Behavioral adaptability is concerned with the organization's implementation of effective problem solving actions. Mott also explained flexible organizations have the capacity to make adjustments and cope with challenges that arise. Miskel et al. (1979) adapted Mott's *Index of Effectiveness* (IOE) to fit an educational setting. The IOE consisted of eight items used in industrial situations to gauge organizational effectiveness. The new instrument, *Index of Perceived Organizational Effectiveness* (IPOE), assessed school effectiveness based on the dimensions of (a) quantity and quality of product, (b) efficiency, (c) adaptability, and (d) flexibility (see Appendix J). Teachers in 114 schools were administered the IPOE as well as two other instruments to identify organizational structures and processes within their schools. All data were aggregated to the school level because the school was the unit of analysis. Results revealed that teachers' perceptions of school effectiveness were significantly and positively related to four organizational structures and processes: (a) processes promoting more teacher participation; (b) decision-making structures that were less centralized; (c) general formalization of rules; and (d) complex, high professional activities.

Hoy and Ferguson (1985) examined two competing models of school effectiveness, goal model and systems model. Each has traditionally guided organizational effectiveness research. The goal model measures an organization's effectiveness on the extent of its goal achievement. This model has been criticized (Hoy & Ferguson, 1985; Hoy & Miskel, 2008) due to its (a) failure to recognize the fact that organizations have multiple goals that are often changing due to

changing context, (b) narrow focus toward administrators' goals, (c) focus on official organizational goals instead of operative goals, and (d) failure to understand organizational goals do not always guide all behaviors within the organization.

The systems model recognizes the difficulty of assessing effectiveness due to the inability to define the multiple goals of an organization (Hoy & Ferguson, 1985). Instead of focusing on goals, the systems model focuses on the survival and growth of the organization, especially through internal consistency, adaptability, and optimization of resources. Hoy and Ferguson pointed to how the model has often been criticized because of its strong focus on inputs and its weak consideration of outputs.

In response to criticisms of the two models, Hoy and Ferguson (1985) proposed an integration of the two in order to examine organizational effectiveness in schools. They acknowledged the general consensus that schools are open social systems. They also used a multidimensional conception of effectiveness based on systems theory. This conception of effectiveness recognized the degree to which organizations as social systems meet their goals considering their resources and means available, while at the same time not limiting their means or resources or overworking their members. Hoy and Ferguson used Parsons's model of interrelationships among elements of effectiveness to identify four critical organizational dimensions necessary for effectiveness:

(1) Organizational adaptation in the form of successful accommodation to internal and external forces,
(2) Organizational productivity in terms of the extent to which the organization is successful in setting and accomplishing its internal goals,
(3) Organizational cohesiveness in the form of the absence of intraorganizational conflict, and
(4) Organizational commitment in the form of members' motivation and commitment to the organization. (p. 122)

The model provided a theoretical framework to consider essential dimensions of effectiveness and was based on the perspectives of three different stakeholders: students, teachers, and administrators. Hoy and Ferguson used this model in studying the effectiveness of 40 secondary schools in New Jersey. The researchers explored the relationships between the operational criteria offered through the four dimensions of effectiveness in their proposed model. They also examined how each dimension is related to effectiveness as measured by the IPOE instrument (Miskel et al., 1979) and independent ratings of effectiveness by a panel of expert judges. Two other variables for student achievement in math and reading were also included in the study. They found that each of the dimensions in the proposed model, as well as student achievement in math and reading, to be strongly correlated with the IPOE instrument and the experts' ratings of effectiveness. The findings served to confirm the validity of the proposed model. The results also supported the idea that organizational effectiveness is a multidimensional construct involving both means and ends. The model provided a framework for analyzing organizational effectiveness by looking at both goals and system requirements.

Tarter and Hoy (2004) used an open systems model to examine the school effectiveness of 145 elementary schools in Ohio. The research examined the relationships between key elements of successful school organizations (Bolman & Deal, 2003; Hoy & Miskel, 2001) and two different measurements of school effectiveness: student achievement and teachers' perceptions of school effectiveness (Tarter & Hoy, 2004). The environmental constraint of SES was also included as a variable in the study. The key elements identified for successful school functioning were structure, individual, politics, and culture. Structures refer to the formalization, centralization, and decision making in a school. Enabling school structures are ideal structures that support teachers through a hierarchy and procedures that facilitate and guide their work. The

individual element refers to the knowledge, skills, and motivation teachers bring to the school. This area focuses on motivation, persistence, and effort of teachers, which are all related to the construct of CE. The element of culture is conceptualized through the notion of teacher trust in students, colleagues, administrators, and parents. The element of politics refers to "informal behavior within the organization that attempts to circumvent the formal organization while enhancing the prospects of individuals and groups at the expense of the organization" (p. 541). Research results supported Hoy and Miskel's (2001) theoretical framework for school functioning. Each of the proposed hypotheses was confirmed in the study. Through simple correlations, the school system variables of SES, enabling school structures, CE, and teacher trust were positively and significantly related to school performance variables of both student achievement and teachers' perceptions of school effectiveness. As expected, illegitimate politics were significantly and negatively related to both school effectiveness measures. Two separate multiple regression analyses were also used to show the simultaneous effects of each independent variable, including SES on both student achievement and teachers' perceptions of organizational effectiveness. Results for the first analysis revealed a linear composite of the independent variables that explained approximately two-thirds of the variance in student achievement. The variables of CE ($\beta = 0.37$, $p < 0.01$), enabling school structures ($\beta = 0.20$, $p < 0.05$), and SES ($\beta = 0.50$, $p < 0.01$) were the only ones to have an independent effect on student achievement. The second analysis revealed a significant correlation between academic achievement and teachers' perception of organizational effectiveness ($r = 0.39$, $p < 0.01$). The independent variables, the four system variables and SES, explained over half of the variance in teachers' perceptions of organizational effectiveness. Interestingly, the only two variables shown to have an independent effect were teacher trust ($\beta = 0.35$, $p < 0.01$) and politics ($\beta = -0.32$, $p <$

0.01). The two regression analyses showed differential effects of system variables on the two measures of school effectiveness used in this study: student achievement and teachers' perceptions of school effectiveness.

School effectiveness is best explained by an open-systems model due to the multiple interactions between the different levels within the organization and its surrounding environment. Two measurements of school effectiveness have been used extensively in past research: student academic achievement and teachers' perceptions of school effectiveness. The use of academic achievement focuses more on an output perspective. The use of teachers' perceptions of effectiveness focuses more on organizational elements that contribute to school effectiveness. This research effort used both measurements of school effectiveness.

Theoretical Framework

Using the constructs of CE, OCB, and school effectiveness in a conceptual framework, a theory is constructed to explain the relationship between the constructs. SES is also used as a control variable. A proposed theoretical model of the relationships between these constructs is presented in Figure 4.

Coleman et al. (1966) presented research findings which suggested there was little that schools could do to overcome the effect SES has on school effectiveness. However, research has shown that two school-level properties do have the power to overcome the effect of SES and the potential to positively affect school effectiveness: CE (Bandura, 1993; Goddard, Hoy et al., 2000; Goddard, LoGerfo et al., 2004; Hoy et al., 2002; Tschannen-Moran & Barr, 2004) and OCB (Cantrell et al., 2001; Jurewicz, 2004; DiPaola & Hoy, 2005a). In this study, the researcher

chose to further examine the potential of the two variables in promoting school effectiveness and also to examine their relationship to each other.

The construct of CE refers to those collective perceptions by teachers in a school that their efforts as a whole will positively affect student achievement in their school (Goddard, Hoy et al., 2000). CE serves to link the variables in this study. Collective perceptions of teachers in a school foster the staff's effort, persistence, and resiliency. Teachers who work in a highly efficacious school also support challenging goals, work under the concept of teamwork, and accept responsibility in organizational success. Thus, CE is positively related to school effectiveness as measured by both student achievement and teachers' perceptions of school effectiveness.

OCB is defined as "voluntary and discretionary behavior of teachers that exceeds the formal requirements of the job" (DiPaola et al., 2007, p. 227). Teachers in a school with a high degree of OCB are willing to give extra effort beyond what is expected. They are committed to the best interest of the student and volunteer their time for the benefit of students, colleagues, and the organization as whole (DiPaola et al. 2007; DiPaola & Hoy, 2005b). Thus, OCB is positively related to school effectiveness as measured by both student achievement and teachers' perceptions of school effectiveness.

According to Bandura's (1986, 1997) theory of triadic reciprocal causation, perceptions of CE are developed through an interaction of cognitive processes, behavior patterns, and environmental influences within the organization, which all influence each other in a bidirectional manner. Through collective agency, teachers in a school actively produce events and shape their environment. Schools with a high sense of CE set goals at a high level and show a strong commitment toward reaching these goals. They are strongly motivated to succeed and

are more willing to exert greater amounts of effort, diligence, and persistence in the pursuit of established goals. Social structures within the organization are created by collective human activity. In turn, sociostructural practices impose constraints and provide enabling resources and opportunity structures for collective functioning. Thus, due to the social structures created through CE, the social norms of the school will greatly influence the OCB of teachers in the school. Pressure to meet the organizational norms of success will motivate teachers to give the extra effort needed to meet these expectations. Therefore, the degree of OCB in a school and its influence on school effectiveness will be influenced by the degree of CE in the school. If a staff has a low sense of CE, teachers will be less likely to go beyond their role expectations due to the lack of pressing organizational norms to do so. They also lack the belief that extra effort will actually lead to greater school effectiveness.

SES in this study refers to the percentage of students of a school that do not qualify for a free or reduced-priced lunch, which is based on each student's family income. The researcher postulates that SES will be positively and directly related to all other variables in this study: CE, OCB, and school effectiveness. When the level of SES in a school is high, teachers face fewer obstacles to overcome and believe their efforts can overcome difficulties they may face. They are willing to go beyond their formal job roles in order to promote school effectiveness. In contrast, teachers in schools with minimal levels of SES face many obstacles and believe they cannot overcome the environmental effects in order to promote school effectiveness. These teachers believe that any extra efforts they exert will likely not make a great difference in the school's effectiveness. As a result, they are less likely to go beyond the formal job requirements.
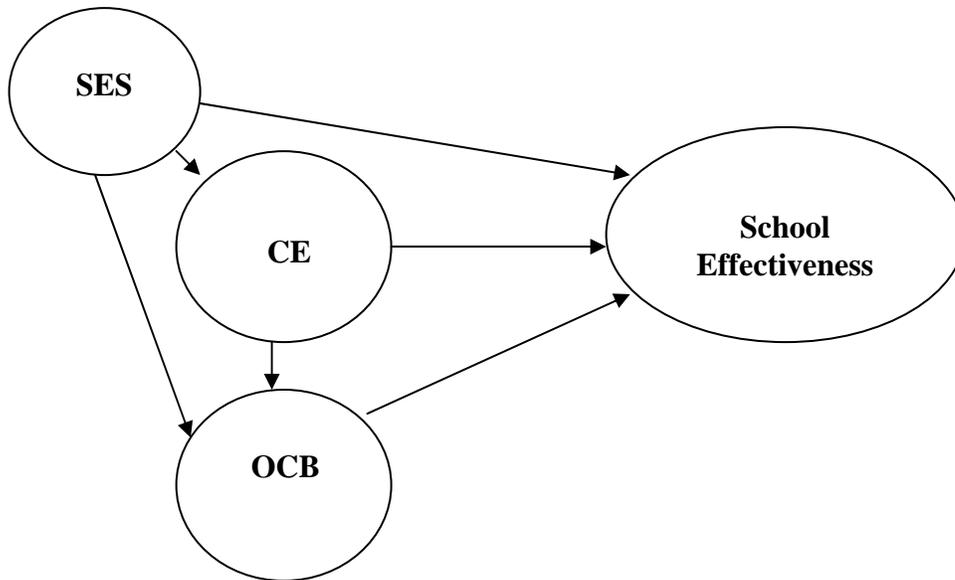
Figure 4. A proposed theoretical model of CE, OCB, SES, and school effectiveness.

Hypotheses

H1: As CE increases, effectiveness increases.

H2: As CE increases, OCB increases.

H3: As OCB increases, effectiveness increases.

H4: CE, OCB, and SES will make direct and indirect contributions to an explanation of

effectiveness.

CHAPTER 3

METHODOLOGY

Chapter three presents the research methodology used in this study and includes a description of the research design, population, sample, measurements, data collection methods, data analysis techniques, hypotheses, and a conclusion.

Research Design

This study was a non-experimental research effort using cross-sectional data. Student achievement data were obtained from the Alabama State Department of Education (2009a). School SES data were obtained from each school's annual report card (Alabama State Department of Education, 2009b). Survey methodology was employed to obtain teachers' attitudinal results for the constructs of CE, OCB, and school effectiveness. Correlational and regressional analyses tested the relationships between CE, OCB, SES, and school effectiveness measures.

Population

The population for this study consisted of 202 Alabama public high schools (see Appendix C). High schools were defined in the study as those schools consisting of grade configurations of either 9-12 or 10-12. A list of schools fitting this category was obtained from the Alabama State Department of Education.

Sample

A random sample was selected to test the hypotheses in this study (see Appendix B). The random sample (see Appendix D) was chosen using the Rand Corporation's random selection table (as cited in Brase & Brase, 2003, pp. A13-A14). The original sample of schools asked to participate in this study consisted of 80 Alabama public high schools. Only schools with a grade configuration of either 9-12 or 10-12 were considered for this study. A list of all Alabama high schools was obtained from the Alabama State Department of Education in order to choose the sample.

Of the original sample of 80 schools, one school was excluded due to the fact the school was newly established and therefore lacking the appropriate student achievement data. Permission to participate was obtained from 51 of the 79 sample schools, for a rate of 65%. Of the 51 schools agreeing to participate, 45 schools completed and returned the survey data for a rate of 88%.

