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A Principal's Sense of Self-Efficacy in an Age of Accountability

A Dissertation submitted in partial satisfaction of the

Requirements for the degree Doctor of Education

in

Educational Leadership

by

Andrés Peter Santamaría

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2008

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The Dissertation of Andrés Peter Santamaría is approved, and it is acceptable in quality and form for publication on microfilm:

Chair

University of California, San Diego

California State University, San Marcos

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2008

DEDICATION

This dissertation research study is dedicated to those closest in my life who made personal sacrifices to support and enable my journey and completion of my joint doctoral program. This document is a culmination of an evolution of my thinking. Through this exercise of disciplined inquiry, I have reached a pinnacle in my life. From here, though, I realize that this peak is simply the first of its series in the mountain range standing before me. May my journey never stop, never stray, and never settle for anything less than its true calling.

To my son Andrés Julian Johnson Santamaría, born April 22nd, 2006, I dedicate my wisdom in hopes you will be influenced to pursue a life of learning so that you may support, guide, and lead others towards a life more fulfilling.

To my daughter Kenya Pilar Santamaría, born March 18th, 2004, I dedicate my strength so that you will lead a life of influence empowering others to overcome their personal obstacles and make a positive change in the world in which we live.

To my wife Lorri Michele Johnson Santamaría, I dedicate my love. Without you, I would probably still be serving patrons their teriyaki burgers or parking their cars in the Gaslamp. You have inspired me, loved me unconditionally, and comforted me along my life's rapid learning curve. Since the day I met you on January 1st, 1998, 10 years ago today as I write this dedication, you have patiently unwrapped my shell and have allowed me to come into close realization with my own true being, calling, and existence. You are my true eternal love, my soul partner. I will be with you always.

To my parents María Lynn and Andrés Santamaría and to my sister Cristina Corrine Santamaría, I dedicate my life. You allowed me to be who I am today. I cherish my childhood memories and look forward to experiencing more life with you through the childhoods of my children. This dissertation is for you, my family.

And to my Father, I dedicate my spirit, for when Your footprints disappeared in the sand next to mine while I struggled through moments of challenge, hardship, sorrow, and temptation, it was You who was carrying me. You have blessed me with a magical, awe-inspiring life. I can only hope to use the gifts You have bestowed upon me to enable others to walk in Your presence.

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1997	Bachelor of Science in Ecology, Behavior, and Evolution, University of California, San Diego
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ABSTRACT OF THE DISSERTATION

A Principal's Sense of Self-Efficacy in an Age of Accountability

by

Andrés Peter Santamaría

Doctor of Education in Educational Leadership

University of California, San Diego, 2008

California State University, San Marcos, 2008

San Diego State University, 2008

Professor Alan J. Daly, Chair

Since its inception in 2001, No Child Left Behind (NCLB) has created a high stakes accountability climate by setting federal mandates for increasing levels of student achievement in the Kindergarten through twelfth grade (K – 12) public education arena. Consequently, schools and their Local Education Agencies (LEAs) failing to meet Adequate Yearly Progress (AYP) guidelines are subject to progressive levels of corrective action. Given this high stakes accountability climate, the role of school

leadership takes on an even greater importance. As a result, educational leadership scholars continue to conduct numerous studies on the impact of leadership practices on school success. While these studies have been critical in identifying effective, research-based leadership practices, they have largely ignored the importance of the principal's sense of self-efficacy, which research suggests is fundamental for successfully implementing these practices. Utilizing Bandura's (1977) triadic reciprocal causation model rooted in social cognitive theory, this study explored the relationship between principals' perceptions of their levels of self-efficacy and environmental influences, such as Program Improvement. Within this quantitative study, I hypothesized that federal sanctions under NCLB would have an inverse relationship with a principal's own leadership beliefs. This central hypothesis was tested on a statewide sample of California Title I K – 12 public school principals. Results of statistical analysis indicated there to be a significant difference between the means of efficacy for principals of schools in Program Improvement (M=7.0, SD=1.07, effect size=.025) and those not in Program Improvement (M=7.3, SD=.89, effect size=.025). Two other hypotheses related to Program Improvement and other personal and school-level demographic variables were also tested and yielded significant findings. Furthermore, implications are offered for future research, policy, and practice.

CHAPTER 1: INTRODUCTION

Public education reform received much attention within the last decade, since schools are now being held accountable to achieve increasing levels of student achievement. There are now stiffer penalties for schools not making progress and, to date, an increasing number of schools in the United States are under federal sanctions for not meeting Adequate Yearly Progress (AYP) guidelines. Designation of schools as Program Improvement (PI) followed by specific, progressive corrective actions creates a climate of high stakes accountability for all schools. It is safe to say that today's school leaders are faced with a serious challenge to cultivate positive school reform efforts that will achieve mandated student achievement expectancies in order to avoid risk of sanction. Accordingly, this study sought out to better understand this accountability climate's impact on a principal's sense of self-efficacy.

Problem Statement

During the 2006-07 school year, thirty-seven percent of California (CA) public schools were under Program Improvement as defined by the No Child Left Behind (NCLB) Act of 2001 [California Department of Education (CDE), 2006]. An additional 541 schools or 9% were at-risk of falling under PI for the 2007-08 school year. These are alarming statistics given the minimal level of requirements set within AYP as mandated by No Child Left Behind (NCLB, 2001). For example, for a unified school district school in 2006-07 (requirements vary slightly depending upon the type of school district), 23% of all students and all significant subgroups of students were expected to score proficient or advanced on state-wide testing in English-Language Arts (ELA) (CDE, 2006). Similarly, for mathematics, the AYP requirement was 23.7%. These

requirements progressively increase until 2013-14 at which time 100% of all students are expected to be proficient in ELA and mathematics.

When a school fails to meet AYP requirements for two consecutive years, it is designated as a Year 1 PI school (CDE, 2006). Within NCLB, there exist corrective actions for PI schools beginning in Year 1 through Year 5. For example, corrective actions for Year 1 PI schools include: revising the school plan, allocating ten percent of Title I funds towards staff professional development, and allowing parents to transfer their children to non-PI schools. As schools digress further into PI, the corrective actions become even more punitive. In Year 4 PI, for instance, the school must do major restructuring, such as reopening as a charter, replacing all or most staff including the principal, or undergoing state takeover.

In the current context, more so than ever perhaps, researchers (Bass & Avalio, 1994; Leithwood & Riehl, 2003; Marzano, Waters, & McNulty, 2005) suggest that the principal is the key agent for change at the school level and is the one who is ultimately responsible for improving student achievement and affecting positive school reform. In support of this notion, Tschannen-Moran and Gareis (2005), in their seminal study on principal efficacy, offer that the principal "sets the tone and direction for the school, initiates change, provides expertise, marshals resources, unifies partners, and maintains effort" (p. 3). Given a climate of accountability and potential for sanction created by current national education policy, principals' leadership behaviors have become central to the creation and facilitation of effective teaching and learning environments within their schools (Smith, Guarino, Strom, & Adams, 2006).

However, while leadership behaviors are important, it may ultimately be an individual's level of self-efficacy or belief in his or her own ability to achieve success that determines whether or not those behaviors will lead to successful outcomes (Bandura, 1977; 1986). Thus, while much of contemporary literature on educational leadership attempts to identify leadership behaviors that lead to positive school outcomes (Leithwood & Riehl, 2003; Marzano, Waters, & McNulty, 2005), this study served to examine principals' perceptions of their self-efficacy within the context of NCLB in order to measure their beliefs in their own ability to produce those leadership behaviors which support successful school outcomes (Bandura, 1986; Tschannen-Moran & Gareis, 2004, 2005).

Given federal accountability regulations and potential sanctions for schools not achieving at specified levels, there is an increase in the urgency for educational agencies to identify school leaders who not only possess competency in leadership ability, but who also hold the drive and motivation to overcome overwhelming obstacles. Therefore, the intent of this study was to examine a principal's sense of self-efficacy in relation to personal and school-level factors which may have an impact on a principal's ability to lead a school towards increased student achievement and, ultimately, school success within the current accountability climate.

Supporting Literature

This study has its roots in social cognitive theory (Bandura, 1977). The main goal was to understand a principal's sense of self-efficacy within the context of NCLB. This deeper understanding may offer insight into Bandura's triadic reciprocal causation model as it applies to the understudied area of principal efficacy in the current accountability

climate (Bandura, 1997). The three interrelating variables illustrated within Bandura's model include: the *environment*, individual *behavior*, and *personal factors*. Applied within the context of this study, these variables were represented by the high stakes school accountability climate of NCLB, school leadership practices, and a principal's sense of self-efficacy, respectively. A brief overview of these three key variables is provided and will be illuminated in greater depth in the literature review.

The Environment. Currently, NCLB serves as the primary force in our nation's current federal education legislation. Since its inception in 2001, there has been little time to examine the relationship between accountability consequences, such as PI designation, and principals' levels of self-efficacy, specifically in the state of California. As a result, this area is understudied in the current research (Tschannen-Moran & Gareis, 2004). Thirty-seven percent of CA public schools were in PI during the 2006-07 school year. It is likely that these numbers will increase as AYP requirement levels for student academic proficiency continue to rise. Thus, there exists an urgency to understand how current policy regulations are impacting our school leaders' beliefs in their abilities to engage in the leadership behaviors that lead to school success. For leaders in schools already designated as an underperforming PI school, it is even more important to understand how federal sanctions of corrective action are related to principals' perceptions of self-efficacy. With increasing sanctions from corrective actions and seemingly insurmountable expectations, many educators within these schools may be experiencing increased levels of pressure and stress (Daly, 2006; Nichols & Berliner, 2007). Principals play a significant role in leading schools out of this state of crisis by being in a critical position to raise staff confidence, foster a culture of collaboration, and

develop practices which lead to school success. Therefore, this study served to examine the relationship between environmental variables (i.e. Program Improvement) and a principal's sense of self-efficacy.

Behavior. Literature on leadership over the past several decades has encompassed numerous theories identifying various models, characteristics, and impacts of organizational leadership (Rost, 1991). Primary to this literature is the importance of the leader to the success of the organization (Marzano et al., 2005). Similarly, literature on educational leadership is replete with studies suggesting the importance and centrality of the leader and their behaviors in affecting significant school change (Leithwood & Riehl, 2003; Marzano et al., 2005). Therefore, an exhaustive review of leadership theory is beyond the scope of this study. What this study did intend to focus on is literature which supports the importance of the principal as the school leader and the significance of their leadership behaviors in achieving school success (Cotton, 2000; Heifetz, 1994; Waters, Marzano, & McNulty, 2003). This literature base supports the decision to focus solely on the principal as the unit of analysis for this study.

Personal Factors. Historically, studies on efficacy have focused on the individual teacher and the collective staff as a whole (Bandura, 1993; Goddard, 2001; Goddard, Hoy, & Woolfolk Hoy, 2000; Goddard & Skrla, 2006; Guskey & Passaro, 1994; Hipp, 1996). Primarily using questionnaires or survey instruments, past researchers have attempted to correlate levels of efficacy to personal attributes, school demographics, and/or student achievement outcomes. Only recently has the study of efficacy been applied to the school principal (Imants & De Brabander, 1996; Lyons & Murphy, 1994; Smith et al., 2006; Tschannen-Moran & Gareis, 2004, 2005). Common to these studies

has been the development of a principal's sense of self-efficacy measure to analyze principals' perceptions of their own levels of efficacy in relation to personal attributes and/or school demographics. This study targeted PI status and other personal and school-level demographic variables while exploring the relationship of these independent variables to the dependent variable of a principal's sense of self-efficacy.

Compared to the volume of studies focusing on teacher and collective efficacy, research in the area of principal efficacy is still in its infancy, especially in the contemporary accountability climate. To date, five key studies on principal efficacy have contributed significant empirical data to support the importance of research in this field of study, as well as existing gaps (Imants & De Brabander, 1996; Lyons & Murphy, 1994; Smith et al., 2006; Tschannen-Moran & Gareis, 2004, 2005). By focusing on principal efficacy, this study will add to the findings within this specific frame of research.

Purpose of Study

The purpose of this study was to conduct an exploratory quantitative analysis of the relationship between PI designation and a principal's sense of self-efficacy in the state of California. Individual and school-level demographic variables used in other principal efficacy scales were also included as a way to better understand other environmental variables that may have a relationship with principal efficacy. In addition, new variables were introduced to elicit possible opportunities for future research.

Rationale

Over 2,000 schools in the state of California were in Program Improvement during the 2006-07 school year. Although studies on educational leadership suggest that

certain leadership practices are important in creating high-performing, non-PI schools (see Figure 1), Bandura's (1977) social cognitive theory model (see Figure 2) posits that a principal's level of self-efficacy is even more important in determining the success of those leadership practices which lead to school success. Therefore, this study shifted its focus onto the study of principal efficacy and how NCLB accountability measures, rather than leadership practices, play a guiding force in determining principals' perceptions of self-efficacy (see Figure 3). Given the increasing expectations for student achievement within AYP, principals' beliefs in their ability to meet these high expectations are paramount in implementing effective school reform practices which foster school success. Thus, findings from this research study on principal efficacy will serve school leaders by increasing their awareness of the potential impacts high stakes accountability measures have on their own sense of self-efficacy.

Findings from this study may also have policy implications. The No Child Left Behind Act of 2001, which was due for reauthorization in 2007, has been postponed for reauthorization until a later date due to the nation's current political climate and the 2008 presidential election. Having increased awareness of how accountability systems of corrective action influence school leaders' beliefs in their abilities to lead positive school reform may affect policymakers' decisions during the reauthorization process for NCLB.

Research Questions

This study focused on three central research questions:

1. Is there a difference in the levels of a principal's sense of self-efficacy in Program Improvement versus one from a non-Program Improvement school?

2. Is there a relationship between a principal's sense of self-efficacy and Program Improvement status within K – 12 CA public schools?
3. What are the key predictors of a principal's sense of self-efficacy?

Hypotheses

The following hypotheses were tested in this study:

1. There is a significant difference in the level of a principal's sense of self-efficacy between principals in Program Improvement schools and those not in Program Improvement schools.
2. There is an inverse relationship between a school principal's sense of self-efficacy and a school's Program Improvement status.
3. Program Improvement designation is the primary predictor of a principal's sense of self-efficacy.

In this study, I tested these hypotheses using a pre-existing principal self-efficacy survey and a newly developed demographic survey on a sample of Kindergarten through twelfth grade (K – 12) CA public school principals. Survey results were then analyzed through a series of statistical tests including: ANOVA, to determine the existence of significant differences between the perceptions of self-efficacy of principals in PI and non-PI settings; correlations, to identify any significant relationships between independent (i.e. principal's sense of self-efficacy) and dependent variables (i.e. PI status); and multiple regressions, to examine the demographic factors' predictive ability to determine a principal's sense of self-efficacy. In order to more deeply understand the constructs of efficacy, a comprehensive review of literature follows.

This chapter served to state the purpose of this study by identifying the importance of principal efficacy, as framed within Bandura's (1977) triadic reciprocal causation model, within the context of the current high stakes accountability climate. In addition, three research questions were presented along with three hypotheses which were tested within the quantitative design of this study. Moreover, the relationship between a principal's sense of self-efficacy and personal and school-level demographic variables inherent in the school environment were investigated and significant findings reported.

CHAPTER 2: LITERATURE REVIEW

According to Bandura (1977), three factors are at play when examining his social cognitive theory model: personal factors (i.e. efficacy), behavior, and the environment. Based on this model, this study developed three research questions to better understand the relationship between a principal's sense of self-efficacy and the environment. The school principal was targeted as the central unit of analysis for this quantitative exploratory analysis. Here, Bandura's social cognitive theory and its application to the context of this study are explained.

The purpose of this literature review is to emphasize the importance of a principal's sense of self-efficacy within the framework of social cognitive theory as applied to the current state of K – 12 public education. As Bandura's (1977) triadic reciprocal causation model encompasses variables on the environment, individual behavior, and personal factors, it is important to address all three within this literature review. Therefore, in order to gain a thorough understanding of a principal's sense of self-efficacy (personal factors), attention must also be given to the current high stakes accountability climate created by NCLB (environment), as well as the importance of educational leadership (individual behavior) in schools. As a result, this chapter will be divided into three sections. First, the educational mandates set forth by NCLB federal policy will set the context for this literature review. Second, an overview of principal leadership in schools will be described to support the selection of the principal, as opposed to other school stakeholders, as the primary unit of analysis for this study. Finally, the construct of efficacy will be critically examined as the core of this study's theoretical framework.

The Context

Since its inception, the No Child Left Behind Act of 2001 has set the stage for the state of accountability within which our schools currently exist. NCLB was founded on four pillars: (1) stronger accountability for results; (2) more freedom for states and communities; (3) proven education methods; and (4) more choices for parents (NCLB, 2001). Under the pillar of stronger accountability for results, NCLB (2001) clearly states:

> No Child Left Behind is designed to change the culture of America's schools by closing the achievement gap, offering more flexibility, giving parents more options, and teaching students based on what works. Under the act's accountability provisions, states must describe how they will close the achievement gap and make sure all students, including those who are disadvantaged, achieve academic proficiency.... Schools that do not make progress must provide supplemental services, such as free tutoring or after-school assistance; take corrective actions; and, if still not making adequate yearly progress after five years, make dramatic changes to the way the school is run.

For the purpose of understanding the accountability context, a focus will be on the accountability progress reporting system in the state of California.

For California, Adequate Yearly Progress (AYP) serves as the state's accountability progress reporting system (CDE, 2006). Within AYP there are four specific requirements public schools must meet on an annual basis. These requirements vary slightly depending upon the type of district the school is in. For example, in order for a unified school district Title I-funded public school to have met AYP requirements for the 2006-07 school year, it would have had to: (1) have a participation rate of 95% on the Standardized Testing and Reporting (STAR) assessments; (2) achieve at a 23% level of proficiency in English-Language Arts (ELA) and a 23.7% level of proficiency in

Mathematics for all students and for all significant subgroups; (3) meet its specific API growth target; and (4) meet its required graduation rate (CDE, 2006). The level of requirements changed slightly depending upon the type of school district the school was in. For example, requirements for Unified School Districts differed slightly from those of Elementary School Districts.

Following the *NCLB Program Improvement School Requirements Chart*, a school is first considered to be at risk of Program Improvement (PI) designation should it fail to meet AYP requirements for one year (CDE, 2006). If a school fails to meet the requirements for two consecutive years, it is then placed in Year 1 PI and corrective actions commence. For Year 1 PI, schools must do all of the following: (1) revise the school plan within three months of the start of school to cover a two-year period; (2) use ten percent of Title I funds for staff professional development; and (3) implement the plan promptly. At the same time, the Local Educational Agency (LEA) or, in most cases, the school district must: (1) provide technical assistance to the PI school; (2) notify parents or guardians of PI designation; (3) set aside a minimum of five percent for professional development to meet highly qualified staff requirements; (4) provide parents choice to attend another school in the district that is not PI and pay for transportation costs in order to do so; and (5) establish a peer review process to review the PI school's revised school plan. Corrective actions for Year 2 through Year 5 PI schools progressively increase in levels of interventions required. Examples of Year 3 PI corrective action options include replacing school staff, implementing new curriculum, and extending the school year or day. Examples of Year 4 PI corrective action options

include reopening the school as a charter, replacing all or most staff including the principal, and state takeover.

While the intent of NCLB and AYP to hold schools accountable for raising student achievement is laudable, perhaps the implementation of progressive corrective actions is questionable. Consider that, for many California public schools, there are significant populations of English Learners (ELs). Research suggests that it takes anywhere between five to seven years of education for ELs to acquire academic language in English (Collier, 1987; Cummins, 1981; Klesmer, 1994). Acquisition of academic language in English is required to successfully achieve proficiency on the Standardized Testing and Reporting (STAR) state-wide assessment, especially in the area of English-Language Arts. However, AYP only allows schools two years of not meeting proficiency level requirements for all significant subgroups, including ELs, before assigning PI designation and enforcing corrective action. Since the STAR assessment begins in the 2nd grade, this would mean that ELs would need to both acquire English academic language and score proficient on STAR testing by the end of their 3rd grade. For ELs entering the United States public education system in Kindergarten, this would provide them four years to accomplish this goal, which is close to the five to seven years that research would suggest. However, for ELs entering later into the system later puts them and their schools at a disadvantage.

A subgroup, like that of English Learners, is significant if it has one hundred or more students enrolled on the first day of testing or fifty or more students enrolled on the first day of testing who make up at least fifteen percent of the total school population (CDE, 2006). Though the proficiency levels for the 2006-07 school year were around

23%, these levels have already begun to increase dramatically and will continue to do so over the next several years. There currently are more than 2000 schools in Program Improvement. With increasing proficiency rates, the likelihood that this number will increase is great, especially for schools with significant subgroups of ELs. Therefore, it appears that federal AYP guidelines may run contrary to theoretical models of second language acquisition, thus placing EL students at potential risk of failure while, at the same time, placing the schools at which they attend at risk of federal sanctions. In addition, one can also imagine the same outcome may result for significant subgroups of students with special needs or those from socio-economically disadvantaged backgrounds.

Though the purposes of accountability measures created by NCLB and AYP are intended to promote student achievement, they may actually have numerous unintended consequences (Orfield, Kim & Sunderman, 2004). Rather than fostering a climate of school support, these measures, which comprise of increasing sanctions and threat, may diminish the school's ability to successfully conduct positive school reform efforts for the purpose of meeting federal student achievement mandates (Nichols & Berliner, 2007; Orfield, Kim & Sunderman, 2004). Furthermore, this climate may also affect a principal's belief in the ability to eventually meet these mandates, thus placing the school at further risk.