Survey Participants

All survey participants were full-time teachers, guidance counselors, and library media specialists within the sample high schools. Each of the potential participants was guaranteed anonymity, confidentiality, and the option to not participate in this study. The total number of survey participants for this study totaled 1,854: CES (622), OCB scale (632), and IPOE (600).

Measurements

Collective Teacher Efficacy (CE)

The instrument used to operationalize CE in this study was Goddard's (2002b) *Collective Efficacy Scale* (CES) (see Appendix H). The 12-item instrument is a short form version of Goddard, Hoy et al.'s (2000) original 21-item *Collective Teacher Efficacy Scale* (CTES). A correlation ($r = .983$) between the CES and the CTES showed the short version to be strongly related to the original instrument. The CES consists of Likert-type items used by teachers to indicate their level of agreement with each item, ranging on a 6-point scale from *strongly disagree* (1) to *strongly agree* (6). The instrument includes both positively (+) and negatively (-) worded items in the scale in order to not influence respondents. It also includes items related to both *group competence* (GC) and *task analysis* (TA). The four types of elements included in items were GC+, GC-, TA+, and TA-. Three items represent each of the four elements. Goddard showed the CES to have high internal consistency ($\alpha = .94$), and a principal axis factor analysis revealed it explained a greater amount of variance (64.10%) than did the CTES (57.89%).

Organizational Citizenship Behavior

The *Organizational Citizenship Behavior* (OCB) scale developed by DiPaola and his colleagues (DiPaola et al., 2007, DiPaola & Hoy, 2005a, 2005b) was used in this study to operationalize OCB (see Appendix I). The OCB scale is a revision of the original 15-item *Organizational Citizenship Behavior in Schools Scale* (OCBSS) developed by DiPaola and Tschannen-Moran (2001). The researchers completed three separate theoretical and empirical test of the construct at each of the three levels of schools. Results for each tests showed a stable factor structure consisting of a single bipolar construct of high reliability and structural stability.

The new OCB scale (40.8%) explained a greater amount of variance at the high school level than did the OCBSS (36.2%). It explained an even greater amount of variance at the middle school (58.8%) and elementary school (59.5%) levels. Construct and predictive validity were established in each of the three tests. The alpha coefficient of reliability for the OCB scale (.86, .93, and .93) was shown at all three levels to be strong in comparison to the OCBSS (.87). The OCB scale was designed to measure the collective behaviors of a teaching staff. Therefore, scores were aggregated to the school level in this study.

Teachers' Perceptions of School Effectiveness

The *Index of Perceived Organizational Effectiveness* (IPOE) was used in this study to operationalize teachers' perceptions of school effectiveness (Miskel et al., 1979). The scale (see Appendix J) is a revision of Mott's (1972) original scale used to measure effectiveness in hospitals. The IPOE consists of eight items where teachers are asked to respond to Likert-type items that assess their perceptions of their school's quality, efficiency, adaptability, and flexibility. The scores were aggregated to the school level. The higher the score, the more effective the school was perceived to be effective by its teachers. The instrument's alpha coefficient for reliability has been shown by Mott (.89) and Miskel et al. (.94) to be strong. Miskel et al. (1979) and Miskel, McDonald, and Bloom (1983) validated the measure.

Student Achievement

Student achievement levels for each school were determined using AHSGE data retrieved from the Alabama State Department of Education's (2009a) online *Accountability Reporting System*. Data from the 2008-2009 school year were used for this study. The AHSGE is an

instrument used by the Alabama State Department of Education to assess high school students'

mastery of content standards in reading, mathematics, language, science, and social studies

(Alabama State Department of Education, 2007). Passage of the assessment is a requirement for

receipt of an Alabama high school diploma. In this study, passage rates for 11th graders in both

the reading and mathematics subtests of the AHSGE were used to determine school-wide student

achievement levels (Alabama State Department of Education, 2009a).

Socioeconomic Status (SES)

The SES of each school was determined by using data from each school's 2007-2008

report card issued by the Alabama State Department of Education (2009b). The proportion of

students not receiving a free and reduced meal rate was used in this study as an indicator of each

school's SES. The SES data corresponding to the 2008-2009 student achievement data were

unavailable to the researcher at the time of the research, so the most recent SES data from the

2007-2008 school year was used.

Data Collection Methods

Teachers completed surveys of CE, OCB, and school effectiveness. Permission to

participate was obtained from the district office (see Appendix E) and the principal (see

Appendix F) of each sample school prior to administering the surveys. Those schools agreeing to

participate were mailed a package of the survey instruments along with scripted instructions (see

Appendix K) of how the surveys were to be administered. A faculty member at each school was

designated to provide instructions, distribute survey instruments, and collect the completed

instruments. All data were collected during regularly scheduled faculty meetings in the fall of

2009. Each of the potential participants was guaranteed anonymity, confidentiality, and the option to not participate. To maintain methodological independence among the measures, teachers in each school were randomly chosen to complete one of the three survey instruments regarding CE, OCB, or school effectiveness. The data collection procedure took approximately 15 minutes in each school. A self-addressed, stamped enveloped was provided to each school for the return of the completed instruments.

Data Analysis Techniques

The unit of analysis was the school. Survey data from individual teacher responses to the CE, OCB scale, and IPOE, as well as student reading and mathematics achievement data and SES levels, were input into the *Statistical Package for the Social Science* (SPSS) software program.

To test the hypotheses, both simple correlational analyses and multiple regression analyses were performed using SPSS. The hypotheses tested using these techniques are listed in the following section.

Hypotheses

H1: As CE increases, effectiveness increases.

H2: As CE increases, OCB increases.

H3: As OCB increases, effectiveness increases.

H4: CE, OCB, and SES will make direct and indirect contributions to an explanation of effectiveness.

Conclusion

Certain organizational properties are promising in the effort to promote and enhance school effectiveness. This study sought to add to a growing body of organizational research literature regarding the constructs of CE, OCB, and school effectiveness. The results of this research obtained through descriptive statistics, factor analyses, correlational analyses, and multiple regression analyses provide a more comprehensive understanding of how the variables included in this study work together in either promoting or hindering school effectiveness.

CHAPTER 4

ANALYSIS OF DATA AND RESEARCH FINDINGS

Chapter 4 presents the findings of this study concerning the relationships between CE, OCB, and school effectiveness in Alabama public high schools. The findings are based on the results of the survey methodology described in chapter 3, school-level achievement data for both reading and mathematics, and school-level SES. The unit of analysis for this study was the school. Accordingly, mean school values were calculated for all variables.

The chapter is organized into four sections. Section one provides descriptive statistics for each of the research variables and respondent demographics. Section two presents findings for correlations among the research variables. Section three presents data for multiple regressions. A brief summary of the data and findings are presented in section four.

The construct of CE was measured using the 12-item *Collective Efficacy Scale* (CES) developed by Goddard (2002). The construct of OCB was measured using the *Organizational Citizenship Behavior* (OCB) scale developed by DiPaola and his colleagues (DiPaola et al., 2007, DiPaola & Hoy, 2005a, 2005b). Both instruments consist of Likert-type items used by teachers to indicate their level of agreement with each item, ranging on a 6-point scale from *strongly disagree* (1) to *strongly agree* (6). Both instruments also include positively- and negatively-worded items. Responses for negatively-worded items were reverse scored.

The level of school effectiveness was determined using three different measurements: teacher's perceptions of school effectiveness and student achievement for reading and mathematics. Teachers' perceptions of school effectiveness were operationalized with Miskel

et al.'s (1979) *Index of Perceived Organizational Effectiveness* (IPOE). The IPOE consists of eight Likert-type items where teachers respond to items that assess their perceptions of their school's quality, efficiency, adaptability, and flexibility. Student achievement was determined for each school using the 2008-2009 AHSGE data from the online *Accountability Reporting System* (Alabama State Department of Education, 2009a). Passage rates for 11th graders in both the reading and mathematics subtests of the AHSGE were used to determine school-wide student achievement levels.

Of the original sample of 80 schools, one school was excluded due to the fact the school was newly established and therefore lacked the appropriate student achievement data. Permission to participate was obtained from 51 of the 79 sample schools, for a rate of 65%. Of the 51 schools agreeing to participate, 45 schools completed and returned the survey data for a rate of 88%. The rate of participation when considering the original sample of 79 schools was 57%.

The CE, OCB, and IPOE surveys were administered to faculty members during regularly-scheduled faculty meetings. There were a total of 1,854 respondents from 45 high schools. Schools' grade configurations consisted of either 9-12 or 10-12.

Descriptive Statistics

The descriptive statistics for all dependent and independent variables are provided in this section. All variables have been aggregated to the school level. Each of the independent variables are measurements for school effectiveness and include teachers' perceptions of school effectiveness (IPOE) and student academic achievement, both in math and reading. The independent variables include CE and OCB. The control variable of SES was also considered for its effects.

The descriptive statistics for the research variables are provided in Table 1. Statistics

included are the number of sample schools (N), mean (M), standard deviation (SD), variance

(V), and the low and high scores. Data were aggregated at the school level. The mean score for

the variables CE, OCB, and IPOE were calculated first by aggregating all teacher responses at a

school per survey and then calculating a school mean. School means were then used to calculate

an overall mean for each variable. The overall mean scores for SES, Math, and Reading are the

results of the mean SES, math scores, and reading scores from each of the 45 participating

schools.

Table 1

Descriptive Statistics for Research Variables (N = 45)

Variable	M	SD	V	Low	High
CE	45.80	4.33	18.78	32.78	56.33
OCB	53.92	3.54	12.56	44.80	63.00
IPOE	30.09	2.22	4.94	24.60	35.33
SES	60.98	19.84	383.69	00.00	100.00
Math	88.13	6.51	42.43	72.16	99.00
Reading	83.20	8.21	67.43	54.64	98.01

Each of the three survey instruments administered in this study contained standardized

respondent demographic questions. The demographics included (a) total years teaching (TYT),

(b) total years teaching in this school (TYTIS), (c) gender (G), (d) ethnicity (ETH), and (e)

highest degree (DEG). Of the 1,859 total participants, 1,824 (98%) responded to the question

regarding their ethnicity. The following are the ethnicity results: Black 178 (9.8%), Asian 4

(.2%), Hispanic 11 (.6%), Native American 23 (1.3%), White 1,599 (87.7%), and Other 9 (.5%).

Other respondent demographics are presented in Table 2. Gender (G) and highest degree (DEG)

were included as categorical variables. For gender, males were coded as 1 and females as 2. For

highest degree, degrees were coded as follows: BA/BS = 1; MA/MS = 2; Ed.S/AA = 3; and

Ed.D./Ph.D. = 4.

Table 2

Descriptive Statistics for Demographic Variable (Sample N=1859)

Variable	N	M	SD	Low	High
TYT	1,831	14.16	9.49	1	44
TYTIS	1,824	8.51	7.67	1	44
G	1,829	1.67	.48	1	2
DEG	1,806	1.79	.66	1	4

The three survey instruments were tested individually to ensure internal consistency

reliability. Reliabilities for both the individual and the school as the unit of analysis were

calculated. Muijs (2004) suggests instruments must have a Cronbach's coefficient alpha of .70 or

greater to be determined reliable. Considering the individual as the unit of analysis, reliability

was confirmed in each of the three instruments: CES (.80), OCB scale (.86), and IPOE (.87) (see

Table 3).

Table 3

Alpha Coefficients of Reliability using Individual as Unit of Analysis

Variable	Instrument	Number of items	Cronbach's Alpha	N
CE	CES	12	.80	622
OCB	OCB Scale	12	.86	632
Effectiveness	IPOE	8	.87	600

Reliability for each instrument was also confirmed using the school as the unit of analysis: CES (.89), OCB scale (.90), and IPOE (.93). Table 4 depicts instrument reliability using the school as the unit of analysis.

Table 4

Alpha Coefficients of Reliability with School as Unit of Analysis

Variable	Instrument	Number of items	Cronbach's Alpha	N
CE	CES	12	.80	45
OCB	OCB Scale	12	.90	45
Effectiveness	IPOE	8	.93	45

Correlational Analyses

Pearson correlation coefficients were computed for all independent, dependent, and intervening variables in order to investigate possible cause-and-effect relationships that exist between the variables (see Table 5). All correlations were found to have positive and significant correlations. Correlational results are used to address Hypotheses 1, 2, and 3.

Table 5

Intercorrelational Matrix of Research Variables

	2	3	4	5	6
CE	.376*	.585**	.573**	.578**	.475**
OCB		.530**	.490**	.334*	.427**
IPOE			.477**	.504**	.403**
Math achievement				.832**	.757**
Reading achievement					.711**
SES					--

Note. **$p < .01$, *$p < .05$

H1: As CE increases, effectiveness increases. Correlational statistics support the first hypothesis (see Table 6). As CE increases in a school, effectiveness also increases. Correlations were positive and significant for each of the three measures of school effectiveness: IPOE ($r =$ .59; $p < .01$), math ($r = .57$; $p < .01$), and reading ($r = .58$; $p < .01$). CE explains the greatest amount of variance for school effectiveness as measured by the IPOE (35%), followed by reading (33%), and math (33%).

Table 6

Correlational Analyses of CE and Measurements of School Effectiveness

	IPOE	Math	Reading
CE	.59**	.57**	.58**

Note. *$p < .01$.

H2: As CE increases, OCB increases. Correlational statistical results indicate the second research hypothesis was supported (see Table 7). As CE increases in a school, the level of OCB also increases. The correlation was both positive and significant ($r = .38$; $p < .05$). The correlation may be considered modest, for CE explains only 14% of the variance for OCB.

Table 7

Correlational Analysis of CE and OCB

	OCB
CE	.38*

Note. *$p < .05$

H3: As OCB increases, effectiveness increases. Hypothesis 3 is supported by the results from correlational analysis (see Table 8). As the OCB levels in a school increases, school effectiveness also increases. Correlations were found to be both positive and significant for each of the three measures of school effectiveness: IPOE ($r = .53$; $p < .01$), math ($r = .49$; $p < .01$), and reading ($r = .33$; $p < .05$). However, OCB explains only a modest amount of variance in each of the three measurements of effectiveness: IPOE (28%), math (24%), and reading (11%).

Table 8

Correlational Analyses of OCB and Measurements of School Effectiveness

	IPOE	Math	Reading
OCB	.53**	.49**	.33**

Correlation coefficients were computed for all research and demographic variables (see Table 9). Demographic variables included were (a) total years teaching (TYT), (b) total years teaching in this school (TYTIS), (c) gender (G), and (d) highest earned degree (DEG). Means for each demographic variable were calculated for each school. The only significant correlation between the demographic and research variables was for TYT and math achievement ($r = .311$, $p<.05$).

Table 9

Intercorrelational Matrix of Research Variables and Demographics

	2	3	4	5	6	7	8	9	10
1. CE	.376*	.585**	.573**	.578**	.475**	.203	.175	.216	.272
2. OCB		.530**	.490**	.334*	.427**	.220	.056	.206	.245
3. IPOE			.477**	.504**	.403**	.088	.052	-.009	.135
4. Math				.832**	.757**	.311*	.124	.031	.232
5. Read					.711**	.287	.116	.000	.233
6. SES						.258	.070	.117	.223
7. TYT							.689**	.155	.346*
8. TTIS								.221	.240
9. G									.178
10.DEG									

Note. **$p < .01$, *$p < .05$.

Multiple Regression Analyses

Multiple regressions partially supported Hypothesis 4. Measurements of school effectiveness were regressed on CE, OCB, and SES to test the prediction of Hypothesis 4. All multiple regressions used a simultaneous type of analysis. Specifically, an attempt was made to determine which of the independent variables best predicts school effectiveness. Also of interest was how each of the independent variables affects each other in a path toward school effectiveness.

H4: CE, OCB, and SES will make direct and indirect contributions to an explanation of effectiveness. Multiple regressions were first used to study school effectiveness, as measured by the IPOE. Effectiveness was regressed onto the independent variables of CE and OCB, and the control variable of SES (see Table 10). Both CE and OCB have significant and positive effects on effectiveness. CE was the strongest predictor of school effectiveness, as measured by the IPOE. CE made a unique contribution to effectiveness ($\beta = .43$, $p < .01$) while controlling for both OCB and SES. OCB ($\beta = .35$; $p < .05$) also made a unique contribution to effectiveness, while controlling for CE and SES. SES ($\beta = .05$) had no effect on effectiveness. The combined effects of the three variables moderately explained 42% (Adjusted $R^2 = .417$) of the variance for school effectiveness, as measured by the IPOE.

Table 10

Summary of Regression Analysis for Variables Predicting School Effectiveness as Measured by the IPOE (N = 45)

Dependent variable: IPOE Mean	B	β	Sig.
Predictor variables			
CE	.221	.431**	.003
OCB	.217	.346*	.011
SES	.006	.051	.715

Note. **$p < .01$, *$p < .05$, $R^2 = .456$**, Adjusted $R^2 = .417$**

Secondly, multiple regressions were completed, regressing the dependent variable of school effectiveness, as measured by math achievement, on the independent variables of CE and OCB (see Table 11). SES was included as a control variable. Again, CE made a unique contribution to effectiveness ($\beta = .24$, $p < .05$) while controlling for both OCB and SES. The effect of CE was both positive and significant. OCB made no unique contribution to effectiveness. The effect of SES as an intervening variable made the strongest contribution to effectiveness ($\beta = .58$, $p < .01$). The combined effects of the three variables explained 62% (Adjusted $R^2 = .624$) of the variance for school effectiveness, as measured by math achievement. Muijs (2004) suggests an Adjusted R^2 greater than 0.5 to be a strong predictor. This regression model can be considered as a strong fit in predicting school effectiveness, as measured by math achievement.

Table 11

Summary of Regression Analysis for Variables Predicting School Effectiveness as Measured by Math Achievement (N = 45)

Dependent variable: Math Achievement Mean	B	β	Sig.
Predictor variables			
CE	.363	.241*	.030
OCB	.282	.153	.150
SES	.189	.577**	.000

Note. **$p < .01$, *$p < .05$, $R^2 = .650$**, Adjusted $R^2 = .624$**.

A third set of multiple regressions was used, regressing the dependent variable of school effectiveness, as measured by reading achievement, on the independent variables of CE and OCB (see Table 12). SES was included as a control variable. Again, CE had a significant and positive relationship, making a unique contribution ($\beta = .32$, $p < .01$) to effectiveness. OCB made no contribution to effectiveness. SES made the strongest unique contribution to effectiveness ($\beta = .57$, $p < .01$). The combined effects of the three variables explained 55% (Adjusted $R^2 = .550$) of the variance for school effectiveness, as measured by reading achievement. This regression model can be considered as a strong fit in predicting school effectiveness, as measured by reading achievement.

Table 12

Summary of Regression Analysis for Variables Predicting School Effectiveness as Measured by Reading Achievement (N = 45)

Dependent variable: Reading Achievement Mean	B	β	Sig.
Predictor variables			
CE	.600	.317**	.010
OCB	-.069	-.030	.795
SES	.237	.573**	.0005

Note. **$p < .01$, *$p < .05$, $R^2 = .580$**, Adjusted $R^2 = .550$**.

Three separate regressions were completed using the demographic variables and

effectiveness, as measured by the IPOE, math achievement, and reading achievement (see Tables

13, 14, and 15). None of the demographic variables made a unique contribution to any of the

measurements of effectiveness. The regressions did reaffirm the unique contributions found in

earlier regressions for each of the independent variables, CE and OCB, and the intervening

variable of SES.

Table 13

Summary of Regression Analysis for Demographic Variables and Variables Predicting School Effectiveness as Measured by the IPOE (N = 45)

Dependent variable: IPOE Mean	B	β	Sig.
Predictor variables			
CE	.240	.468**	.002
OCB	.249	.397**	.006
SES	.008	.070	.624
TYT	-.109	-.120	.492
TYTIS	.069	.079	.639
G	-3.725	-.190	.130
DEG	-.595	-.049	.703

Note. **$p < .01$, *$p < .05$, $R^2 = .501$**, Adjusted $R^2 = .407$**.

Table 14

Summary of Regression Analysis for Demographic Variables and Variables Predicting School Effectiveness as Measured by Math Achievement (N = 45)

Dependent variable: Math Achievement Mean	B	β	Sig.
Predictor variables			
CE	.393	.261*	.026
OCB	.299	.163	.145
SES	.182	.554**	.000
TYT	.309	.116	.412
TYTIS	-.040	-.016	.907
G	-7.783	-.136	.180
DEG	-.517	-.015	.889

Note. **$p < .01$, *$p < .05$, $R^2 = .675$**, Adjusted $R^2 = .613$**.

Table 15

Summary of Regression Analysis for Demographic Variables and Variables Predicting School Effectiveness as Measured by Reading Achievement (N = 45)

Dependent variable: Reading Achievement Mean	B	β	Sig.
Predictor variables			
CE	.637	.226**	.010
OCB	-.058	-.025	.835
SES	.226	.545**	.000
TYT	.428	.128	.410
TYTIS	-.126	-.039	.792
G	-10.538	-.146	.189
DEG	.747	.017	.884

Note. **$p < .01$, *$p < .05$, $R^2 = .609$**, Adjusted $R^2 = .535$**.

Summary

Correlational statistics were used to investigate Hypotheses 1, 2, and 3. All three hypotheses were supported. First, data indicated a significant and positive relationship between CE and school effectiveness. As CE increases in a school, so does school effectiveness. This was true for three different measurements of school effectiveness: IPOE, math achievement, and reading achievement. Second, data indicated that CE and OCB were significantly and positively related. As the level of CE increases in a school, the level o

f OCB also increases. And third, data indicated a significant and positive relationship between OCB and school effectiveness. As OCB increases in a school, school effectiveness also increases. As with CE, this was true for the three different measurements of school effectiveness used in this research. The correlations between CE and school effectiveness were consistently stronger than correlations between OCB and school effectiveness.

Multiple regressions were used to investigate Hypothesis 4. Three separate regressions were completed, each using the independent variables of CE and OCB, and the intervening

variable of SES. All regressions were simultaneous regressions. Data partially supported

Hypothesis 4. CE made a unique contribution toward school effectiveness in each regression

model. CE has both direct and indirect effects on school effectiveness. OCB showed a unique

contribution only toward school effectiveness, as measured by the IPOE. No unique contribution

toward school effectiveness was indicated for OCB using either math or reading achievement.

SES made strong unique contributions toward school effectiveness, using both math and reading

achievement, but showed no contribution using the IPOE.

In summary, Hypotheses 1, 2, and 3 were supported. Hypothesis 4 was partially

supported. Chapter 5 will provide a thorough discussion of findings and implications for future

practice and research.

CHAPTER 5

SUMMARY OF RESEARCH, FINDINGS, DISCUSSIONS, AND IMPLICATIONS

Summary of Research

Past research efforts have shown a limited number of organizational characteristics to positively contribute to school effectiveness: trust (Goddard, Tschannen-Moran, & Hoy, 2001); academic emphasis (Goddard, Sweetland, & Hoy, 2000); CE (Goddard, LoGerfo, & Hoy, 2004); and OCB (DiPaola & Hoy, 2005a). This study specifically examined the contributions of two school-level properties, CE and OCB, toward school effectiveness.

The first purpose of this study was to examine the relationship between CE and school effectiveness. CE significantly contributes to student achievement at all school levels (Bandura, 1993; Goddard, Hoy et al., 2000; Goddard, LoGerfo et al., 2004; Hoy et al., 2002; Tschannen-Moran & Barr, 2004). The construct of CE is defined as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard, Hoy et al., 2000, p. 480).

The second purpose of this study was to test the relationship between OCB and school effectiveness. The construct of OCB is defined as the "voluntary and discretionary behavior of teachers that exceeds the formal requirements of the job" (DiPaola et al., 2007, p. 227). Past research efforts to examine the relationship between OCB and student achievement are limited and have revealed mixed results. Results from early studies (Cantrell, 2001; DiPaola & Hoy, 2005; Jurewicz, 2004) reported significant results, while later studies (Bazel, 2007; Wagner 2008) revealed no relationship.

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The third purpose of this study was to examine the relationship between CE and OCB. Although past research efforts have separately revealed significant contributions of these constructs toward student achievement, none have examined the relationship between each.

The fourth purpose was to test the contributions of CE and OCB toward school effectiveness. There was a gap in the research literature regarding the relationship of these constructs. This study intended to fill this gap.

Surveys measured teachers' school-level perceptions of CE, OCB, and one measure of school effectiveness in 45 Alabama public high schools. There were a total of 1,854 respondents. The construct of CE was operationalized with the CES instrument (Goddard, 2002b). OCB was operationalized with the OCB scale (DiPaola et al., 2007, DiPaola & Hoy, 2005a, 2005b). The examination of school effectiveness in the far majority of past research efforts has focused primarily on student achievement. This study also used student achievement as an indicator of school effectiveness. The passage rates for 11th graders on the reading and math subtests of the AHSGE were used to operationalize this construct. In addition, this study extended the construct of school effectiveness to teachers' perceptions of effectiveness as measured by the IPOE (Miskel et al., 1979).

Correlational and multiple regression analyses were used in this study to examine the relationships between the research variables. Individual correlations were computed for independent, dependent, and intervening variables. Multiple regressions were used to identify the unique contributions of each independent variable on the three dependent variables measuring school effectiveness. Intervening and demographic variables were also analyzed for their unique contribution toward school effectiveness.

Findings

Hypothesized Findings

1. CE is positively and significantly correlated to school effectiveness. This held for each of the three measurements of school effectiveness: teachers' perceptions (IPOE), math achievement, and reading achievement.

2. The constructs of CE and OCB are significantly and positively related.

3. OCB is positively and significantly correlated to school effectiveness. As with CE, this held for each of the three measurements of school effectiveness.

4. When simultaneously analyzing the unique contributions of the independent variables CE and OCB, and the intervening variable of SES toward school effectiveness as measured by the IPOE, CE and OCB made significant and positive contribution. The intervening variable of SES made no contribution. CE made the strongest unique contribution.

5. When simultaneously analyzing the unique contributions of the independent variables CE and OCB, and the intervening variable of SES toward school effectiveness as measured by math achievement, CE and SES made significant and positive contributions. OCB made no unique contribution. SES made the strongest unique contribution.

6. When simultaneously analyzing the unique contributions of the independent variables CE and OCB, and the intervening variable of SES toward school effectiveness as measured by reading achievement, CE and SES made significant and positive contributions. OCB made no unique contribution. SES made the strongest unique contribution.

Non-Hypothesized Findings

1. The only significant and positive correlation found between demographic variables and school effectiveness was for total years in teaching and math achievement. There were no relationships found between any school effectiveness measure and the demographic variables of total years teaching in this school, gender, or highest degree earned.

2. Three separate multiple regressions using all demographic variables and each of the three effectiveness measures revealed no unique contribution of any demographic toward effectiveness.

Discussion of Findings

The theoretical framework for this study suggested CE serves to link the variables of the study. High levels of CE in a school strengthen a staff's efforts, persistence, and resilience. In return, effectiveness increases. Hoy, Sweetland et al. (2002) explained that a highly efficacious environment creates norms in a school with pressures to meet high expectations. Coleman (1985) explained how group norms may serve to hold staff members accountable to high expectations. Goddard, Hoy et al. (2004) explained how the normative environment influences actions of a staff.

Considering each of these arguments, OCB was introduced in this study because the researcher believed high levels of CE would establish a normative environment with high expectations, which would strengthen the OCB levels in a school. As a result, teachers would give extra efforts beyond their formal job descriptions in order to ensure success of the school as a whole. The researcher also believed OCB would make a direct contribution toward effectiveness, even when controlling for CE and SES.