Contrary to the tenants of NCLB's pillar of stronger accountability for results, a school's flexibility to experiment with innovative instructional practices potentially diminishes with the onset of rigid curriculum content standards, a narrow range of texts designed to cover standards, increased standardized assessments, and adherence to

prescriptive 'research-based strategies' (Daly, 2006). Demands for high, unsupported performance backed by consequences of corrective action for failing schools may lead to an educational climate exemplified by high levels of threat and stress, which, ultimately, reduce the likelihood for educators to meet those demands (Daly, 2006; Nichols & Berliner, 2007; Shaw & Barrett-Power, 1997; Staw, Sandelands & Dutton, 1981). These unintended consequences of threat and stress partially set in motion by NCLB may negatively affect the morale of educators and lead to lower levels of efficacy (Daly, 2006; Tolbert & Medway, 2005). It is in this climate of sanction in which over 2000 school principals in the state of California operate. Given that over one third of the schools in California are in PI and are currently under some level of federal sanction, it is important to more deeply understand a principal's beliefs for the potential of success in this high stakes accountability climate. Therefore, this study concerns itself with the impact of Program Improvement status on a principal's sense of self-efficacy.

Focus on Educational Leadership

This study is centered primarily on efficacy, but in order to lay out the centrality of the principal as the unit of analysis, a focus on leadership is offered. Although this review of literature in the field of educational leadership is by no means exhaustive, it serves to emphasize the importance of leadership within the context of school accountability and reform.

A number of scholars have indicated the importance of establishing the role of leadership as being central to the success of the organization. **"**In the field of education, leadership has taken on increased importance in recent years" (Leithwood & Riehl, 2003). Leadership is vital to the effectiveness of a school (Marzano, Waters, & McNulty,

2005). At the school level, the role of leadership falls primarily on the school principal. Furthermore, it is the principal's actions and level of leadership that determine the effectiveness of the school (Marzano et al., 2005).

The importance of strong school leadership has been shown over time starting with the early work of Brookover and Lezotte (1979) and Edmonds (1979) in their seminal work on effective schools. It has continued with the work of Bass (1990) and Yukl (1998) who conclude leadership is an important component of successful schools. In support of these findings, studies on leadership even outside the school setting have all come to the same conclusion: successful organizations demand skilled and effective leaders (Bennis & Nanus, 1985; Bolman & Deal, 1997; Kouzes & Posner, 1995; Senge, 1990). In response to ever-increasing demands for research-based practices within the current accountability climate of NCLB, the study of school leadership is undergoing a renewed sense of attention.

In a recent study conducted by Leithwood, Louis, Andersen, and Wahlstrom (2004), leadership was found to be second only to classroom instruction among all school-related factors that contribute to student learning. Supporting this finding, Cotton (2003) identified 25 leadership practices that positively affect student achievement, student behavior, teacher attitudes, teacher behaviors, and dropout rates. She noted that schools with satisfactory levels of student achievement contained strong administrative leadership (Cotton, 2000). In a meta-analysis of 69 empirical studies, Marzano et al. (2005) found there to be a correlation of .25 between leadership behavior of the school principal and the average academic achievement of students. This correlational relationship signifies that when the principal's leadership ability improves by one

standard deviation, student academic achievement improves by a quarter of a standard deviation. As a result, the findings of these studies serve to support the belief that a highly effective leader can have a dramatic influence on the overall academic achievement of students (Marzano et al., 2005). Therefore, the preponderance of leadership research supports the importance of the school leader in terms of school success.

Bass and Avalio (1994) furthered the importance of school leadership practices by identifying four leadership factors necessary for principals to lead school reform efforts. The first factor, individual consideration, addresses the need for school principals to attend to the needs of individual staff members. The second, intellectual stimulation, calls for principals to assist staff members in problem-solving and experimenting with new methods to address school issues. In the third component of their leadership theory, inspirational motivation, the principal communicates high expectations for all school community members. Lastly, idealized influence refers to the need for principals to model professional behavior to staff members. Moreover, "… leaders motivate followers by raising their consciousness about the importance of organizational goals and by inspiring them to transcend their own self-interest for the sake of the organization" (Marks & Printy, 2003, p. 375).

In a 2002 study, Silins, Mulford, and Zarins tested the relationship between schools' levels of total leadership and their levels of organizational learning. Within their design model, organizational learning, the extent to which teachers perceive the school to be functioning as a learning organization, included four factors: trusting and collaborative climate, taking initiatives and risks, shared and monitored mission, and professional

development (Silins, Mulford, & Zarins, 2002). Findings from their study revealed levels of total leadership to be strong predictors of the levels of organizational learning in the 96 schools incorporated within their sample. Moreover, Silins, Mulford, and Zarins' (2002) study supports the necessity to examine comprehensive dimensions and behaviors of leadership to better understand their relationship to achieving school success.

While the preceding paragraphs have described various leadership behaviors, it is also critical to bear in mind that, in terms of leadership, context matters (Bandura, 1986). This study is focused not on the multiple leadership practices or theories, but rather on the overall importance and centrality of leadership in schools. Leadership, as with many characteristics of education, is context related. The model of leadership to which principals apply themselves is largely dependent upon the state in which their schools exist (Fullan, 2001). Leithwood (1994) concurs: "leadership only manifests itself in the context of change, and the nature of that change is a crucial determinant of the forms of leadership that will prove to be helpful" (p. 499). Given the age of accountability in which schools operate, it is important that we explore all avenues of educational research in order to expand upon our knowledge of what works in schools.

This section highlighted the importance of leadership and the role of the school principal, while providing this dissertation research study the justification for focusing on the principal as the unit of analysis as opposed to other school-level staff. The next step in this review of literature is to provide a comprehensive examination of efficacy with a specific focus on principal efficacy due to the context of the current high stakes accountability climate to which this study has applied itself (Bandura, 1977). In support of this effort, researchers such as Tschannen-Moran and Gareis (2004) argue, in their

seminal study on principals' sense of efficacy, that a principal's ability to engage in leadership behavior is largely dependent upon one's beliefs in the ability to do so successfully.

Efficacy

Self-Efficacy. The crux of this literature review on efficacy is founded on social cognitive theory. Social cognitive theory posits a triadic reciprocal causation model of human agency resulting from the bidirectional interaction between personal factors, behavior, and the environment (Bandura, 1997). Hence, by utilizing one's own personal factors, an individual can influence the environmental outcomes of one's own behavior. In essence, social cognitive theory addresses how humans, as individuals and as members of groups, exercise some level of control over their futures (Goddard & Skrla, 2006). One critical personal factor which contributes significantly to the social cognitive theory model of human agency is self-efficacy. As defined by Bandura (1997), self-efficacy is the belief in one's ability to organize and execute the courses of action required to produce given attainments.

Bandura (1977) first initiated the concept of self-efficacy to explain how personal motivation and expectations can affect outcomes. Pajares (1996, p. 544) explains that "efficacy beliefs help determine how much effort people will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will prove in the face of adverse situations." Bandura's (1977) theoretical model involved two concepts: *efficacy expectations* and *outcome expectancies*. He defined an efficacy expectation as one's belief to be able to successfully execute the behavior required to produce deisired outcomes, while an outcome expectancy is a person's estimate that a

given behavior will lead to certain outcomes. According to Bandura's theory, an individual has control over his own behavior and his own beliefs in his ability to successfully perform that behavior. However, an individual can only estimate the outcomes which will be produced by such behavior given the environment within which one is in. Since individuals only have control of their own beliefs and behaviors and not of the environmental outcomes resulting from these two dimensions, I will focus solely on the concept of efficacy expectations for the purpose of this literature review.

Efficacy expectations. Within social cognitive theory, efficacy expectations are based on four major sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states (Bandura, 1977). Performance accomplishments are founded upon personal mastery experiences. As individuals experience repeated success within a certain context, their perception that they are capable of producing a successful outcome in the future becomes more optimistic resulting in a higher sense of self-efficacy. As Bandura (1993) writes:

> Those who have a high sense of efficacy visualize success scenarios that provide positive guides and supports for performance. Those who doubt their efficacy visualize failure scenarios and dwell on the many things that can go wrong. It is difficult to achieve much while fighting self-doubt. (p. 118)

The second source of efficacy expectations is vicarious experience. By observing others performing tasks successfully, individuals can increase their own confidence in performing similar tasks. "Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts" (Bandura, 1977, p. 197). Though not as strong as

mastery experience, levels of efficacy resulting from vicarious experience can be increased with modeling. Like coaching, modeling removes ambiguity by providing observers clear steps and strategies on how to achieve success. As a result, the observer has a greater chance to perform a mastery experience in similar contexts than when left alone.

Verbal persuasion is the third source of efficacy expectations. Synonymous to verbal praise, verbal persuasion is limited in its ability to improve one's sense of self-efficacy. Applied within the school setting, "encouragement from teacher colleagues, principals, and district leaders may be insufficient alone, but coupled with the requisite training and experience, [verbal persuasion] has the potential to strengthen teachers' self- and collective-efficacy beliefs" (Goddard & Skrla, 2006). However, to simply raise personal competence by verbal persuasion without creating the necessary conditions to facilitate individual success will most likely lead to failures that discredit the persuaders and further undermine the individual's perceived self-efficacy (Bandura, 1977). Similar to vicarious experience in which directed modeling has more impact than ambiguous observation, verbal persuasion carries a greater influence on improving self-efficacy when it is supplemented with support. Telling individuals that they can accomplish their task is one thing; praising them for their efforts and providing the necessary support they need to perform a mastery experience are much more effective in raising individuals' levels of self-efficacy.

Lastly, physiological states or emotional arousal are the fourth major source of efficacy expectations. Fear, anxiety, and depression produce emotional obstacles that serve to prevent or distract an individual's attempts in performing a task (Bandura, 1977,

1993). Often, these emotional states lead to avoidance behavior. If an individual perceives a task to be too threatening or risky, one chooses an alternative. "Because high arousal usually debilitates performance, individuals are more likely to expect success when they are not beset by aversive arousal than if they are tense and viscerally agitated" (Bandura, 1977, p. 198). In light of the current accountability climate, federal sanctions of corrective action by NCLB serve to create an environment wherein these physiological states exist. Effects of stress, fear, and anxiety by threat measures of accountability such as Program Improvement can lead to diminishing efficacy levels of school leaders. Under stressful conditions, studies have shown individuals to have decreased abilities in perception, problem solving and learning, while increasing behavioral response rigidity (Staw et al., 1981). Thus, for school leaders, effects of stress and other similar negative physiological states associated with PI contradict the conditions necessary for increasing levels of efficacy and leading schools towards success.

Mastery experience, vicarious experience, and verbal persuasion all help to diminish an individual's level of anxiety in order to promote a higher sense of self-efficacy. Bandura (1993) writes, "People who judge themselves to be socially efficacious seek out and cultivate social relationships that provide models on how to manage difficult situations, cushion the adverse effects of chronic stressors, and bring satisfaction to people's lives" (p. 134). Furthermore, a strong sense of efficacy allows individuals to remain task oriented in the face of pressing situational demands and failures that have social repercussions.

Having identified the four contributors to efficacy expectations, Bandura provides practical applications to contextual situations in which one can enhance self-efficacy

within oneself or within others. By establishing key elements within a certain context (i.e. the workplace) in which individuals are given the opportunity to successfully achieve tasks within an atmosphere of support, praise, and reduced anxiety, high levels of self-efficacy can be attained and performance can be improved.

Within the field of education, Bandura's concept of efficacy expectations has been applied to three different areas: personal teaching efficacy or teacher self-efficacy (Ashton & Webb, 1986; Frase, 2004; Guskey, 1988; Guskey & Passaro, 1994; Hipp, 1996; Ross, 1995; Weasmer & Woods, 1998); general teaching efficacy or collective efficacy (Goddard, 2001; Goddard et al., 2000; Hipp, 1996; Hoy, Sweetland, & Smith, 2002); and, more recently, principal self-efficacy (Imants & De Brabander, 1996; Lyons & Murphy, 1994; Smith et al., 2006; Tschannen-Moran & Gareis, 2004, 2005). A fourth construct, student efficacy, exists but will not be addressed within this literature discussion since student efficacy is viewed as a product of teacher, collective, and principal efficacies (Bandura, 1993; Goddard et al., 2000). Given the importance of the role of the school leader within the context of the current high stakes accountability climate, this study focused on examining the construct of a principal's sense of self-efficacy in relation to personal and school-level factors inherent within this construct.

The general intent of these empirical studies on efficacy beliefs in school contexts has been to attempt to link levels of efficacy to differences in student achievement. When no significant correlations can be made, focus is given to specific demographic factors at the personal or school level to determine possible conditions which lead to varying levels of efficacy. The following defines three focus areas of efficacy and cites key empirical studies which have shaped the theoretical framework for this study. These

efficacy constructs are presented in the following sequence to match the evolution of theory within this field of study.

Teacher Self-Efficacy

Ross (1995) stated that teacher efficacy measures the extent to which teachers believe their efforts will have a positive effect on student achievement. Through a goal-setting process, teachers enhance student motivation, increase self-esteem, improve self-direction, and cultivate students' positive attitudes towards school. Teachers with high levels of self-efficacy utilize instructional strategies that are powerful but difficult to acquire, such as small-group techniques, cooperative learning, and activity-based methods.

Past studies have examined the effect of teacher efficacy on student achievement (Ashton & Webb, 1986; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Pajares & Johnson, 1996; Pajares & Miller, 1994; and Schunk, 1981). These studies primarily used correlational analyses on self-efficacy scales and test scores to account for variance observed within student academic achievement. As questions within self-efficacy scales improve in design and specificity and more closely match student performance outcomes, results from future empirical studies will have greater significance and will account for a greater portion of the variance seen within student test scores (Pajares, 1996). Therefore, the better researchers are able to measure teacher efficacy, the better they will be able to pinpoint specific strategies to improve teacher efficacy and, ultimately, student achievement (Ashton & Webb, 1986).

Teacher efficacy, though it is difficult to measure, plays a significant role in the classroom. Ashton and Webb (1986) found that teachers' levels of self-efficacy

predicted students' levels of mathematical and language achievement over the course of an academic year. In a study on the relationship between teacher self-efficacy and the implementation of innovative practices, Guskey (1988) found that the two were significantly related. Thus, teachers with higher levels of self-efficacy were more willing to practice new instructional strategies. Similarly, Gibson and Dembo (1984) found that teachers with higher levels of self-efficacy placed greater focus on academic learning, provided support to struggling students in order to help them succeed, and praised students for their accomplishments. Moreover, teachers who believe strongly in their instructional ability to create mastery experiences for their students, thereby, increase the self-efficacy levels within their students (Bandura, 1993). Only by increasing expectations and providing greater instructional support for every student, do teachers with high levels of self-efficacy create changes in students' perceptions of their academic abilities (Ross, 1995).

Collective Efficacy

Another form of self-efficacy is referred to as collective efficacy. For schools, collective efficacy refers to the teachers' perceptions that the faculty as a whole can execute the courses of action necessary to have positive effects on students (Goddard, 2001). According to Goddard et al. (2000), collective efficacy is formed by two key elements: analysis of the teaching task and assessment of teaching competence. First, teachers analyze what constitutes successful teaching in their school, what barriers or limitations must be overcome, and what resources are available to achieve success. Next, teachers assess their faculty's teaching skills, methods, training, and expertise to determine whether or not they are capable of achieving success. Challenging goals,

strong organizational effort, and a staff's persistence to achieve school success are indicative of schools with high levels of collective efficacy. On the other hand, schools with low collective efficacy will demonstrate less effort, the propensity to give up, and a lower level of performance. Hoy et al. (2002) explained that strong collective efficacy perceptions not only enhanced individual teacher performance but also affected the pattern of shared beliefs held by organizational members. In other words, the stronger a group's perception of capability to reach a given goal, the more likely is the group to choose to pursue that goal and to put forth the effort required to attain success (Goddard, LoGerfo, & Hoy, 2004).

In a study on collective efficacy in forty-seven elementary schools, Goddard et al. (2000) found that levels of collective efficacy across schools are significant predictors of student achievement even when accounting for the effects of student gender, race, socioeconomic status (SES), and prior academic success. Prior, Bandura (1993) also had found that faculties' beliefs in their collective instructional efficacy contribute significantly to their school's level of academic achievement. In these studies, student demographics had a more direct affect on teachers' collective efficacy than on their actual academic achievement. "Adverse student body characteristics [such as race, gender, or SES] influence schools' academic attainments more strongly by altering faculties' beliefs about their collective efficacy to motivate and educate their students than through direct effects on school achievement" (Bandura, 1993, p. 143). Thus, if a staff dismissed particular student demographic factors as being adversary, its own level of collective efficacy would increase, thereby, increasing the potential for school success.

More recently, Goddard and Skrla (2006) conducted a study to analyze how teacher characteristics and school social composition influenced teachers' collective efficacy beliefs. Their sample included 1,981 teachers from 41 K-8 schools. Findings proved that a school's past academic achievement, rate of special program placement for gifted children, and faculty ethnic composition explained 46% of the variation among schools with perceived collective efficacy. Of particular note, for many of the schools included in their sample, Latino students made up the dominant ethnic group. Within the researchers' correlation analysis, it was found that increases in the proportion of Latino teachers on a faculty were associated with increased levels of perceived collective efficacy (Goddard & Skrla, p. 230). This suggested that when the cultural backgrounds of teachers and students were similar, the potential adverse effects of student ethnicity were nonexistent. Similar associations were also found with years of teaching experience.

Furthermore, not only have researchers found there to be significant correlations between collective efficacy and student achievement, but personal factors such as ethnicity and experience, as well as school demographic characteristics, also contribute significantly to schools' levels of collective efficacy. These findings hold noteworthy relevance to the research design model of this study.

Principal Self-Efficacy

Bandura's contribution to the study of efficacy beliefs has sparked a variety of theoretical movements. It was only a matter of time for efficacy studies on school leaders to emerge within this theoretical framework. Paglis and Green (2002) defined leadership self-efficacy as follows:

> A person's judgment that he or she can successfully exert leadership by setting a direction for the work group, building relationships with followers in order to gain their commitment to change goals, and working with them to overcome obstacles to change. (p. 217)

At the school level, the principal is the key agent in initiating change by raising the level of expectations for both teachers and students (Tschannen-Moran & Gareis, 2004). Principals contribute significantly to the development and maintenance of effective schools by instilling a strong sense of purpose and belief within their school staffs (Bandura, 1993). Therefore, the potential influence of principal self-efficacy on teacher and/or collective efficacy is significant.

Hipp (1996) conducted a study on principals and teachers from 10 middle schools to determine possible leadership behaviors that impact teachers' sense of efficacy. She found three specific leadership behaviors to be significantly related to schools' levels collective efficacy: models behaviors, provides contingent rewards, and inspires group purpose. In addition, Hipp (1996) discovered that modeling behaviors and providing contingent rewards were also significantly related to teachers' levels of self-efficacy. Referring back to Bandura (1977), all three of these leadership behaviors can be linked to vicarious experience and verbal persuasion, two of the four major sources of efficacy expectations. As a result, Hipp's (1996) study demonstrated the significance of principal self-efficacy in determining levels of teacher self-efficacy and collective efficacy in schools.

Expanding on principal self-efficacy theory, Tschannen-Moran and Gareis (2004) constructed and tested a Principal Self-Efficacy Scale (PSES) for the purpose of

measuring a principal's sense of self-efficacy. Based on previous measures of principal efficacy by researchers such as Hillman (1986), Imants and De Brabander (1996), and Dimmock and Hattie (1996), their study produced an 18-item scale encompassing three distinct subcategories of principal efficacy: instructional leadership, management leadership, and moral leadership. Then in 2005, Tschannen-Moran and Gareis reutilized their PSES to conduct a study involving a state-wide sample of Virginia principals. Their study first examined the predictive ability of principal demographic and preparation variables, as well as school context variables, to influence levels of principal efficacy. Demographic variables included gender, ethnicity, and years of administrative experience, while preparation variables focused on the quality and utility of principals' formal training. School context variables, meanwhile, included school setting (i.e., urban, suburban, or rural), school level, SES, resource support, and facilities. Out of the three demographic variables, only ethnicity showed a slight correlation to principal self-efficacy. Both preparation variables demonstrated positive relationships with principal self-efficacy. For school context, availability of teaching materials and financial resources was the strongest context variable in relation to principals' sense of self-efficacy (Tschannen-Moran and Gareis, 2005). At first, no significant correlation was found between demographic, preparation, and/or school context variables and principal self-efficacy. However, gender did emerge as a significant independent predictor of principal self-efficacy at the fourth stage of regression analysis when interpersonal support variables were added.