The examination of the relationship between CE and OCB is unique. The literature review found no past efforts to examine the relationship. The theoretical framework offered by this researcher suggested the two constructs would be related in a positive manner. Findings supported this thought, as CE and OCB were found to be significantly related. This correlation was somewhat weaker than expected though, as only 14% of the variance was explained by each. According to Bandura (1997, 2000b), CE beliefs are formed through cognitive processes of the collective and serve to motivate and regulate coordinated actions of the group. Therefore, the thought was that high levels of CE should substantially affect a staff's level of effort exerted through OCB.

The findings in this study for CE were consistent with previous research efforts (Bandura, 1993; Goddard, Hoy et al., 2000; Goddard, LoGerfo et al., 2004; Hoy et al., 2002; Tschannen-Moran, & Barr, 2004) in that CE had a significant relationship with school effectiveness as measured by student achievement. As the levels of CE increase in a school, so does the level of achievement. Teachers in a school with a high level of CE hold perceptions that they as a whole can positively affect student achievement. In this study, CE explained 33% of the variance for both math and reading achievement.

This study also sought to expand previous research efforts by considering the relationship between CE and an additional measure of effectiveness, the IPOE (Miskel et al., 1979). The IPOE measures teachers' perceptions of their school's effectiveness. Findings showed CE and effectiveness, as measured by the IPOE, to be significantly related, which is consistent with findings for student achievement. CE explained 35% of the variance for school effectiveness as measured by the IPOE. Teachers in a school with high levels of CE hold high perceptions of their school's effectiveness.

The findings showed a significant relationship between CE and school effectiveness, even when controlling for both OCB and SES. CE continued to make a unique and direct contribution toward school effectiveness, no matter which measure was used. CE explained 19% of the variance for IPOE achievement, 6% for math achievement, and 10% for reading achievement. Again, these findings further support past research efforts showing the positive relationship between CE and school effectiveness as measured by student achievement. Additionally, the results extend this positive relationship between CE and effectiveness to include teachers' perceptions of effectiveness.

Given the findings, CE appears to be a powerful variable in school effectiveness. The correlational range between CE and each of three effectiveness measures was only .02, indicating CE similarly correlates to each dependent variable of effectiveness. This small range suggests that the manner in which teachers judge their colleagues affects a number of effectiveness outcomes. This effect held, even when controlling for SES and OCB, as CE continued to make a significant contribution toward all effectiveness measurements.

Of the three measures of effectiveness considered, the IPOE was found to have the strongest correlation with CE. CE explained 35% of the variance in IPOE effectiveness and 33% for both math achievement and reading achievement. When controlling for SES and OCB, CE continued to account for 19% of the variance in IPOE effectiveness, but only 6% for math achievement and 10% for reading achievement. It appears the effect of SES is greater on student achievement than teachers' perceptions of effectiveness.

The predicted relationship between OCB and school effectiveness was only partially supported. Zero-order correlations supported previous research findings, which revealed a significant relationship between OCB and student achievement (Cantrell et al., 2001; DiPaola &

Hoy, 2005a; Jurewicz, 2004) and teachers' perception of school effectiveness (DiPaola, Tarter, & Hoy, 2007). OCB explained 28% of the variance for IPOE effectiveness, 24% for math achievement, and 11% for reading achievement. As the level of OCB increases in a school, school effectiveness also increases. Teachers in these schools go beyond their formal job descriptions in order to ensure the success of students, fellow colleagues, and the school as a whole.

Findings from multiple regression analyses were less conclusive about the relationship between OCB and school effectiveness. Similar to findings by Bazel (2007) and Wagner (2008), results in this study revealed OCB to make no direct contribution toward either math or reading achievement when controlling for both CE and SES. Interestingly, OCB was found to make a direct contribution toward school effectiveness as measured by the IPOE. While controlling for both CE and SES, OCB explained 12% of the variance in IPOE effectiveness. These results suggest that although OCB may indirectly influence effectiveness, its direct effect is not apparent for more common student achievement measures of effectiveness, such as math and reading achievement. The only direct effect found was limited to teachers' perceptions of effectiveness as measured by the IPOE.

SES was included in this investigation as a control variable due to its established strong effect on student achievement. SES was defined in this study as the proportion of students not receiving a free and reduced meal rate. SES was significantly correlated to all independent and dependent variables in this study, except school effectiveness as measured by the IPOE. Findings from this study confirmed the powerful effect of SES on school math and reading achievement, explaining 33% of the variance for both while controlling for CE and OCB.

Surprisingly, SES was found to have no relationship to school effectiveness as measured by the IPOE. The findings imply that a low SES school may not do well when comparing their math and reading achievement to higher SES schools. However, given the resources available, the low SES level may have no effect on IPOE effectiveness. Teachers in a school of this nature may perceive their school as functioning well when considering all inputs.

Findings regarding SES contradict Coleman et al.'s (1966) suggestion that social and organizational characteristics of schools have only a minimal effect on school effectiveness in comparison to the overwhelming impact of SES. High levels of CE in a school do contribute significantly and directly toward school effectiveness. Although high levels of OCB may not contribute directly to math and reading achievement, it does contribute directly to IPOE effectiveness as perceived by teachers.

Following Bandura's (2001) theory of triadic reciprocal causation (see Figure 5), we can understand how once established in a school, high levels of CE beliefs serve to feed themselves through the interaction of cognitive processes, behavioral patterns, and environmental influences in a school. Social structures with corresponding high expectations are established through collective human activity. As Goddard, Hoy et al. (2004) argued, high levels of CE foster high expectations for a staff and serve to motivate staff members to conform to group norms. Behavior patterns in highly efficacious schools are developed where teachers give the extra efforts necessary to ensure organizational success. Teachers in these schools hold perceptions that they as a group can make a difference, and norms in the school motivate them to work harder to ensure the success of the school as a whole.
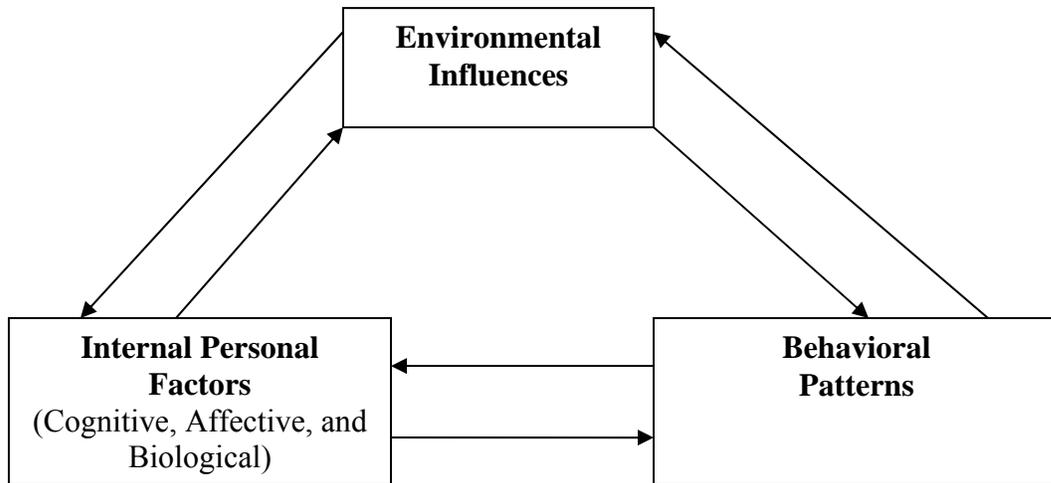
Figure 5. Model of Bandura's (2001) triadic reciprocal causation theory.

Bandura's (2001) theory of triadic reciprocal causation may also help us to understand how OCB may not directly affect school effectiveness, but does so indirectly through CE. Results suggest that OCB may intervene in the relationship between CE and reading and math achievement, but it does not have a direct effect. It appears OCB is an indirect variable in this case that emerges out of the informal organization. As staffs get better at their work and CE levels increase, they perceive their colleagues as effective. The consequence is that they support informal tasks, such as OCB, in order to ensure the success of the organization. CE is more of an adaptable formal perception that develops in response to the environmental influences and the behavior patterns of the organization. High levels of CE may serve to strengthen OCB levels, which indirectly strengthen effectiveness as measured by student achievement. As formal perceptions such as CE assist the organization in being successful, informal behavior patterns, such as OCB, also assist.

One confusing result was the direct effect of OCB toward school effectiveness as measured by teachers' perceptions. The direct effect of OCB on IPOE effectiveness might be

explained by the fact that both constructs are derived from teachers' perceptions and not student achievement results. Two other related findings are of interest. First, SES was shown to strongly correlate with math and reading achievement, but not IPOE effectiveness. Second, results also showed the strongest effectiveness measure in relation to CE to be the IPOE. Again, in both of these cases, teachers' perceptions are involved. It appears that teachers' perceptions of effectiveness are not affected by levels of SES. Accordingly, no matter what the level of SES in a school, as long as CE beliefs are high, teachers will be more likely to engage in OCB. Even though low levels of SES may have a detrimental effect on student achievement, high levels of CE motivate teachers to engage in OCB, which indirectly makes a difference in student achievement.

A high level of CE is likely an antecedent for high levels of OCB. As stated earlier, there is a significant and positive correlation between CE and OCB. It is likely that OCB contributes directly toward CE, which indirectly strengthens school effectiveness. Therefore, the contribution of OCB to school effectiveness is made indirectly through CE. As levels of CE rise in a school, social structures are formed which exert motivation and/or pressure on teachers to meet the organizational norms of success. As a result, they are likely to react to the established norms by engaging in behaviors such as OCB.

Ancillary findings from this study concerning demographic variables revealed little of interest. The demographic variable of *total years in teaching* did correlate significantly with math achievement, but this is not surprising considering the effect experience may play in the ability to teach math skills. Other demographic variables such as total years teaching in this school, gender, and highest degree earned were also included in both simple correlational and

multiple regression analyses. None of these demographic variables correlated with any of the independent or dependent variables of this study.

Implications for Practice

In response to the pressures of accountability, school administrators are on a quest for ways to bring meaningful and measurable school improvement to their schools. This research effort focused on the school-level organizational variables of CE and OCB, which might improve school effectiveness. Findings clearly indicated that both school-level characteristics are significantly related to the measures of school effectiveness used in this study. Administrators seeking to improve school effectiveness should consider possibilities for increasing and maintaining the levels of CE and OCB in their schools.

First, school leaders should become more cognizant of the importance of CE and OCB toward school effectiveness. Leaders who understand the importance of these school-level characteristics should expose other school leaders within their district and school(s) to their importance. Training should be provided for all school leaders, including district administrators, building administrators, and teacher leaders. Together, school leaders should then work collaboratively to develop strategies in building and maintaining high levels of CE and OCB.

School officials responsible for personnel decisions should be trained to recognize the potential of candidates to positively contribute toward high levels of CE and OCB. Candidates should be screened for traits that contribute to high levels of CE and OCB such as collaborative skills, altruism, professional commitment, content knowledge, highly developed pedagogical skills, and the commitment to life-long learning. School leaders should also be willing to develop these skills in new employees and to terminate the services of teachers who lack these skills.

In order to improve CE levels, administrators might first consider Bandura's (1977, 1986, 1997, 2000c) four sources of CE: mastery experience, vicarious experience, social persuasion, and affective states. Bandura noted that mastery experience is the greatest source of CE. Accordingly, administrators may look for ways to create small increments of success for their staff, understanding that success breeds future success. Staffs that experience success are likely to learn from these positive experiences, and the likelihood of future successes is strengthened.

School leaders should also foster growth of CE by providing staffs vicarious experiences where they observe others who are successful. This can be addressed at both the individual and collective levels. Principals may team struggling teachers with master teachers where they might vicariously learn strategies to enhance their future success. Entire schools staffs may also be afforded opportunities to study the practices of other successful schools in order to strengthen their school improvement efforts. This might be done by arranging site visits to effective schools or bringing in successful groups from other schools to provide training. Vicarious experiences allow observers the opportunity to imitate and borrow from others that are successful.

School leaders should heed the effect social persuasion may have in building CE. School leaders may increase CE by consistently providing positive feedback when warranted and limiting negative feedback to that which is necessary. They may also take every opportunity to celebrate any success, no matter of what degree. School leaders should create ways to foster positive feedback from sources outside the school organization, such as through parent groups or community members. Professional development opportunities may be provided by school leaders to foster CE through social persuasion. Professional development may provide teachers with encouraging strategies and feedback. Bandura (1996) explained that the more cohesive a

group is the more likely social persuasion will impact CE. Accordingly, school leaders must find ways to promote group cohesiveness among their staffs.

Goddard et al. (2000, 2004) explained that the affective states of schools determine how they handle difficulties that arise. School administrators can promote high levels of CE by ensuring crises are appropriately addressed in their school. First, administrators should model appropriate reactions to crises. Staff members need to see a strong leader who can cope and adapt to crises and pressures. Second, the school leader should also develop appropriate school structures to be proactive in preventing crises and addressing those that do arise. School leaders should build a team of teacher leaders and appropriate organizational structures that promote positive affective states within the school.

Goddard, Hoy et al. (2004) explained that CE is strengthened by allowing faculty members more opportunities to be involved in instructionally relevant school decisions. Accordingly, school leaders should establish school structures where teachers are involved in decision making. Examples of where administrators might provide teachers such opportunities include school improvement teams, personnel interviewing teams, or curriculum planning teams.

School leaders may promote OCB through fostering group norms that reflect high expectations. School leaders who reasonably convey high expectations act through social persuasion to positively affect OCB. In this case, school leaders strengthen the CE of a staff and as a result OCB develops that informally supports CE. There is bidirectional support between each construct. School leaders must be willing to celebrate success, but also pinpoint weaknesses and challenge staff members. Researchers have explained how informal group norms promote staff members' accountability (Coleman, 1985) and how the normative environment influences actions of a staff (Goddard, Hoy et al., 2004).