In addition to the variables previously mentioned, Tschannen-Moran and Gareis (2005) also examined the relationship between interpersonal support and principal self-

efficacy. Six potential sources of support were studied: superintendent, central office, teacher, staff, parent, and student. Findings demonstrated positive correlations between each of the interpersonal support variables and principals' sense of efficacy, with the strongest being that of teacher support. As noted by Tschannen-Moran and Gareis, "principals who are supported by their teachers and support staff are more likely to have a robust sense of efficacy, and, conversely, principals with strong self-efficacy beliefs seem to be more successful at winning the support of their teachers and staffs, illustrating Bandura's (1997) theory of reciprocal causation" (p. 22). This study adopted Tschannen-Moran and Gareis' (2004, 2005) work along with the PSES instrument they developed for the purpose of examining the relationship between a principal's sense of self-efficacy and demographic variables similar to the ones used in their research in the state of California. As Tschannen-Moran and Gareis (2005) wrote:

> With the role of the school principal being increasingly defined in terms of academic achievement and "success" as measured by high-stakes assessment results, one's sense of efficacy may play a critical role in meeting the expectations and demands of the position. (p. 26-27)

Conclusion

Related to Bandura's (1977) fourth source of efficacy expectation, physiological states, which can decrease an individual's level of self-efficacy, it is important to understand how the current high stakes accountability environment set into motion by NCLB can have an impact on a principal's sense of efficacy. It is the principal's responsibility to lead schools towards success while meeting the student achievement demands of AYP. Rather than creating an environment of support, federal sanctions of

corrective actions for schools under Program Improvement tend to lead more towards notions of threat and crisis. As the terms threat and crisis are fairly new to the educational sector, references to the social sciences and business arenas will be made to support the application of Bandura's (1977) theory of efficacy expectations to the school environment.

A crisis, as defined by Hamblin (1958), is an urgent situation in which all group members face a common threat. An organizational crisis, as defined by Hermann (1963), threatens the high-priority values of the organization, presents a restricted amount of time in which a response can be made, and is unexpected by the organization. In PI schools, all stakeholders face consequences from progressing corrective actions. Schools also have a very limited time to meet AYP requirements once they enter PI before corrective actions are initiated. As AYP requirements continue to increase, it becomes more difficult for schools to predict whether or not they will be designated as Program Improvement. Finally, whether or not PI schools see NCLB as threatening their organizations' values is yet to be determined. Here, the effects of crisis and threat reported in studies not directly linked to the public education arena help to inform school leadership behavior in the current high stakes accountability climate.

Staw et al. (1981) proposed that conditions of threat lead to a variety of individual, group, and organizational effects. At the individual level, threat causes stress, anxiety, and arousal, similar to the physiological states that Bandura (1977) referred to as having a negative impact on one's self-efficacy. These states further lead to behavioral responses of withdrawal, a reduction in critical information processing, and rigidity (Hermann, 1963; Staw et al., 1981).

At the group level, an external threat can increase cohesiveness so as long as the group can meet outside challenges (i.e. AYP requirements). However, should a group fail to meet such challenges, individual withdrawal will ensue. Effects of external threat upon a group also can increase leadership support and the pressure for uniformity. In so doing, control within the group's environment will become more rigid and information will become more restricted. This adds pressure upon the group leader to lead the group to success in meeting the challenges brought upon by the external threat (Hermann, 1963). Should the leader be unsuccessful in finding a solution to the problem, the group will resort to replacing their old leader with a new one (Hamblin, 1958).

The effects of threat at the organizational level are also similar to those previously discussed. Common to these effects is the development of a more rigid structure characterized by restrictive thinking, reliance on past experience or prior knowledge, increased centralization of authority, more extensive formulation, and standardization of procedures (Hermann, 1963; Staw et al., 1981).

In times when a more fluid, organic structure is necessary for an organization to adapt to the demands of an external threat, the effects of threat listed above serve to create more of a rigid, mechanistic structure better suited for predictable environments where adaptive change is unnecessary. In a study of 103 large Canadian firms, Khandwalla (1977) found that high-performing firms in hostile industries characterized by intense, diverse, and shifting competitive pressures adopted organic structures permitting rapid organizational response to changing external forces in unpredictable environments. High-performing firms in benign industries characterized by minimal competitive pressure, on the other hand, adopted more mechanistic structures better

suited for predictable environments where rapid organizational responses were not necessary. In a study of 161 small firms in Pennsylvania, Covin and Slevin (1989) also found that successful businesses in hostile environments adopted entrepreneurial strategic postures depicted by proactive, innovative, and risk-taking efforts. Those businesses which were successful in benign environments tended to be more passive, reactive, and conservative, with no need to take risks. For both of these studies, businesses existing within hostile environments proved to be successful by adopting competitive, proactive, risk-taking strategies.

As mentioned, conditions of threat lead to a rigid, mechanistic response at all levels within an organization. Again, this type of response is characterized by centralization of authority, restriction of control, reduced communication, withdrawal, limited risk-taking and alternative thinking, and increased stress on those in authority. However, in order to be successful within a hostile environment, organizations need to adopt a more fluid, organic system to adapt to the challenges at hand. In doing so, organizations must empower stakeholders, increase communication pathways, and take risks in adopting innovative strategies.

The same can be applied to schools in Program Improvement as discussed within this literature review. School leaders are faced with two dueling, opposing forces. For schools to be successful within the high stakes accountability climate created by NCLB, they must implement risk-taking, innovative instructional practices, empower staff, and open communication lines. At the same time, the threat-based environment set by federal sanctions of corrective action under AYP is influencing the PI school to have a more rigid, mechanistic response. Thus, it is not only the principal's responsibility to

understand what it takes to implement positive school reform, increase student achievement, and successfully exit the school from Program Improvement, but it is also the responsibility of the principal to overcome the effects of threat created by the system that placed the school in PI to begin with. Herein lies the core value of principal efficacy. Without the firm belief in the ability to achieve success within a challenging environment, principals are destined to failure. Even more so, according to Bandura (1977), principals who do not believe they have the ability to achieve success avoid even making an attempt, choosing failure as their option. As Bandura (1993, p.131) explains, "When faced with obstacles and failures, people who harbor self-doubts about their capabilities slacken their efforts or give up quickly."

Summary of the Study

Drawing upon social cognitive theory, three key variables form Bandura's (1997) triadic reciprocal causation model: the environment, behavior, and personal factors (see Figure 4). Applied within the context of this study, these three variables are represented by the high stakes accountability climate of NCLB, leadership practices, and a principal's sense of self-efficacy (see Figure 5). The purpose of this study was to explore the impacts of NCLB and other environmental variables on a principal's sense of self-efficacy (see Figure 6), while maintaining a broader awareness of how all three variables interrelate with one another within the social cognitive theory model.

By understanding the role that a principal's sense of self-efficacy plays within Bandura's (1997) triadic reciprocal causation model as it has been applied within this study, principals may begin to embed efficacy scaffolds within schools to improve leadership across all levels of the school community, while offsetting potential negative

effects created by NCLB accountability measures. Principal efficacy and leadership practices are complementary constructs. Since both have been found to positively affect school outcomes, merging the two can have profound impacts within the school organization. Placed into a state of accountability by mandates such as NCLB and AYP, principals with a higher sense of self-efficacy, coupled with effective leadership practices, may have greater chances of meeting increasing federal expectations for student achievement.

The studies examined within this review of literature highlight empirical data on the relationship of demographic variables to high levels of efficacy. Future research, however, is necessary to better our understanding of the relationships between principal efficacy and school dynamics due to the limited number of studies within this specific field of research. To support and continue research in the area of principal self-efficacy within the context of leading in a high stakes school accountability climate, this study focused more on the relationship between personal and school-level demographic variables and principals' perceptions of self-efficacy rather than on the relationship with these variables and specific leadership behaviors, which have been well documented in educational leadership literature. Furthermore, by producing a strong empirical study founded on disciplined inquiry, the findings from this study make a significant contribution to the existing body of research on principal self-efficacy.

Furthermore, the purpose of this literature review was to emphasize the key role of principal efficacy within the context of the current high stakes accountability climate using Bandura's social cognitive theory as the theoretical framework. In doing so, this review provided the rationale of focusing on the school principal as the unit of analysis

for this study. In addition, it also highlighted the physiological states that can be caused by threat-based environments such as Program Improvement, which can serve as obstacles for developing a high sense of self-efficacy, a value critical in achieving school success.

CHAPTER 3: METHODS

This dissertation's research design was founded on Bandura's (1977) social cognitive theory model of triadic reciprocal causation. This model initiated a theoretical framework through which the construct of principal efficacy could be examined. Three central hypotheses were formed to investigate this construct within the context of NCLB and its programmatic elements, such as Adequate Yearly Progress (AYP) and Program Improvement (PI), which potentially create conditions contradictory to those necessary for individuals to develop a strong sense of self-efficacy. Using a previously developed and tested principal efficacy instrument, an online survey was developed to measure principals' perceptions of self-efficacy on a state-wide sample of school leaders. The following chapter details the methods generated to test this research study's main hypotheses.

Overview

The primary focus of this quantitative study explored the relationship between PI status and principals' perceptions of self-efficacy. In addition, 19 other unique demographic school-level and principal-level variables were examined. The participant pool was comprised of the statewide population of California K – 12 Title I public school principals, with the school principal serving as the unit of analysis for this study. Survey instruments were utilized to gather demographic and principal efficacy data. Electronic mailings with attached survey instruments were then sent to participants to collect the data for this study. At the end of the 2006-07 academic school year, survey results were collected and a series of statistical analyses were conducted to test the following hypotheses:

1. There is a significant difference in the level of a principal's sense of self-efficacy between principals in Program Improvement schools and those not in Program Improvement schools.

2. There is an inverse relationship between a school principal's sense of self-efficacy and a school's Program Improvement status.

3. Program Improvement designation is the primary predictor of a principal's sense of self-efficacy.

Participants

Participants selected for this study comprised of the total population of CA Title I primary and secondary public school principals. With a total of 6,065 K – 12 Title I public schools in the state of California, the aim of this study was to create a large, statewide sample of school principals in order to increase the generalizability of findings and produce an empirical study comparable to those conducted by leading researchers in this field. Data collection yielded a sample size of 695 principals who responded to the survey instrument. A total of 549 principals answered that they were principals in Title I schools. To compare this study's sample size to other studies on principal efficacy, Tschannen-Moran and Gareis' (2005) study comprised of 558 principals across the state of Virginia. Lyons and Murphy's (1994) study involved 121 principals from a large metropolitan school district in a western state. Imants and De Brabander's (1996) study included 267 Dutch primary schools. Finally, Smith et al.'s (2006) research collected data from 284 principals spread across twelve states (5 in the Southwest, 2 in the Midwest, 2 in the West, 2 in the Northeast, and Alaska). The balance of these studies suggested a need for a larger, more representative sample upon which to build theory and

knowledge. By having targeted a statewide sample, this study has the ability to add significantly to existing studies on principal efficacy.

In order to accurately identify participants, this study utilized the 2006-07 School Program Improvement Status database from the California Department of Education (CDE, 2006). The demographic survey instrument divided the sample into numerous categories, the most important being PI status for the purpose of this study (i.e. schools in PI, schools not in PI, and schools that have successfully exited PI). For schools that were in PI, there existed five different levels of PI starting with Year 1 and ending with Year 5+. The resulting sample secured 53 principals from Year 1 PI schools, 32 from Year 2, 34 from Year 3, 28 from Year 4, and 30 from Year 5 (refer to Table 4 for frequencies of participants for each demographic factor).