Somech and Ron (2007) found the contextual variable of *collectivism* to be the most effective predictor of OCB. Considering this finding and the informal nature of OCB, school leaders must tap into the informal organization in order to strengthen relationships among staff members. Leaders must work to develop relationships within the organization that go beyond the formal level. Such efforts would simultaneously serve to strengthen the formal CE perceptions of the staff and the informal OCB.

Implications for Further Research

This study adds to the extant research on school-level characteristics that contribute to school effectiveness. It confirmed previous research findings in that CE makes a direct contribution toward school effectiveness as measured by student achievement. However, this study is unique in that it extended the examination of CE in consideration of its effect on another measure of school effectiveness: teachers' perceptions of effectiveness. The construct of CE significantly and similarly correlated to all measures of school effectiveness, with a close correlational range of .02. Further research is needed to confirm this relationship between CE, student achievement measures, and teachers' perceptions of school effectiveness. There is also a need to extend this examination to the elementary and middle school levels.

The construct of OCB has been scantly researched in the field of education. Limited research efforts have provided mixed results on the independent effect of OCB toward school effectiveness at the middle and high school levels. Findings from this research effort also revealed mixed results. Simple correleational analyses indicated OCB was significantly related to all measures of school effectiveness. However, multiple regression analyses, while controlling for CE and SES, indicated OCB only made a direct contribution toward school effectiveness as

measured by teachers' perceptions. Also of interest was when teachers' perceptions of effectiveness were regressed onto CE, OCB, and SES, SES made no direct contribution toward effectiveness. It appears that SES has a minimal effect on teachers' perceptions of effectiveness. Research is needed to further examine the relationship between OCB and measures of effectiveness, while also controlling for SES. Ethnographic studies might especially provide insights into the relationship between OCB, teachers' perceptions of school effectiveness, and SES. Such studies might also provide characteristics that nurture OCB in schools. The limited research efforts examining the effects of OCB on school effectiveness have primarily focused on the middle and high school levels. Additional studies are needed to examine the effect of OCB at the elementary level.

This study was unique in that it examined the relationship between the two constructs of CE and OCB and how each contributes toward school effectiveness. Results indicated CE and OCB were significantly related. However, only CE made a direct contribution toward all school effectiveness measures. Replication of this study is needed to confirm these relationships. Replication of the study at the elementary and middle school levels would also be beneficial in understanding the relationship between the constructs. It appears CE may mediate the effect of OCB toward school effectiveness. Is it possible that CE may be, in fact, an antecedent of OCB? Is it possible for a school to have high levels of OCB without first having high levels of CE? What other antecedents might there be of OCB? Studies are needed to further examine the relationship between the two constructs and their contributions toward school effectiveness.

SES was used in this study as a control variable. Other variables might be included in future research efforts to examine CE and OCB and their contributions toward school

effectiveness. Such variables might include school size, urbanicity, principal leadership styles,

and teacher involvement in decision making.

REFERENCES

Alabama State Department of Education (2007). *Alabama High School Graduation Exam overview*. Retrieved March 12, 2009, from http://www.alsde.edu/html/sections/ documents. asp?section=91&sort=12&footer=sections

Alabama State Department of Education (2009a). *Accountability Reporting System*. Retrieved November 1, 2009, from http://www.alsde.edu/Accountability/Accountability.asp

Alabama State Department of Education (2009b). *Reports*. Retrieved May 12, 2009, from http://www.alsde.edu/html/reports_menu.asp

Allinder, R. M. (1994). The relationship between efficacy and the instructional practices of special education teachers and consultants. *Teacher Education and Special Education, 17*, 86-95.

Anderson, R., Greene, M., & Loewen, P. (1988). Relationships among teachers' and students' thinking skills, sense of efficacy, and student achievement. *Alberta Journal of Educational Research, 34*(2), 148-165.

Armor, D. Conroy-Oseguera, P., Cox, M. King, N., McDonell, L., Pascal, A., et al. (1976). *Analysis of school preferred reading programs in selected Los Angeles minority schools*. Santa Monica, CA: RAND Corporation. (ERIC Document Reproduction Service No. ED 130 243).

Ashton, P. T., Buhr, D., & Crocker, L. (1984). Teachers' sense of efficacy: A self- or norm-referenced construct? *Florida Journal of Educational Research, 26*(1), 29-41.

Ashton, P. T., Olenjnik, S., Crocker, L., & McAuliffe, M. (1982, April). *Measurement problems in the study of teachers' sense of efficacy*. Paper presented at the annual meeting of the American Educational Research Association, New York.

Ashton, P. T., & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. New York: Longman.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1991). Self-regulation of motivation through anticipatory and self-regulatory mechanisms. In R. A. Dienstbier (Ed.), *Perspectives on motivation: Nebraska symposium on motivation* (pp. 69-164). Lincoln: University of Nebraska Press.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.

Bandura, A. (2000a). Self-efficacy: The foundation of agency. In W. J. Perrig (Ed.), *Control of human behavior, mental processes, and consciousness* (pp. 17-33). New York: Erlbaum.

Bandura, A. (2000b). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*(3), 75-78.

Bandura, A. (2000c). Cultivate self-efficacy for personal and organizational effectiveness. In E. A. Locke (Ed.), *Handbook of principals of organization behavior* (pp. 120-136). Oxford, UK: Blackwell.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*, 1-26.

Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee citizenship. *Academy of Management Journal, 26*, 587-595.

Bazzel, R. J. (2007). *Organizational citizenship behaviors and student achievement as related to school district size in the public schools of Salem County, New Jersey*. Unpublished doctoral dissertation, Wilmington College, Wilmington, DE.

Becker, T. E., & Randall, D. M. (1994). Validations of a measure of organizational citizenship behavior against an objective behavioral criterion. *Educational and Psychological Measurement, 54*(1), 160-167.

Benassi, V. A., Sweeney, P. D., & Dufour, C. L. (1988). Is there a relation between locus of control orientation and depression? *Journal of Abnormal Psychology, 97*(3), 357-367.

Berman, P., McLaughlin, M., Bass, G, Pauly, E., & Zellman, G. (1977). *Federal programs supporting educational change, Vol. VII: Factors affecting implementation and continuation*. Santa Monica, CA: RAND Corporation. (ERIC Document Reproduction Service No. ED 140 432).

Bernard, C. I. (1938). *The functions of the executive*. Cambridge, MA: Harvard University Press.

Bolman, L. G., & Deal, T. E. (2003). *Reframing organizations: A comparative approach*. San Francisco: Chandler.

Bong, M., & Skaalvik, M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review, 15*(1), 1-40.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmidt & W. C. Borman (Eds), *Personality Selection* (pp. 71-98). San Francisco: Jossey-Bass.

Bouffard-Bouchard, T. (1990). Influence of self-efficacy on performance in a cognitive task. *Journal of Social Psychology, 130*, 353-363.

Bouffard-Bouchard, T., Parent, S., & Larivée, S. (1991). Influence of self-efficacy on self-regulation and performance among junior and senior high-school aged students. *International Journal of Behavioral Development, 14*, 153-164.

Brase, C. H., & Brase, C. P. (2003). *Understandable statistics: Concepts and methods* (7th ed.). Instructor's Annotated Edition. Boston: Houghton Mifflin.

Burley, W. W., Hall, B. W., Villeme, M. G., & Brockmeier, L. L. (1991, April). *A path analysis of the mediating role of efficacy in first-year teachers' experiences, reactions, and plans*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago.

Bussey, K., & Bandura, A. (1984). Influence of gender constancy and social power on sex-linked modeling. *Journal of Personality and Social Psychology, 47*, 1292-1302.

Cantrell, S. M., Lyon, N., Valdes, R., White, J., Recio, A., & Matsum, L. U. (2001). *Pilot study report: The local district performance measures* (Tech. Report for the Los Angeles Unified School District). Los Angeles, CA.

Caprara, G., Barbaranelli, C. Borgogni, L., & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology, 95*(4), 821-832.

Chen. X. P., Hui, C., & Sego, D. J. (1998). The role of organizational citizenship behavior in turnover: Conceptualization and preliminary tests of key hypothesis. *Journal of Applied Psychology, 83*(6), 922-931.

Chester, M., & Beaudin, B. Q. (1996). Efficacy beliefs of newly hired teachers in urban schools. *American Educational Research Journal, 33*, 233-257.

Coladarci, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education, 60*, 323-337.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfield, F. D., et al. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.

Coleman, J. S. (1985). Schools and communities they serve. *Phi Delta Kappan, 66*, 527-532.

Collins, J. L. (1982, March). *Self-efficacy and ability in achievement behavior*. Paper presented at the annual meeting of the American Educational Research Association, New York.

Cybulski, T. G., Hoy, W. K., & Sweetland, S. R. (2005). The roles of collective efficacy of teachers and fiscal efficiency in student achievement. *Journal of Educational Administration, 43*(5), 439-461.

DiPaola, M. F., & Hoy, W. K. (2005a). Organizational citizenship of faculty and achievement of high school students. *The High School Journal, 88*(3), 35-45.

DiPaola, M. F., & Hoy, W. K. (2005b). School characteristics that foster organizational citizenship behavior. *Journal of School Leadership, 15*, 391-410.

DiPaola, M. F., Tarter, C. J., & Hoy, W. K. (2007). Measuring organizational citizenship of schools. In M. F. DiPaola & W. K. Hoy (Eds.), *Essential ideas for the reform of American schools* (pp. 227-250). Charlotte, NC: Information Age Publishing.

DiPaola, M. F., & Tschannen-Moran, M. (2001, September). Organizational citizenship behavior in schools and its relationship to school climate. *Journal of School Leadership, 11*, 424-447.

Edmonds, R. (1979). Effective schools for the urban poor. *Educational Leadership, 37*(1), 15-27.

Edward, P. A., & Young, L. S. J. (1992). Beyond parents: Family, community, and school involvement. *Phi Delta Kappan, 74*(1), 72-80.

Esselman, M. E., & Moore, W. P. (1992, April). *In search of organizational variables which can be altered to promote an increased sense of teacher efficacy*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Evans, E. D., & Tribble, M. (1986). Perceived teaching problems, self-efficacy and commitment to teaching among preservice teachers. *Journal of Educational Research, 80*(2), 81-85.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569-582.

Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review, 17*(2), 183-211.

Glickman, C., & Tamashiro, R. (1982). A comparison of first-year, fifth-year, and former teachers on efficacy, ego development, and problem solving. *Psychology in Schools, 19*, 558-562.

Goddard, R. D. (1998). Effects of collective efficacy on student achievement in urban public elementary schools. Unpublished doctoral dissertation, Ohio State University, Ohio.

Goddard, R. D. (2001a). Collective efficacy: A neglected construct in the study of schools and student achievement. *Journal of Educational Psychology, 93*(3), 467-476.

Goddard, R. D. (2001b). Collective efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review, 17*, 183-211.

Goddard, R. D. (2002a). Collective efficacy and school organization: A multilevel analysis of teacher influence in schools. *Theory and Research in Educational Administration, 1*, 169-184.

Goddard, R. (2002b). A theoretical and empirical analysis of the measurement of collective efficacy: The development of a short form. *Educational and Psychological Measurement, 62*(1), 97-110.

Goddard, R. D., & Goddard, Y. L. (2001). A multilevel analysis of teacher and collective efficacy. *Teaching and Teacher Education, 17*, 807-818.

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal, 37*(2), 479-508.

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. *Educational Researcher, 33*(3), 3-13.

Goddard, R. D., LoGerfo, L., & Hoy, W. K. (2004). High school accountability: The role of collective efficacy. *Educational Policy, 18*(3), 403-425.

Goddard, R. D., & Skrla, L. (2006). The influence of school composition on teachers' collective efficacy beliefs. *Educational Administration Quarterly, 42*(2) 216-235.

Goddard, R. D., Sweetland, S. R., & Hoy, W. K. (2000). Academic emphasis of urban elementary schools and student achievement in middle schools: A multilevel analysis. *Educational Administration Quarterly, 26*, 683-702.

Goddard, R. D., Tschannen-Moran, M., & Hoy, W. K. (2001). A multilevel examination of the distribution and effects of teacher trust in students and parents in urban elementary schools. *The Elementary School Journal, 102*(1), 3-17.

Greenwood, G. E., Olejnik, S. F., & Parkay, F. W. (1990). Relationships between four teacher efficacy belief patterns and selected teacher characteristics. *Journal of Research and Development in Education, 23*(2), 102-106.

Griffith, J. (1996). Relation of parental involvement, empowerment, and school traits to student academic performance. *The Journal of Educational Research, 90* (1), 33 – 41.

Guskey, T. R. (1981). Measurement of responsibility teachers assume for academic successes and failures in the classroom. *Journal of Teacher Education, 32*, 44-51.

Guskey, T. R. (1984). The influence of change in instructional effectiveness upon the affective characteristics of teachers. *American Educational Research Journal, 21*, 245-259.

Guskey, T. R. (1987). Context variables that affect measures of teacher efficacy. *Journal of Educational Research, 81*(1), 41-47.

Guskey, T. R., & Passaro, P. (1994). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal, 31*, 627-643.

Harter, S., Waters, P., & Whitesell, N. R. (1998). Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child Development 69*, 756-766.

Hoover-Dempsey, K. V., Bassler, O. B., & Brissie, J. (1987). Parent involvement: Contributions of teacher efficacy, school socioeconomic status, and other school characteristics. *American Educational Research Journal, 24*, 417-435.

Hoy, W. K., & Ferguson, J. (1985). A theoretical framework and exploration of organizational effectiveness in schools. *Educational Administration Quarterly, 21*, 117-134.

Hoy, W. K., & Miskel, C. G. (2001). *Educational administration: Theory, research, and practice* (6th ed.). New York: McGraw-Hill.