Measures

Participants were contacted via electronic mail. The email contained an informational message introducing and providing rationale for the study (see Appendix A). The email also included a link to the survey instrument via *SurveyMonkey.com*. Once participants were directed to the SurveyMonkey.com internet website, a description of the survey was provided with an informed consent for participation notice (see Appendix B). After consenting to participate, participants were then guided to the study's survey (see Appendix C), which requested responses to each of the twenty school and principal-level demographic questions and the Principal Sense of Efficacy Scale (PSES) (see Appendix D).

The demographic survey, which consisted of 20 questions, was modeled after Smith et al.'s (2006) principal survey in order to discover potentially significant

correlations with levels of principal efficacy. Principal-level variables embedded within this study included: (1) gender; (2) age; (3) ethnicity; (4) highest degree earned; (5) number of years as an educator; (6) number of years as an educator in current school district; principal; (7) number of years as a principal; and (8) number of years as a principal in current school. The twelve remaining variables dealt directly with the principal's school-level attributes. They included: (9) Title I status; (10) school level; (11) school enrollment; (12) district enrollment; (13) percentage of students on free and reduced lunch; (14) percentage of English Learners; (15) percentage of students receiving Special Education services; (16) Academic Program Indicator (API); (17) PI Status; (18) current year in PI; (19) year entered PI; and (20) year exited PI. Participants were directed to respond to variables 18, 19, and 20 based on their response to variable 17. The selection of these 20 variables was purposeful. Out of these 20 variables, ten have been examined in previous studies on principal efficacy. They consisted of variables 1, 2, 3, 4, 5, 7, 8, 10, 11, 15 (Imants & De Brabander, 1996; Lyons & Murphy, 1994; Smith et al., 2006; Tschannen-Moran & Gareis, 2004, 2005). Thus, this study did not only confirm or challenge findings from previous studies, it also shed new light on the relationships with other variables (6, 12, 13, 14, 16, 17, 18, 19, 20), some of which have been shown in other studies to have a relationship with both individual (i.e. teacher or principal) and collective efficacy. It is important to note that the only purpose for including variable 9, Title I Status, was to selectively screen out principals who did not work in Title I schools from the study sample. Thus, variable 9 was not incorporated within data analysis. Therefore, only 19 variables were referred to throughout the data analysis, results, and discussion sections of this dissertation research.

This study incorporated the principal efficacy scale used in Tschannen-Moran and Gareis' (2004, 2005) studies, in which the two researchers constructed and tested a valid and reliable measure to capture principals' sense of efficacy now known as the Principal Sense of Efficacy Scale (PSES). Tschannen-Moran and Gareis' PSES was a scale with eighteen items that consisted of three emerging factors through factor-loading tests: (1) efficacy for management; (2) efficacy for instructional leadership; and (3) efficacy for moral leadership. In addition, an aggregate efficacy score from the PSES was used to do intergroup comparisons.

Participants were asked to respond to each of the eighteen items pertaining to one of the three context-independent factors by filling in the bubble closest to their answer. All items began with the sentence stem, "In your current role as a principal, to what extent can you…" (Tschannen-Moran & Gareis, 2005). Responses for each item were based on a 9 point Likert scale ranging from 'None at All' to 'A Great Deal'. For example, under the factor for efficacy for instructional leadership, sample items included: "In your current role as principal, to what extent can you…"

- Motivate teachers?
- Generate enthusiasm for a shared vision for the school?
- Manage change in your school?
- Create a positive learning environment in your school?

Electronic surveys were uniquely coded to each participant's email address. An introductory message within the body of the e-mail provided a link to the survey via SurveyMonkey.com, which included a description/consent to participate page prior to directing participants to the demographic and PSES surveys. Completion of the survey

was optional. Individual responses were assigned random, unique numerical codes, and all response material was kept in a secure location. In addition, respondents were able to opt out of answering specific questions within each survey and were permitted to submit incomplete surveys.

Moreover, participant results from both instruments served to provide key findings in exploring the relationship between potentially significant demographic variables and levels of principals' sense of efficacy for the state of California.

Pilot Study

Prior to sending the survey to the selected participant pool, surveys were sent to a team of students enrolled in a educational leadership doctoral program to test the overall effectiveness of the survey design. It is important to note that all students piloted were current school site or district level administrators in the CA public education school system. Their feedback was useful in discovering flaws in editing, formatting, or within the demographic survey itself. Except for the fact that it was transferred onto an online survey website, the PSES survey was purposefully kept intact in its original format developed by Tschannen-Moran and Gareis (2004, 2005). Participant responses to the pilot study were then downloaded into an Xcel spreadsheet and transferred to Statistical Package for the Social Sciences (SPSS) version 15 for experimental data analysis (Pallant, 2005). This provided helpful insight in how to properly code and format survey variables prior to receiving results from the actual study sample.

Data Collection

The first step in developing the sample for this study involved downloading the School Program Improvement Status database from the California Department of

Education (CDE, 2006) and transferring it into an Xcel Spreadsheet. Next, I purchased the California Public Schools Directory complete edition, which contained important school and contact information for each of the public schools in the state of California, including principals' e-mail addresses (CDE, 2006). This information was also imported into an Xcel spreadsheet. Once the two spreadsheets were merged, the complete database including principal's contact information and their school's PI status was then ready to be used for SurveyMonkey. Utilizing SurveyMonkey.com's applications, electronic mails were sent to each CA Title I school principal for whom e-mail addresses were available. Table 1 shows a breakdown of the sample targeted for this study. The targeted sample consisted of a total of 6,065 Title I school principals, 2,217 of which were in Program Improvement schools. The aim of this study was to receive a representative response of completed surveys by principals within each of the following categories: schools in PI, schools not in PI, and schools that have successfully exited PI.

Insert Table 1 About Here

After the database was completed and uploaded into SurveyMonkey.com, the first electronic mailing was sent directly to each participant on May 16th, 2007. The first e-mailing consisted of an introductory message, with a link to the survey directions and informed consent, which then guided participants to the demographic and PSES surveys. Follow-up e-mails were then sent to those participants who had not yet completed the survey with a final reminder e-mail sent on June 29th, 2007. Of the total 6,065 CA Title school principals, the CDE database only had e-mail addresses for 4,253 principals (see Table 2). Of these 4,253 available e-mail addresses, 1,184 were either invalid due to a change of principal or inaccessible due to a district's use of a spam blocker. As a result,

the available sample of CA Title I principals for this study resulted in a total of 3,069 possible participants. Table 2 provides a description of this study's final response rate based on this available sample size, about half of the total CA Title I principal population. The timeline for the e-mailings were intended to ensure an acceptable response rate by June 30th, 2007. The final response rate for this study was 23%.

Insert Table 2 About Here

Data Analysis

After June 30th, 2007, completed survey results were imported into SPSS to begin the data analysis process. In order to test the hypotheses derived from the research questions presented in this study, the data analysis design followed the outline of analysis suggested by Pallant (2005) (see Table 3). First, a series of descriptive statistics were completed (Frequency, Mean, Standard Deviation) to provide an overview of the sample and to establish normal distribution. Descriptive statistics also were conducted to offer specific detailed analyses of each subgroup. Descriptives were then tabled with all levels reported. Next, as a matter of testing out the PSES instrument on this larger sample, a confirmatory factor-loading test (Stevens, 2002) was performed using results from this survey to determine whether or not the eighteen items on the scale loaded similarly onto the three emergent factors reported in Tschannen-Moran and Gareis' (2004) study. This confirmatory analysis has added to both the validity and reliability of the PSES.

Insert Table 3 About Here

To test the first null hypothesis, a series of Analysis of Variance (ANOVA) calculations were completed to examine whether statistically significant differences

existed between the three main groups of schools. Tests were run between non-PI schools, PI schools, and schools that have successfully exited PI. Results were used to determine the presence of significant differences between levels of a principal's sense of self-efficacy across these three school groups and are included in table format.

Next, to test the second null hypotheses, a series of simple bivariate correlations were computed to identify the presence of any statistically significant relationships between the dependent (i.e. principal's sense of self-efficacy) and independent (i.e. Current Year in Program Improvement) variables in the study. Pearson r correlation coefficients from this analysis are presented in a correlation matrix indicating levels of significance (Pallant, 2005). After correlations were completed, ANOVA tests were conducted to strengthen the findings for this hypothesis.

Finally, for the third null hypothesis, simple bivariate correlations were completed to remove any highly correlated independent variables prior to conducting a series of stepwise multiple linear regression models to test the predictive abilities of the demographic variables for determining levels of principals' perceptions of self-efficacy. A standard multiple regression model was used as the study will be exploring the interaction of these demographic variables that, to date, have not been conducted on such a large sample. Predictors explaining significant amounts of the variance within principal efficacy were drawn out and are reported in coefficient tables with model summary data (Pallant, 2005).

Moreover, in following the format outlined by Pallant (2005), this dissertation study was able to provide a comprehensive quantitative research analysis to secure findings highlighting the relationship between a principal's sense of self-efficacy and

demographic personal and school-level factors related to the current high stakes accountability climate. With a total of three research hypotheses and a series of multiple-level, statistical operations using SPSS, this study's level of discipline inquiry was comparable to other studies in this field of research.

The purpose of this methods section was to provide a complete description of the research design utilized to test the three hypotheses central to this study. The individual hypotheses drove the selection of statistical analyses to be performed to test each null hypothesis. Guided by the recommendations of Pallant (2005), ANOVA, correlations, and multiple regression analyses served to identify significant findings using this study's resulting participant sample. With the school principal as the primary unit of analysis and with a targeted sample comparable to previous studies, this study's research design was poised to offer significant contributions to the limited findings currently available within this specific area of principal efficacy. The following chapter explains the results which were yielded from the data analysis design depicted within this methods chapter and summarized in Table 3.

CHAPTER 4: RESULTS

Bandura's (1977) social cognitive theory of triadic reciprocal causation posits a model illustrated by three interrelated factors: the environment, personal factors (i.e. efficacy), and behavior. Using this model as the foundation for its theoretical framework, this dissertation research study developed three central research questions to explore the relationship between a principal's sense of self-efficacy and personal and school-level demographic variables characteristic of the current high stakes accountability climate. Through a comprehensive quantitative exploratory research design on a targeted sample of CA Title I K-12 school principals, three hypotheses were tested using a series of SPSS statistical analyses as outlined in the previous chapter.

First, to obtain an accurate description of the characteristics of this study's sample, a series of descriptive statistical analyses were performed for the purpose of cleaning the data set and removing any outliers that would negatively influence other tests. Next, to confirm the reliability of the PSES instrument, factor analysis was conducted to compare factor loading findings to Tschannen-Moran and Gareis' (2004, 2005) previous studies. Following the data analysis format shown in Table 3, a combination of ANOVA, simple bivariate correlation, and multiple regression analyses were completed to test the null hypotheses generated from the three central research questions driving the purpose of this dissertation study. Specific results of the series of statistical analyses listed in this section will now be described.