Hoy, W. K., & Miskel, C. G. (2008). *Educational administration: Theory, research, and practice* (8th ed.). New York: McGraw-Hill.

Hoy, W. K., & Sabo, D. (1998). *Quality middle schools: Open and healthy.* Thousand Oaks, CA: Corwin.

Hoy, W. K., Sweetland, S. R., & Smith, P. A. (2002). Toward an organizational model of achievement in high schools: The significance of collective efficacy. *Educational Administration Quarterly, 38*(1), 77-93.

Hoy, W. K., Tarter, C. J., & Kottkamp, R. B. (1991). *Open schools/healthy schools: Measuring organizational climate*. Newbury Park, CA: Sage.

Hoy, W. K., Tarter, C. J., & Hoy, A. W. (2006). Academic optimism of schools: A force for student achievement. *American Education Research, 43*, 425-446.

Hoy, W. K., & Woolfolk, A. E. (1990). Socialization of student teachers. *American Educational Research Journal. 27*(2), 279-300.

Hoy, W. K., & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal, 93*(4), 355- 372.

Jurewicz, M. (2004). *Organizational citizenship behaviors of Virginia middle school teachers: A study of their relationship to school climate and student achievement*. Unpublished doctoral dissertation, The College of William and Mary, Williamsburg, VA.

Katz, D. (1964). The motivational basis of organizational behavior. *Behavior Science, 9*, 131-133.

Katz, D., & Kahn, R. L. (1966). *The social psychology of organizations*. New York: Wiley.

Knoblauch, D., & Hoy, A. (2008). Maybe I can teach those kids: The influence of contextual factors on student teachers' efficacy beliefs. *Teaching and Teacher Education 24*(1), 166-179.

Lee, V., Dedick, R., & Smith, J. (1991). The effect of the social organization of schools on teachers' efficacy and satisfaction. *Sociology of Education, 64*, 190-208.

Mackenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes, 50*, 123-150.

Meijer, C., & Foster, S. (1988). The effect of teacher self-efficacy on referral chance. *Journal of Special Education, 22*, 378-385.

Midgley, C., Feldlaufer, H., & Eccles, J. (1989). Change in teacher efficacy and student self and task-related beliefs in mathematics during the transition to junior high school. *Journal of Education Psychology, 81*(2), 247-258.

Miskel, C. G., Fevurly, R., & Stewart, J. (1979). Oranizational structures and processes, perceived school effectiveness, loyalty, and job satisfaction. *Educational Administration Quarterly, 15*(3), 97-118.

Miskel, C. G., McDonald, D., & Bloom, S. (1983). Structural and expectancy linkages with schools and organizational effectiveness. *Educational Administration Quarterly, 19*, 49-82.

Mone, M. A., Baker, D. D., & Jeffries, F. (1995). Predictive validity and time dependency of self-efficacy, self-esteem, personal goals, and academic performance. *Educational and Psychological Measurement, 55*, 716-727.

Moore, W., & Esselman, M. (1992, April). *Teacher efficacy, power, school climate and achievement: A desegregating district's experience*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.

Morine-Dershimer, G., & Corrigan, S. (1997). Teacher beliefs. In H. J. Walberg and G. D. Haertel (Eds.), *Psychology and educational practice* (pp. 297-319). Berkley, CA: McCutchan.

Mott, P. E. (1972). *The characteristics of effective organizations*. New York: Harper & Row.

Muijs, D. (2004). *Doing quantitative research in education with SPSS*. Thousand Oaks, CA: Sage Publications.

Newmann, F. M., Rutter, R. A., & Smith, M. S. (1989). Organizational factors that affect school sense of efficacy, community, and expectations. *Sociology of Education, 62*(4), 221-238.

Nguni, S., Sleegers, P., & Denessen, E. (2006). Transformational and transactional leadership effects on teachers' job satisfaction, organizational commitment, and organizational citizenship behavior in primary schools: The Tanzanian case. *School Effectiveness and School Improvement, 17*(2), 145-177.

Oplatka, I. (2006). Going beyond role expectations: Toward an understanding of the determinants and components of teacher organizational citizenship behavior. *Educational Administration Quarterly, 42*(3), 385-423.

Organ, D. W. (1988). *Organizational citizenship behavior*. Lexington, MA: D. C. Heath.

Organ, D. W., & Lingl, A. (1995). Personality, satisfaction, and organizational citizenship behavior. *Journal of Social Psychology, 135*(3), 339-351.

Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology, 48*, 775-802.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543-578.

Pajares, F. (1997). Current directions in self-efficacy research. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 1-49). Greenwich, CT: JAI Press.

Pajares, F. (2000, January). *Schooling in America: Myths, mixed messages, and good intentions*. Lecture delivered at the Great Teachers Lecture Series: Cannon Chapel, Emory University, Atlanta. Retrieved January 23, 2009, from http://www.emory.edu/ EDUCATION/mfp/pajaresgtl.html

Parkay, F. W., Greenwood, G., Olejnik, S., & Proller, N. (1988). A study of the relationship among teacher efficacy, locus of control, and stress. *Journal of Research and Development in Education, 21*(4), 13-22.

Parsons, T. (1958). Some ingredients of a general theory of formal organization. In A. W. Halpin (Eds.), *Administrative theory in education* (pp. 41-72). London: The Macmillan Company.

Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education: Theory, research, and applications*. Englewood Cliffs, NJ: Merrill/Prentice Hall.

Podsakoff, P. M., & Mackenzie, S. B. (1994). Organizational citizenship behavior and sales unit effectiveness. *Journal of Marketing Research, 31*, 351-363.

Podsakoff, P. M., Mackenzie, S. B., Paine, J. B., & Bachrach, G. G. (2000). Organizational citizenship behaviors: A critical view of the theoretical and empirical literature and suggestions for research. *Journal of Management, 26*, 513-563.

Purkey, S. C., & Smith, M. S. (1983). Effective schools: A review. *Elementary School Journal, 83*, 427-452.

Riggs, I. (1995, April). *The characteristics of high and low efficacy elementary teachers*. Paper presented at the annual meeting of the National Association of Research in Science Teaching, San Francisco.

Riggs, I., & Enochs, L. (1990). Toward the development of an elementary teacher's science teaching efficacy belief instrument. *Science Education, 74*, 625-638.

Riggs, I, & Jesunathadas, J. (1993, April). *Preparing elementary teachers for effective science teaching in diverse settings.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, Atlanta, GA.

Rose, J. S., & Medway, F. J. (1981). Measurement of teachers' beliefs in their control over student outcome. *Journal of Educational Research, 74*, 185-189.

Rosenholtz, S. (1989). *Teacher's workplace: The social organization of schools*. New York: Longman.

Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student achievement. *Canadian Journal of Education, 17*(1), 51-65.

Ross, J., Hogaboam-Gay, A., & Gray, P. (2003, April). The contribution of prior student achievement and school processes to collective teacher efficacy in elementary schools. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Ross. J. A., & Gray, P. (2006). Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy. *School Effectiveness and School Improvement, 17*(2), 179-199.

Rotter, J. B. (1954). *Social learning and clinical psychology*. New York: Prentice-Hall.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 1-28.

Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology, 43*, 56-57.

Saklofske, D., Michaluk, B., & Randhawa, B. (1988). Teachers' efficacy and teaching behaviors. *Psychological Report, 63*, 407-414.

Schechter, C., & Tschannen-Moran, M. (2006). Teachers' sense of collective efficacy: An international view. *International Journal of Educational Management, 20*(6), 480-489.

Scheerens, J., & Bosker, R. J. (1997). The foundations of educational effectiveness. *International Review of Education, 45*(1), 113-120.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*, 207-231.

Skarlicki, D., & Latham, G. (1995). Organizational citizenship behavior and performance in a university setting. *Canadian Journal of Administrative Sciences, 12*, 175-181.

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68*, 653-663.

Smylie, M. A. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal, 25*, 1-30.

Soodak, L., & Podell, B. (1993). Teacher efficacy and student problem as factors in special education referral. *Journal of Special Education, 27*, 66-81.

Somech, A., & Bogler, R. (2002). Antecedents and consequences of teacher organizational and professional commitment. *Educational Administration Quarterly, 38*(4), 555-577.

Somech, A., & Ron, I. (2007). Promoting organizational citizenship behavior in schools: The impact of individual and organizational characteristics. *Educational Administration Quarterly, 43*(1), 38-66.

Soodak, L., & Podell, D. (1993). Teacher efficacy and student problems as factor in special education referral. *Journal of Special Education, 27*, 66-81.

Sweetland, S. R., & Hoy, W. K. (2000). School characteristics and educational outcomes: Toward and organizational model of student achievement in middle schools. *Educational Administration Quarterly, 26*, 703-729.

Tarter, C. J., & Hoy, C. J. (2004). A systems approach to quality in elementary schools: A theoretical and empirical analysis. *Journal of Educational Administration, 42*(5), 539-554.

Tracs, S., & Gibson, S. (1987, April). *Teacher efficacy: Its relationship to teacher time allocation, student engagement, and student achievement*. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, D. C.

Tschannen-Moran, M., & Barr, M. (2004). Fostering student learning: The relationship of collective efficacy and student achievement. *Leadership and Policy in Schools, 3*(3), 189-209.

Tschannen-Moran, M., & Woolfolk Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

Tschannen-Moran, M., Woolfolk Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202-248.

Tucker, C. M., Porter, T., Reinke, W. M., Herman, K. C., Ivery, P. D., Mack, C. E. et al. (2005). Promoting teacher efficacy for working with culturally diverse students. *Preventing School Failure, 50*(1), 29-34.

United States Department of Education. (2002a). Public law print of PL 107-110, the No Child Left Behind Act of 2001. Retrieved March 5, 2009 from: http://www.ed.gov/policy/ elsec/leg/esea02/index.html

United States Department of Education. (2002b, July 24). Paige Outlines Adequate Yearly Progress Provisions Under No Child Left Behind. Press release posted to http://www.ed.gov/news/pressreleases/2002/07/07242002.html

Wagner, C. A. (2008). *Academic optimism of Virginia high school teachers: Its relationship to organizational citizenship behaviors and student achievement.* Unpublished doctoral dissertation, The College of William and Mary, Williamsburg, VA.

Wagoner, S. L., & Rush, M. C. (2000). Altruistic organizational citizenship behavior: Context, disposition, and age. *Journal of Social Psychology, 140*(3), 379-392.

Ware, H., & Kitsantas, A. (2007). Teacher and collective efficacy beliefs as predictors of professional commitment. *Journal of Education Research, 100*(5), 303-310.

Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology, 82*, 81-91.

Woolfolk, A. E., Rosoff, B., & Hoy, W. K. (1990). Teachers' sense of efficacy and their beliefs about managing students. *Teaching and Teacher Education, 6*, 137-148.

APPENDIX A

GLOSSARY OF TERMS

Glossary of Terms

Academic Achievement – generally refers to student academic performance on standardized assessments; specifically in this study, academic achievement refers to academic performance by 11th grade students as measured by the reading and mathematics subtests of the Alabama High School Graduation Exam (AHSGE).

Academic Press – the "extent to which the school is driven by a quest for academic excellence" (Hoy, Sweetland et al., 2002, p. 79).

Achievement Press – behaviors in a school where students respect other students who get good grades, students seek extra work in pursuit of good grades, and a school environment where the school recognizes and acknowledges academic achievement (DiPaola & Hoy, 2005b).

Alabama High School Graduation Exam (AHSGE) – An instrument used by the Alabama State Department of Education to assess high school students' mastery of content standards in reading, mathematics, language, science, and social studies. Passage of the assessment is a requirement for receipt of an Alabama high school diploma (Alabama State Department of Education, 2007).

Altruism – the action of an individual to assists another employee with a task, which results in both better individual performance and group efficiency (DiPaola, Tarter, & Hoy, 2007).

AYP (Adequate Yearly Progress) - an accountability provision of the NCLB law which holds schools accountable for meeting state standards in student achievement across all sub-groups of students; the benchmark for the percentage of students in a school who must score at or above the proficient level on state mandated assessments in the areas of reading and mathematics (United States Department of Education, 2002).

Emotional Stimulation – the inducement of self-efficacy beliefs by environmental and situational factors; one of the four sources of efficacy (Bandura, 1997).

Collective Agency – interactive and coordinated actions of a group which are dependent on the group members' shared intentions, knowledge, and skills (Bandura, 1997).

Collegial Leadership – characteristics of the principal such as treating faculty members as equals, being friendly and approachable, letting the faculty know what is expected, and putting suggestions of the faculty into action (DiPaola & Hoy, 2005b).

High School – schools that include grade configurations of 9-12 or 10-12.

Generalized Compliance – where one acts upon the lines of what is considered moral and proper for the best interest of organizational functioning (DiPaola & Hoy, 2005b).

Human Agency – the intentional actions of individuals; free will in choice of direction; central concept of Bandura's social cognitive theory; also called personal agency (Bandura 1986, 1997).

Locus of Control – the manner in which people control reinforcement of their actions; internal or external (Rotter, 1966).

Mastery Experience – successful performance of a given task using personal skill and effort; the most important of the four sources of efficacy (Bandura, 1986, 1997).

NCLB (No Child Left Behind Act of 2001) - a law passed by the U.S. Congress in 2002 with the aim of closing the achievement gaps in schools between all sub-groups of students. The law offered accountability, flexibility, and choice for students and parents. Its basic premise was to provide all children, especially disadvantaged students, with a fair, equal, and significant opportunity to obtain a high-quality education (United States Department of Education, 2002).

Self-concept – an individual's evaluation of competence and self-worth in relation to behaviors in question (Pajares, 1996).

Self-efficacy – an individual's perceptions of their capability to produce actions at a given level of competence (Bandura, 1977).

Self-esteem – "a trait reflecting an individual's characteristic affective evaluation of self" (Gist & Mitchell, 1992, p. 185).