Descriptive Statistics

In order to gather a complete depiction of this study's data sample, descriptive statistical analyses were performed on both categorical and continuous variables. Due to

the format of the survey instrument used to collect data, participants, for the majority of the independent demographic variables, were asked to select choices within each survey question to accurately describe their background rather than inputting their own responses for each question. For example, for the demographic variable of age, participants were asked to select between the following choices: less than 30 years of age, 30 to 34 years of age, 35 to 44 years of age, 45 to 49 years of age, and age 50 and above. As a result, all but one demographic variable (API) were classified as categorical variables. Therefore, as recommended by Pallant (2005), frequencies were obtained to study the characteristics of these variables (see Table 4). Of note, females constituted 60% of the total participant population for this study's sample, participants of age 50 and above 63%, White participants 73%, and participants in elementary schools 62%.

Insert Table 4 About Here

For the remaining independent variable (API), for which participants were asked to input their school's 2006-07 API score, and for the dependent variables (i.e. Total Efficacy), descriptive statistical tests were performed to examine the characteristics of these continuous variables (i.e. mean, standard deviation) (see Table 5). The overall mean API score for the data sample was 717, while the mean scores for Total Efficacy, Efficacy for Instructional Leadership, Efficacy for Management Leadership, and Efficacy for Moral Leadership were 7.16, 7.49, 6.56, and 7.45, respectively. For the purpose of this study and based on the efficacy measurements inherent in Tschannen-Moran and Gareis' (2004) PSES survey, results for a principal's sense of self-efficacy will be labeled as Total Efficacy. Similarly, results for a principal's sense of self-efficacy for instructional leadership will be referred to as Efficacy for Instructional Leadership, etc.

Insert Table 5 About Here

After analyzing the results of these descriptive statistical analyses, outliers were removed from the data set so as not to influence the results of further analyses. A review of rating averages for the principals' responses to the eighteen items on the PSES survey was then conducted to note general differences of responses by PI Status and Current Year in Program Improvement (see Table 6). For example, for survey question 16 (In your current role as principal, to what extent can you promote ethical behavior among school personnel?) the mean scores for principals in schools in Year 1, Year 2, Year 3, Year 4, and Year 5+ Program Improvement were 7.56, 7.38, 6.97, 6.89, and 6.80, respectively.

Insert Table 6 About Here

Factor Analysis

As performed by Tschannen-Moran and Gareis (2004), the eighteen items of the PSES instrument were subjected to principal component analysis using SPPS. The correlation matrix yielded the presence of many coefficients of .3 and above. The Kaiser-Meyer-Oklin value was .92, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix (Pallant, 2005). Results of factor analysis confirmed the presence of three components with eigenvalues exceeding 1, explaining 44.3 per cent, 11.7 per cent, and 7.1 per cent of the variance respectively. A total of 63.1 per cent of the variance was explained by these three components. Table 7 reports the amount of variance explained by these three principal components. Tschannen-Moran and Gareis' (2004) findings from factor analysis also yielded three

components with eigenvalues exceeding one explaining 59.64 cumulative per cent of variance.

Insert Table 7 About Here

In previous studies, Tschannen-Moran and Gareis (2004, 2005) found that the eighteen questions which comprise their PSES instrument loaded onto three factors which they labeled Efficacy for Instructional Leadership, Efficacy for Management, and Efficacy for Moral Leadership. Each of these factors consisted of six questions from the PSES instrument. After conducting confirmatory factor analysis on this study's data set, results from the Varimax rotation yielded similar findings (see Table 8). The six questions that Tschannen-Moran and Gareis (2004) found to load onto Efficacy for Instructional Leadership also loaded onto the same factor for this study. Factor loadings ranged from .678 to .824. The same was true for Efficacy for Management. Factor loadings ranged from .468 to .837. However, for the third factor, results from Varimax rotation showed that, out of the six questions which had loaded onto Efficacy for Moral Leadership for Tschannen-Moran and Gareis (2004), only two loaded onto Efficacy for Moral Leadership for this study. Factor loadings ranged from .828 to .852. The other four loaded higher onto Efficacy for Instructional Leadership (ranging from .506 to .565), though, three out of the four still cross-loaded onto Efficacy for Moral Leadership (ranging from .35 to .493). For the purpose of this study, to remain consistent with the original PSES instrument, factor loadings found by Tschannen-Moran and Gareis (2004) will be maintained and the four questions which loaded higher onto Efficacy for Instructional Leadership in this study will be force loaded onto Efficacy for Moral Leadership.

Insert Table 8 About Here

Research Question 1

In answering the first research question, a series of one-way between-groups analyses of variance (ANOVA) were conducted to compare the means of principals' perceptions of self-efficacy from the three groups focused in this study: schools in Program Improvement, schools not in Program Improvement, and schools that have successfully exited Program Improvement. All four measures of efficacy were included in these analyses: Total Efficacy, Efficacy for Instructional Leadership, Efficacy for Management Leadership, and Efficacy for Moral Leadership. Table 9 provides overall means and standard deviations for each of the efficacy measurements by Program Improvement status.

Insert Table 9 About Here

For Total Efficacy, there was a statistically significant difference at the $p<.05$ level in mean scores for the three groups [$F(2, 485)=6.0$, $p=.003$, effect size=.035]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for principals of schools in PI ($M=6.96$, $SD=1.07$) was significantly different from principals of schools not in PI ($M=7.3$, $SD=.89$). Principals from schools who had successfully exited PI ($M=7.3$, $SD=.97$) did not differ significantly from the other two groups.

For Efficacy for Instructional Leadership, there was also a significant difference at the $p<.05$ level in mean scores for the three groups [$F(2, 485)=3.7$, $p=.024$, effect size=.015]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for principals of schools in PI ($M=7.31$, $SD=1.19$) was significantly different from principals of schools not in PI ($M=7.6$, $SD=.98$). Principals from schools who had

successfully exited PI (M=7.6, SD=1.13) did not differ significantly from the other two groups.

Similarly, for Efficacy for Moral Leadership, there was a significant difference at the $p<.05$ level in mean scores for the three groups ($F(2, 484)=9.9$, $p=.000$, effect size=.039]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for principals of schools in PI (M=7.2, SD=.98) was significantly different from principals of schools not in PI (M=7.6, SD=.91). Principals from schools who had successfully exited PI (M=7.4, SD=1.08) did not differ significantly from the other two groups.

There was no statistically significant difference between the mean scores for the three groups when examining analysis of variance results for Efficacy for Management Leadership.

Research Question 2

The next sequence of statistical analyses involved exploring the relationship between principals' senses of self-efficacy (i.e. Total Efficacy) and their current year of Program Improvement (i.e. Year 1 versus Year 4). Correlation analysis was first used to examine the strength and direction of the linear relationships between the dependent (i.e. Total Efficacy) and independent (i.e. current year of PI) variables. A correlation matrix of these relationships is offered in Table 10. There was found to be a weak, negative, but significant correlation between the mean score of Efficacy for Moral Leadership and the Current Year in Program Improvement demographic factor [$r=-.17$, $n=172$, $p=.024$], with increasing years into Program Improvement associated with lower levels of perceived moral leadership efficacy.

Insert Table 10 About Here

To further investigate the relationship between these two variables, a one-way between-groups analysis of variance was conducted to analyze the mean scores of each efficacy measure and the Current Year in Program Improvement variable. No statistically significant results were found. Instead, when examining each efficacy measure for principals from PI Year 1 through Year 5, the results were inconsistent across the years. As such, the rating averages for PI principals on each PSES survey question unpredictably zigzagged from Years 1 through Year 5+ (see Figure 7).

Insert Figure 7 About Here

However, by strategically controlling for different demographic factors (i.e. age, gender, school level, etc.), significance was achieved. The following analyses yielded significant differences between the mean scores of two of the different efficacy measurements and the five groups distinguished by the Current Year in Program Improvement variable (see Tables 11a and 11b). No significant differences were found for Efficacy for Instructional Leadership.

Insert Tables 11a and 11b About Here

Efficacy for Management. For principals at age 50 or more, there was a statistically significant difference at the $p<.05$ level for the five Current Year in Program Improvement groups [$F(4, 103)=2.7$, $p=.037$, effect size=.09]. Post-hoc comparisons using the Tukey HSD test did not yield significant differences between the mean scores of these variables.

Efficacy for Moral Leadership. For principals of "other" schools (i.e. charter, alternative, continuation), there was a significant difference at the $p<.05$ level for the five

Current Year in Program Improvement groups [F (4, 12)=3.89, p=.03, effect size=.57]. Post-hoc comparisons could not be performed as this specific data set violated the Robust Test of Equality of Means.

For male principals, there was a significant difference at the p<.05 level for the five Current Year in Program Improvement groups [F (4, 72)=3.14, p=.019, effect size=.15]. Post-hoc comparisons using the Tukey HSD test did not yield significant differences between the mean scores of these variables.

For principals of age less than 50, there also was a statistically significant difference at the p<.05 level for the five Current Year in Program Improvement groups [F (4, 59)=3.04, p=.024, effect size=.17]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Year 1 (M=7.72, SD=.815) was significantly different from Year 4 (M=6.69, SD=.906). No significant differences between means were found for Year 2, Year 3, and Year 5+ groups.

For principals with less than 6 years of experience as a principal, there was a statistically significant difference at the p<.05 level for the five Current Year in Program Improvement groups [F (4, 60)=2.69, p=.039, effect size=.15]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Year 1 (M=7.37, SD=.956) was significantly different from Year 4 (M=6.49, SD=.807). No significant differences between means were found for Year 2, Year 3, and Year 5+ groups.

For principals with less than 31 years of experience as an educator, there was a statistically significant difference at the p<.05 level for the five Current Year in Program Improvement groups [F (4, 121)=2.72, p=.033, effect size=.08]. Post-hoc comparisons

using the Tukey HSD test did not yield significant differences between the mean scores of these variables.

Research Question 3

The final phase of statistical analyses involved conducting multiple regression tests to explore the predictive relationships between the dependent (i.e. Total Efficacy) and the independent variables (i.e. gender, school level, district enrollment, current year in PI, etc.). Prior to conducting the multiple regression analyses, a correlation matrix was executed to dismiss independent variables which were highly correlated to one another ($r>.7$) (Pallant, 2005). Out of the 19 independent variables which comprised the demographic survey instrument utilized for this study, none were dismissed due to high correlations with other variables. However, both age ($r=.676$) and total number of years as a principal ($r=.592$) did demonstrate relatively elevated levels of intercorrelation with other demographic factors. Therefore, all 19 variables and their predictive relationships with each efficacy measure were examined first through correlation and then through multiple regression analyses.

Correlation. Similar to before, correlation analysis was conducted to investigate the strength and directionality of the linear relationships between this study's dependent variables (i.e. Total Efficacy) and independent variables (i.e. ethnicity, total number of years as an educator, school API score, school population percentage of English Learners, etc.). Results of the correlation matrix for this analysis are shown in Table 12.