Social Cognitive Theory – Bandura's (1986, 1997, 2001) theory suggesting humans are active in shaping their lives and exercise control over it through human agency; this process takes place through an interactive process between the individual and their environment. *Social Persuasion* – convincing expressions by one of status or feedback from peers, family, co-workers, and others of influence; one of the four sources of efficacy (Bandura, 1997).

Socioeconomic Status (SES) – an indicator of the level of poverty; SES in this study refers to the percentage of students of a school that do not qualify for a free or reduced-priced lunch, which is based on each student's family income. SES was operationalized in this study using the combined free and reduced price meal rates for each school, which were obtained from each school's annual report card issued by the Alabama State Department of Education (2009). Schools with a high level of SES would have a low level of students who qualify for free or reduced meal rates.

Student Achievement – operationally defined in this study by the percentages of 11th grade students in each school who passed the AHSGE in the both the reading and math subtests. The passage rates were obtained from each school's annual report card issued by the Alabama State Department of Education (2009).

Teacher Efficacy – a form of self-efficacy where individual teachers construct their beliefs about their abilities to perform through cognitive processing (Bandura, 1997); "the 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).

Teacher Trust – characteristics among teachers where they trust each other, look out for each other, have faith in the integrity of their colleagues, and are open with each other (DiPaola & Hoy, 2005b).

Teachers' Perceptions of School Effectiveness – a broad measurement of school effectiveness consisting of the teachers' collective assessments of productivity, flexibility, adaptability, and efficiency in their school (Tarter & Hoy, 2004); operationalized in this study with the use of Miskel, Fevurly, and Stewart's (1979) *Index of Perceived Organizational Effectiveness* (IPOE) scale.

Triadic Reciprocal Causation – an interaction between internal factors, behavioral factors, and environmental influences, with each influencing each other in a bidirectional manner (Bandura, 2001).

Vicarious Experience – those experiences where one is able to observe others at a given task; one of the four sources of efficacy (Bandura, 1977).

APPENDIX B

RANDOM SELECTION PROCEDURES

Random Selection Procedures

A random sample (see Appendix D) was used to test the hypotheses in this study. The random sample was chosen using the Rand Corporation's random selection table (as cited in Brase & Brase, 2003, pp. A13-A14). The population of schools (see Appendix C) was listed in alphabetical order and numbered. All 10 columns of the table were used for selection. Only the first 32 rows of the chart were used. The order of the selection was as follows: (a) last three numbers (all 10 columns), and (b) first three numbers (column 1 through column 8). The following list of 80 numbers were originally identified from the table and matched to the numbered list of schools from the population in order to choose the random sample:

> Last three numbers: 108, 103, 138, 146, 87,101, 170, 196, 72,158, 98, 81, 90, 130, 4, 89, 191, 94, 137, 104, 23, 130, 133, 31, 86, 15, 174, 17, 142, 38, 27, 137, 196, 140, 97, 81, 10, 157, 89, 79, 31, 142, 127, 143, 75, 165, 106, 80, 14, 181, 61
> First three numbers: 63, 171, 93, 100, 4, 27, 142, 42, 155, 184, 100, 22, 192, 136, 62, 62, 55, 81, 78, 43, 194, 80, 176, 93, 147, 53, 135, 57, 27

Duplication of randomly chosen numbers required the selection of 19 additional numbers to be identified in order to complete the identification of 80 sample schools. The additional numbers were chose with the continuation of the previously described procedures. Numbers identified were:

> 113, 141, 143, 64, 122, 88, 15, 25, 133, 28, 7, 92, 152, 111, 190, 95, 175, 85, and 185

APPENDIX C

POPULATION OF ALABAMA PUBLIC SCHOOLS WITH
GRADE CONFIGURATIONS OF 9-12 OR 10-12

Population of Alabama Public High Schools
with Grade Configurations of 9-12 or 10-12

1	Abbeville High School	37	Cherokee County High School
2	Albert P. Brewer High School	38	Childersburg High School
3	Albertville High School	39	Chilton County High School
4	Alma Bryant High School	40	Citronelle High School
5	Andalusia High School	41	City High School
6	Anniston High School	42	Clarke County High School
7	Arab High School	43	Clay-Chalkville High School
8	Ashville High School	44	Columbia High School
9	Athens High School	45	Cordova High School
10	Auburn High School	46	Cullman High School
11	Austin High School	47	Curry High School
12	Baker High School	48	Dale County High School
13	Baldwin County High School	49	Daleville High School
14	Barbour County High School	50	Dallas County High School
15	Beauregard High School	51	Danville High School
16	Ben C Rain High School	52	Daphne High School
17	Benjamin Russell High School	53	Decatur High School
18	Bibb County High School	54	Demopolis High School
19	Boaz High School	55	Deshler High School
20	Bob Jones High School	56	Dora High School
21	Booker T. Washington High School	57	Dothan High School
22	Brewbaker Tech. Magnet High School	58	Douglas High School
23	Brindlee Mountain High School	59	East Lawernce High School
24	Brookwood High School	60	Elmore County High School
25	Buckhorn High School	61	Enterprise High School
26	Calhoun High School	62	Escambia County High School
27	Carbon Hill High School	63	Etowah High School
28	Carroll High School	64	Eufaula High School
29	Carver Senior High School	65	Fairfield High Preparatory School
30	Central High School - Coosa	66	Fairhop High School
31	Central High School - Lowndes	67	Fairview High School
32	Central High School - Russell	68	Fayette County High School
33	Central High School - Tuscaloosa	69	Florala High School
34	CF Vigor High School	70	Florence High School
35	Charles Henderson High School	71	Foley High School
36	Chelsea High School	72	Fort Payne High School

73	Gadsden City High School
74	Gardendale High School
75	Geneva County High School
76	Geneva High School
77	George Washington Carver High School
78	Glencoe High School
79	Good Hope High School
80	Greene County High School
81	Greenville High School
82	Gulf Shores High School
83	Guntersville High School
84	Hamilton High School
85	Hanceville High School
86	Handley High School
87	Hartselle High School
88	Hazel Green High School
89	Headland High School
90	Hewitt-Trussville High School
91	Hillcrest High School - Conecuh
92	Hillcrest High School - Tuscaloosa
93	Hokes Bluff High School
94	Holly Pond High School
95	Holt High School
96	Holtville High School
97	Homewood High School
98	Hoover High School
99	Hueytown High School
100	Huffman High School
101	Huntsville High School
102	Jackson High School
103	Jackson-Olin High School
104	Jefferson Davis High School
105	Jemison High School
106	Jess Lanier High School
107	JO Johnson High School
108	John L. Leflore High School
109	Kate D. Smith DAR High School
110	Lafayette High School

111	Lanett High School
112	Lanier High School
113	Lee High School - Huntsville
114	Lee High School - Montgomery
115	Leeds High School
116	Lillie B. Williamson High School
117	Lincoln High School
118	Linden High School
119	Livingston High School
120	Madison County High School
121	Mary G. Montgomery High School
122	Mattie T. Blount High School
123	McInnis School
124	Midfield High School
125	Minor High School
126	Monroe County High School
127	Montevallo High School
128	Moody High School
129	Mortimer Jordan High School
130	Mountain Brook High School
131	Munford High School
132	Murphy High School
133	Muscle Shoals High School
134	New Hope High School
135	North Jackson High School
136	Northridge High School
137	Northview High School
138	Nothside High School
139	Oak Mountain High School
140	Opelika High School
141	Opp High School
142	Oxford High School
143	Parker High School
144	Paul W. Bryant High School
145	Pelham High School
146	Pell City High School
147	Piedmont High School
148	Pinson Valley High School
149	Prattville High School

150	Priceville High School		177	Sylacauga High School
151	Ramsay High School		178	T.R. Miller High School
152	Rehobeth High School		179	Tallassee High School
153	Robertsdale High School		180	Talledega High School
154	Russell County High School		181	Tarrant High School
155	Russellville High School		182	Theodore High School
156	Saint Clair County High School		183	Thomasville High School
157	Samson High School		184	Thompson High School
158	Saraland High School		185	Tuscaloosa County High School
159	Satsuma High School		186	Valley High School
160	Scottsboro High School		187	Vestavia High School
161	Selma High School		188	Vinemont High School
162	Shades Valley High School		189	Virgil Grissom High School
163	Sheffield High School		190	W.P. Davidson High School
164	Shelby County High School		191	W.S. Neal High School
165	Slocomb High School		192	Walker High School
166	Smith Station High School		193	Wenonah High School
167	Southside High School - Dalllas		194	West Blocton High School
168	Southside High School - Etowhah		195	West Morgan High School
169	Spain Park High School		196	West Point High School
170	Spanish Fort High School		197	Wetumka High School
171	Sparkman High School		198	White Plains High School
172	Springville High School		199	Wilcox Central High School
173	SR Butler High School		200	Winfield High School
174	Stanhope-Elmore High School		201	Winston County High School
175	Straughn High School		202	Woodlawn High School - Magnet
176	Sumter County High School			

APPENDIX D

RANDOM RESEARCH SAMPLE OF 80 ALABMA
PUBLIC HIGH SCHOOLS

Random Research Sample of 80 Alabama Public High Schools

	School Name		
1	Alma Bryant High School	37	Holly Pond High School
2	Arab High School	38	Holt High School
3	Auburn High School	39	Homewood High School
4	Barbour County High School	40	Hoover High School
5	Beauregard High School	41	Huffman High School
6	Benjamin Russell High School	42	Huntsville High School
7	Brewbaker Tech. Magnet High School	43	Jackson-Olin High School
8	Brindlee Mountain High School	44	Jefferson Davis High School
9	Buckhorn High School	45	Jess Lanier High School
10	Carbon Hill High School	46	John L. Leflore High School
11	Carroll High School	47	Lanett High School
12	Central High School - Lowndes	48	Lee High School - Huntsville
13	Childersburg High School	49	Mattie T. Blount High School
14	Clarke County High School	50	Montevallo High School
15	Clay-Chalkville High School	51	Mountain Brook High School
16	Decatur High School	52	Muscle Shoals High School
17	Deshler High School	53	North Jackson High School
18	Dothan High School	54	Northridge High School
19	Enterprise High School	55	Northview High School
20	Escambia County High School	56	Nothside High School
21	Etowah High School	57	Opelika High School
22	Eufaula High School	58	Opp High School
23	Fort Payne High School	59	Oxford High School
24	Geneva County High School	60	Parker High School
25	Glencoe High School	61	Pell City High School
26	Good Hope High School	62	Piedmont High School
27	Greene County High School	63	Rehobeth High School
28	Greenville High School	64	Russellville High School
29	Hanceville High School	65	Samson High School
30	Handley High School	66	Saraland High School
31	Hartselle High School	67	Slocomb High School
32	Hazel Green High School	68	Spanish Fort High School
33	Headland High School	69	Sparkman High School
34	Hewitt-Trussville High School	70	Stanhope-Elmore High School
35	Hillcrest High School - Tuscaloosa	71	Straughn High School
36	Hokes Bluff High School	72	Sumter County High School
		73	Tarrant High School

74	Thompson High School	78	Walker High School
75	Tuscaloosa County High School	79	West Blocton High School
76	W.P. Davidson High School	80	West Point High School
77	W.S. Neal High School		

APPENDIX E

LETTER TO SUPERINTENDENTS REQUESTING PERMISSION
TO CONDUCT STUDY

J. Darrell Cooper
Jasper City Schools
P.O. Box 500
Jasper, AL 35502
205-471-6206
Email: dcooper@jasper.k12.al.us

August 10, 2009

(School System's Address)

Dear (Superintendent's Name):

My name is Darrell Cooper. I am the Director of Secondary Schools for the Jasper City Schools. Having completed all requirements for the doctoral course work in Educational Administration at the University of Alabama, I am in the dissertation stage and seeking assistance from Alabama public high schools to complete my research.

My research focus will be in the area of organizational theory as it relates to schools. It will specifically examine the level of collective efficacy and organizational citizenship behavior in schools, and how they are related to school effectiveness. Briefly, collective efficacy refers to the perceptions of staff members, that they as a whole can successfully meet the needs of their students and positively affect student achievement. Organizational citizenship behavior is related to the degree to which staff members go beyond their formal job descriptions in order to ensure the success of students and the organization as a whole.

The research is to be completed in the fall of 2009. It will involve staff members in high school completing one of three different surveys. All three surveys contain less than 15 items. A copy of the survey instruments for this study is enclosed. The surveys would need to be completed in a regularly scheduled faculty meeting. The process should take approximately 15 minutes. Participation would be strictly voluntary, and results specific to individuals or specific schools would be confidential and not released to anyone except you or the school principal upon request.

Random selection was used to identify a research sample of 80 Alabama public high schools with grade configurations of 9-12 or 10-12. Schools selected from your school district include Rehobeth High School.

I respectfully request permission to contact the school principal at the aforementioned high school(s) about surveying their staff members for this research effort. Each individual school principal may accept or decline the opportunity for teachers at their school to participate. The principal will be requested to complete and return a consent form.

I hope you will grant me permission to contact principals of the sample schools in your district about participating in this study. Thank you in advance for returning the attached consent form to me in the enclosed stamped, self-addressed envelope as soon as is convenient for you, but hopefully within the next week.

If you have questions about this study, please feel free to call or email me (205-471-6206; dcooper@jasper.k12.al.us). I am indeed appreciative of your assistance. I look forward to hearing from you.

Sincerely,

J. Darrell Cooper

APPENDIX F

LETTER TO PRINCIPALS REQUESTING PERMISSION
TO CONDUCT STUDY

J. Darrell Cooper
Jasper City Schools
P.O. Box 500
Jasper, AL 35502
205-471-6206
Email: dcooper@jasper.k12.al.us

August 21, 2009

(School Address)

Dear (Principal's Name):

My name is Darrell Cooper. I am the Director of Secondary Schools for the Jasper City Schools. Having completed all requirements for the doctoral course work in Educational Administration at the University of Alabama, I am in the dissertation stage and seeking assistance from Alabama public high schools to complete my research.

My research focus will be in the area of organizational theory as it relates to schools. It will specifically examine the level of collective efficacy and organizational citizenship behavior in schools, and how they are related to school effectiveness. Briefly, collective efficacy refers to the perceptions of staff members, that they as a whole can successfully meet the needs of their students and positively affect student achievement. Organizational citizenship behavior is related to the degree to which staff members go beyond their formal job descriptions in order to ensure the success of students and the organization as a whole.

The research is to be completed in the fall of 2009. It will involve staff members in high school completing one of three different surveys. All three surveys contain less than 15 items. A copy of the survey instruments for this study is enclosed. The surveys would need to be completed in a regularly scheduled faculty meeting. The process should take approximately 15 minutes. Participation would be strictly voluntary, and results specific to individuals or specific schools would be confidential and not released to anyone except you or your superintendent upon request.

Random selection was used identify a research sample of 80 Alabama public high schools with grade configurations of 9-12 or 10-12. Your high school was one of the schools selected.

Your school superintendent has given me permission to contact you about the possibility of your school participating in this study. I am respectfully asking for your assistance in helping me complete this research. You may accept or decline this opportunity; however, your school's input is vital to the success of this research project. Please kindly complete and return the attached consent form to me in the enclosed stamped, self-addressed envelope as soon as is convenient for you, but hopefully within the next week. If you elect to participate, I will mail you a packet of instructions, appropriate surveys, and a stamped, self-addressed return envelope.

Again, I hope that you will be so kind to participate in this study. If you have questions about this study, please feel free to call or email me (205-471-6206; dcooper@jasper.k12.al.us).

I am indeed appreciative of your assistance. I look forward to hearing from you.

Sincerely,

J. Darrell Cooper

APPENDIX G

LETTER TO PARTICIPATING PRINCIPALS

J. Darrell Cooper
Jasper City Schools
P.O. Box 500
Jasper, AL 35502
205-471-6206
Email: dcooper@jasper.k12.al.us

(Date)

(Principal's Address)

Dear (Participating Principal):

Thank you for allowing me to survey your staff for this research project. I greatly appreciate your assistance.

Please remember, all participation is strictly voluntary. Participants are guaranteed complete confidentiality and anonymity. Survey results will only be used to test the hypotheses of this study. Only aggregate data for the school will be used, and no attempt will be made to link responses to a specific teacher or group of teachers in a particular school. Individual school data will NOT be released to anyone, except to those administrators who requested their school's results. Also, the school data will NOT be identifiable in the research report.

I have enclosed in this packet the following items: (1) instructions for administering the survey; (2) survey instruments collated in a manner to distribute each staff member only one of the three surveys; and (3) a self-addressed, stamped return envelope. Please designate a staff member to act as the survey administrator.

The surveys should be completed in a regularly scheduled faculty meeting, as soon as is convenient to you and your staff. I do hope to start compiling survey results as early as November 2009, but please send your surveys when you are able to have them completed. The whole survey process should take approximately 15 minutes. For validity and reliability reasons, it is important to follow the directions provided.

Again, I am deeply appreciative of your willingness to assist me in this research effort. If you have any questions or concerns, please don't hesitate to contact me.

Sincerely,

J. Darrell Cooper

APPENDIX H

COLLECTIVE EFFICACY SCALE (CE SCALE): SHORT FORM

Collective Efficacy Scale (CE-Scale) - Short Form

Thank you for taking the time to complete this survey. Your returned, completed survey will indicate your understanding of your participation in this study, recognizing that: (1) your participation is strictly voluntary; (2) you may choose to respond to all, any, or none of the survey items; and (3) your responses will remain strictly confidential and anonymous.

Teacher Demographic Data:
1. What is your total number of years teaching? _____
2. What is the total number of years you have taught in this school? _____
3. What is your gender? (Check) ___Male ___Female
4. Please check your ethnicity.
   ___ Black/African American ___ Asian ___ Hispanic ___ Native American
   ___ White ___ Other
5. Check Highest Degree: ___ B.S. ___ M.S. ___ Ed.S/AA ___ Ed.D/Ph.D

CE-Scale Directions: Indicate the degree to which you disagree or agree with each statement about your school by circling the appropriate number for each item:

	Strongly Disagree					Strongly Agree
1. Teachers in this school are able to get through to the most difficult students.	1	2	3	4	5	6
2. Teachers here are confident they will be able to motivate their students.	1	2	3	4	5	6
3. If a child doesn't want to learn, teachers here give up.	1	2	3	4	5	6
4. Teachers here don't have the skills needed to produce meaningful learning.	1	2	3	4	5	6
5. Teachers in this school believe that every child can learn.	1	2	3	4	5	6
6. These students come to school ready to learn.	1	2	3	4	5	6
7. Home life provides so many advantages that students here are bound to learn.	1	2	3	4	5	6
8. Students here just aren't motivated to learn.	1	2	3	4	5	6
9. Teachers in this school do not have the skills to deal with student disciplinary problems.	1	2	3	4	5	6
10. The opportunities in this community help ensure that these students will learn.	1	2	3	4	5	6
11. Learning is more difficult at this school because students are worried about their safety.	1	2	3	4	5	6
12. Drug and alcohol abuse in the community make learning difficult for students here.	1	2	3	4	5	6

APPENDIX I

ORGANIZATIONAL CITIZENSHIP BEHAVIOR SCALE (OCB SCALE)

Organizational Citizenship Behavior Scale (OCB-Scale)

Thank you for taking the time to complete this survey. Your returned, completed survey will indicate your understanding of your participation in this study, recognizing that: (1) your participation is strictly voluntary; (2) you may choose to respond to all, any, or none of the survey items; and (3) your responses will remain strictly confidential and anonymous.

Teacher Demographic Data:
1. What is your total number of years teaching? _____
2. What is the total number of years you have taught in this school? _____
3. What is your gender? (Check) ___Male   ___Female
4. Please check your ethnicity.
    ___ Black/African American   ___ Asian   ___ Hispanic   ___ Native American
    ___ White   ___ Other
5. Check Highest Degree: ___ B.S. ___ M.S. ___ Ed.S/AA   ___ Ed.D/Ph.D

OCB-Scale Directions: **Indicate the extent to which you disagree or agree with the following statements about your school by circling the appropriate number for each item:**

	Strongly Disagree				Strongly Agree	
1. Teachers help students on their own time ………..…………………………	1	2	3	4	5	6
2. Teachers waste a lot of class time …………………….…….……………	1	2	3	4	5	6
3. Teachers voluntarily help new teachers …………………………………	1	2	3	4	5	6
4. Teachers volunteer to serve on new committees …………………..	1	2	3	4	5	6
5. Teachers volunteer to sponsor extra curricular activities……..……	1	2	3	4	5	6
6. Teachers arrive to work and meetings on time ………………….……	1	2	3	4	5	6
7. Teachers take the initiative to introduce themselves to substitutes and assist them ………………………………………………	1	2	3	4	5	6
8. Teachers begin class promptly and use class time effectively………	1	2	3	4	5	6
9. Teachers give colleagues advanced notice of changes in schedule or routine……………………………………………………	1	2	3	4	5	6
10. Teachers give an excessive amount of busy work…………………	1	2	3	4	5	6
11. Teacher committees in this school work productively………………	1	2	3	4	5	6
12. Teachers make innovative suggestions to improve the overall quality of our school…………..…………………………………..	1	2	3	4	5	6

(♥DiPaola & Hoy, 2004)

APPENDIX J

INDEX OF PERCEIVED ORGANIZATIONAL EFFECTIVENESS (IPOE)

Index of Perceived Organizational Effectiveness (IPOE)

Thank you for taking the time to complete this survey. Your returned, completed survey will indicate your understanding of your participation in this study, recognizing that: (1) your participation is strictly voluntary; (2) you may choose to respond to all, any, or none of the survey items; and (3) your responses will remain strictly confidential and anonymous.

Teacher Demographic Data:
1. What is your total number of years teaching? _____
2. What is the total number of years you have taught in this school? _____
3. What is your gender? (Check) ___Male ___Female
4. Please check your ethnicity.
   ___ Black/African American ___ Asian ___ Hispanic ___ Native American
   ___ White ___ Other
5. Check Highest Degree: ___ B.S. ___ M.S. ___ Ed.S/AA ___ Ed.D/Ph.D

Please read: Every educator produces something during work. It may be a "product" or a "service." The following list of products and services are just a few of the things that result from schools: lesson plans; student learning; athletic achievement; community projects; instruction, art and music programs; new curricula; and teacher-parent meetings.

IPOE Directions: Please indicate your responses by checking the appropriate line for each item.

1. Of the various things produced by the people you know in your school, how much are they producing?
   ___Low production ___Fairly low ___Moderate ___High ___Very high production

2. How good is the quality of the products or services produced by the people you know in your school?
   ___Poor quality ___Low quality ___Fair quality ___Good quality ___Excellent quality

3. Do the people in your school get maximum output from the available resources (money, people, equipment, etc.)? That is, how efficiently do they do their work?
   ___Not efficiently ___Not too efficiently ___Fairly efficiently ___Very efficiently ___Extremely efficiently

4. How good of a job is done by the people in your school in anticipating problems and preventing them from occurring or minimizing their effect?
   ___A poor job ___An adequate job ___A fair job ___A very good job ___An excellent job

5. How informed are the people in your school about innovations that could affect the way they do their work?
   ___Uninformed ___Somewhat informed ___Moderately informed ___Informed ___Very informed

6. When changes are made in the methods, routines, or equipment, how quickly do the people in your school accept and adjust to the changes?
   ___Very slowly ___Rather slowly ___Fairly rapidly ___Rapidly ___Immediately

7. How many of the people in your school readily accept and adjust to the changes?
   ___Many less than half ___Less than half ___The majority ___Many more than half ___Nearly everyone

8. How good of a job do the people in your school do in coping with emergencies and disruptions?
   ___A poor job ___An adequate job ___A fair job ___A good job ___An excellent job

APPENDIX K

INSTRUCTIONS FOR ADMINISTERING SURVEYS

INSTRUCTIONS for ADMINISTERING SURVEYS

(Script to be read to staff by survey administrator)
1. Statement on Description of Research to Faculty: I am conducting surveys in your school as part of my doctoral research study with the University of Alabama. Your school is one of 80 public high schools in Alabama to be randomly chosen to participate in this study. My research focus will be in the area of organizational theory as it relates to schools. It will specifically examine the levels of collective efficacy (CE) and organizational citizenship behavior (OCB) in schools, and how they are related to school effectiveness. Briefly, CE refers to the perceptions of staff members, that they as a whole can successfully meet the needs of their students and positively affect student achievement. OCB is related to the degree to which staff members go beyond their formal job descriptions in order to ensure the success of students and the organization as a whole. School effectiveness will be operationally defined in this study by both teachers' perceptions of school effectiveness as measured by a survey instrument and by the passage rate of the school's eleventh graders on the AHSGE in the areas of reading and math. The purpose of this study will be: (1) to determine the relationships between the three school-level properties of CE, OCB, and school effectiveness in Alabama public high schools; (2) to determine the relationship between CE and OCB; and (3) to examine the effect socio-economic status (SES) has on CE, OCB, and school effectiveness. SES in this study refers to the percentage of students of a school that do not qualify for a free or reduced-priced lunch.

(Script to be read to staff by survey administrator)
2. Request for Participation: I am respectfully asking you to complete a survey regarding your perceptions of your school. Participation is strictly voluntary. Participants are guaranteed strict confidentiality and anonymity. Results specific to individuals, groups of teachers, or specific schools will be confidential. If you choose to participate, you may answer all, any, or none of the items. You may also choose to quit after starting the survey. The survey will take approximately 5 minutes to complete. Thank you for your consideration in assisting me with this research project.

(Script to be read to staff by survey administrator)
3. Statement of Implied Consent: By completing and returning the survey, you are giving your implied consent to participate. Remember, participation is voluntary. If you choose to participate, you may answer all, any, or none of the items. You may also choose to quit after starting the survey. There are no risks or benefits associated with this survey for anyone who chooses to participate. If you have questions regarding your rights as a research participant, you may contact Ms. Tanta Myles at The University of Alabama's Office for Research Compliance. She may be reached toll free at 1-877-820-3066.

(OVER)

4. <u>Directions:</u> You will be receiving one of three different surveys being administered. If you choose to participate, please carefully read the directions and complete the survey. DO NOT PUT YOUR NAME ON THE SURVEY. Once completed, you may place it in the envelope held by the survey administrator. The survey administrator will seal the envelope and return it by mail to the researcher. For those of you choosing to participate, you may begin once the survey is received.

(Survey administrator to dispense surveys to staff)
5. <u>Distribute surveys:</u> There are three different surveys, each printed on a different color of paper. The surveys are collated where 1/3 of the staff members will complete only one of the three surveys. Please place any extra surveys in the return envelope.

6. <u>Return surveys:</u> Place completed surveys in the self-addressed, return envelope and mail to the researcher.

THANK YOU for your help in administering the surveys!

<u>Questions & Concerns:</u>
Anyone having questions or concerns regarding this research effort may contact the researcher at the following:

<u>Mail:</u>	<u>Phone:</u>	<u>Email:</u>
Jasper City Schools	205-471-6206	dcooper@jasper.k12.al.us
c/o J. Darrell Cooper	P.O. Box 500	
P.O. Box 500		
Jasper, AL 35502		

You may also contact Dr. John Tarter, the University of Alabama faculty chair of this research effort, at the following:

<u>Mail:</u>	<u>Phone:</u>	<u>Email:</u>
The University of Alabama	205-348-7827	ctarter@bamaed.ua.edu
c/o Dr. John Tarter		
P.O. Box 870302		
Tuscaloosa, AL 35487		

You may also contact Tanta Myles at The University of Alabama's Office for Research Compliance at the following toll free number:

<u>Phone:</u>
1-877-820-3066