Insert Table 12 About Here

The following independent demographic factors showed to have a weak, positive relationship with the mean score of Total Efficacy at the $p<.05$ level: number of years as

an educator (including this school year) (r=.116, n=488), number of years as a principal (including this school year) (r=.082, n=488), school's percentage of English Learners (r=.111, n=486), and school's 2006-07 API (r=.114, n=451). The following demographic factors showed to have a weak, positive relationship with the mean score of Efficacy for Instructional Leadership at the p<.05 level: number of years as an educator (r=.105, 488), number of years as a principal (r=.102, n=488), school's percentage of English Learners (r=.101, n=486), and school's 2006-07 API (r=.120, n=451). For the mean score of Efficacy for Management Leadership, only the school's percentage of English Learners (r=.100, n=485) showed to have weak, positive relationship at the p<.05 level. Lastly, the following demographic factors showed to have a weak, significant relationship with the mean score of Efficacy for Moral Leadership: number of years as an educator (including this school year) (r=.108, n=487, p<.05), number of years as a principal (including this school year) (r=.083, n=487), school's 2006-07 API (r=.203, n=450, p<.05), gender (r=.135, n=484, p<.01), school's percentage of students on free and reduced lunch (r= -.112, n=487, p<.05), and PI Status 3 (r= -.140, n=487, p<.01), with the last two demographic factors having a negative relationship.

Regression Analysis. After investigating the strength and directionality of the relationships between the mean scores of the efficacy measurements and the demographic survey's set of independent factors, multiple regression was conducted to identify any predictive relationships between these dependent and independent variables. Table 13 shows the results of the multiple regression analyses for Total Efficacy and Efficacy for Instructional Leadership.

Insert Table 13 About Here

Table 14 shows the results of the multiple regression analyses for Efficacy for Management Leadership and Efficacy for Moral Leadership. For each multiple regression analysis, the nineteen demographic variables were inputted for each efficacy measurement, however, the current year in Program Improvement, year entered PI, and year exited PI factors were deleted from the analyses as they were constants or had missing correlations.

Insert Table 14 About Here

Investigation of the coefficients resulting from multiple regression analysis for Total Efficacy yielded four statistically significant independent demographic factors: number of years as an educator (including this year) (B=.159, p<.05), school's 2006-07 API (B=.002, p<.01), school's percentage of English Learners (B=.140, p<.01), and your age (B= -1.67, p<.05). Though the four factors yielded significance, the total amount of variance explained by all sixteen variables was minimal (R^2=.082).

When operating multiple regression analysis for Efficacy for Instructional Leadership, three of the sixteen independent variables resulted in statistical significance: school level (B=.143, p<.05), school's 2006-07 API (B=.003, p<.01), and school's percentage of English Learners (B=.126, p<.01); though, the total amount of variance explained by all sixteen variables was comparable to the previous analysis (R^2=.081).

Examination of the predictive nature of the sixteen demographic factors with Efficacy for Management produced three statistically significant independent variables: number of years as an educator (including this school year) (B=.184, p<.05), school's percentage of English Learners (B=.122, p<.05), and your age (B= -.225, p<.05). Again, the total amount of variance explained by all sixteen variables was minimal (R^2=.038).

Lastly, multiple regression analysis of the mean score of Efficacy for Moral Leadership and the predictive abilities of the sixteen demographic factors yielded slightly greater findings. First, there were a total of three statistically significant independent variables: PI status (B= -.158, p<.05), school's 2006-07 API (B=.002, p<.01), and school's percentage of English Learners (B=.140, p<.01). This was the first time that PI status had shown to be a significant predictor of a principal's sense of self-efficacy, the crux of this study's third research question. Second, this analysis produced the highest total amount of variance in relation to the other three efficacy measurement results (R^2=.107).

Major Findings

In testing the null hypothesis from each of the three research questions, results from statistical analyses produced major findings in support of the focus of this dissertation research. The following is a synopsis of those findings in relation to the null hypotheses for which they tested.

Null Hypothesis 1. The first research question's null hypothesis stated: There is no significant difference in a principal's sense of self-efficacy between schools in Program Improvement, schools not in Program Improvement, and schools that have successfully exited Program Improvement. ANOVA results yielded significant differences between the mean scores of Total Efficacy, Efficacy for Instructional Leadership, and Efficacy for Moral Leadership for principals from schools in Program Improvement [(M=7.0, SD=1.07, effect size=.025), (M=7.3, SD=1.19, effect size=.015), (M=7.2, SD=.98, effect size=.039), respectively] and principals from schools not in Program Improvement [(M=7.3, SD=.89, effect size=.025), (M=7.6, SD=.98, effect

size=.015), (M=7.6, .91, effect size=.039), respectively] (see Table 7). Although the means of efficacy for principals from schools that have successfully exited PI did not differ from the other two groups; these results did reject the first null hypothesis by proving that, within this study's sample, principals' perceived levels of self-efficacy from schools in Program Improvement and those from schools not in PI do differ significantly.

Null Hypothesis 2. The null hypothesis from the second research question stated: There is no relationship between a school principal's sense of self-efficacy and the number of years a school has been in Program Improvement. Results from correlation analyses on the strength and directionality of relationships between each of the efficacy measures and the independent demographic factor, current year in Program Improvement, produced a weak, statistically significant, and inverse relationship between the mean score of Efficacy for Moral Leadership and current year in PI ($r= -.172$, $p<.05$) (see Table 10). To strengthen these correlation results, one-way between-groups analyses of variance were conducted to measure the differences between the means of each efficacy measure and current year in PI. The results yielded significance when controlling for different demographic factors: Efficacy for Moral Leadership for principals of age less than 50 [Year 1 (M=7.72, SD=.82), Year 4 (M=6.69, SD=.91), effect size=.17] and Efficacy for Moral Leadership for principals with less than 6 years of experience as a principal [Year 1 (M=7.37, SD=.96), Year 4 (M=6.49, SD=.81), effect size=.15] (see Tables 11a and 11b). Analysis of variance tests produced significant findings for four other groups, but, through post-hoc comparisons, no significant differences were found between means {Efficacy for Management for principals at age 50 or more [$F (4, 103)=2.656$, $p<.05$, effect size=.094]; Efficacy for Moral Leadership for principals of

"other" schools [F (4, 12)=3.889, p<.05, effect size=.057], for male principals [F (4, 72)=3.143, p<.05, effect size=.149], and for principals with less than 31 years of experience as an educator [F (4, 121)=2.719, p<.033, effect size=.083]}. Moreover, there appears to be a trend wherein younger and newer principals of PI schools have significantly lower levels of perceived self-efficacy the further their schools digress in PI. Furthermore, these findings support rejecting this study's second null hypothesis.

Null Hypothesis 3. The third research question's null hypothesis stated: There are no demographic factors with the ability to predict a principal's sense of self-efficacy. Multiple regression analyses of the predictive abilities of the independent demographic variables and the means of each efficacy measure resulted in significant findings, thus, rejecting this third null hypothesis (refer to Tables 13 and 14). In order of significance from least to greatest based on Beta coefficients across all four efficacy measurements, school's 2006-07 API was a statistically significant predictor for Total Efficacy (B=.002, p<.01), Efficacy for Instructional Leadership (B=.003, p<.01), and Efficacy for Moral Leadership (B.=002, p<.01). School's percentage of English Learners was a statistically significant predictor of Total Efficacy (B=.140, p<.01), Efficacy for Instructional Leadership (B=.126, p<.01), Efficacy for Management Leadership (B=.122, p<.05), and Efficacy for Moral Leadership (B=.140, p<.01). School level was a statistically significant predictor of Efficacy for Instructional Leadership (B=.143, p<.05). Program Improvement status was a statistically significant predictor of Efficacy for Moral Leadership (B= -.158, p<.05). Number of years as an educator (including this school year) was a statistically significant predictor of Total Efficacy (B=.159, p<.05) and Efficacy for Management Leadership (B=.184, p<.05). Finally, the strongest of all

demographic factors incorporated within the survey instrument, age was a statistically significant predictor of Total Efficacy (B= -.167, p<.05), Efficacy for Management Leadership (B= -.225, p<.05), and Efficacy for Moral Leadership (B= -.114, p<.05).

Though these demographic factors did prove to be statistically significant predictors of the different efficacy measures, it is important to note that the variance explained within each multiple regression model was minimal with Efficacy for Moral Leadership having the most variance explained by the demographic variables (R^2=.107). Even though little variance was explained throughout these models, these results do support further inspection into the role these significant factors (i.e. age) play in predicting a principal's sense of self-efficacy.

The statistically significant findings gleaned within this chapter support an existing relationship between a principal's sense of self-efficacy and the personal and school-level demographic variables explored within this research study. By focusing on three research questions centered around principal efficacy, these findings can begin to assist this specific field of research in better understanding the potential impacts federal accountability sanctions and other personal and school-level demographic factors may have on this important school leadership construct. The next chapter places the findings gained from this study's research design methods within the context of the theoretical framework evolved from Bandura's (1977) triadic reciprocal causation model.

CHAPTER 5: DISCUSSION

Utilizing a theoretical framework driven by Bandura's (1977) triadic reciprocal causation model, this study served to explore the relationship between a principal's sense of self-efficacy and demographic variables (personal and school-level) through use of a recently constructed principal efficacy scale on a population sample not yet tested. The results of this study can be used to support previous research in the area of principal efficacy, as well as strengthening the Principal Sense of Efficacy Scale developed by Tschannen-Moran and Gareis (2004). Results of data analysis yielded three critical findings: 1) Principals in Program Improvement (PI) schools had significantly lower perceptions of self-efficacy than principals in non-PI schools; 2) Remaining in PI had a negative affect on a principal's sense of self-efficacy, specifically for those less than 50 years of age and for those with less than six years of experience as a principal; and 3) Age was the strongest negative predictor of a principal's sense of self-efficacy. These findings are further discussed in greater detail.

Program Improvement Status and Principal's Sense of Self-Efficacy

As predicted, principals of schools in Program Improvement proved to have significantly lower senses of self-efficacy than those principals from schools not in Program Improvement. As discussed previously within the review of literature, the environment within which PI schools exist is replete with conditions which serve to potentially negate one's sense of self-efficacy (Hamblin, 1958; Tolbert & Medway, 2005). In addition, these conditions promote behavioral responses which are contrary to those necessary for high performance within a high stakes accountability climate (Daly,

2006; Khandwalla, 1977; Staw et al., 1981). Increasing one's sense of self-efficacy in an environment that mandates increasing levels of student achievement and enforces punitive measures of corrective action is a difficult task with which school leaders face. Increasing one's sense of self-efficacy for principals of schools already in Program Improvement and experiencing federal sanctions of corrective action (i.e. Year 3 for which an option includes replacing most or all of the staff including the principal) is even a more difficult challenge.

According to Bandura's (1977) social cognitive theory on efficacy, four sources of efficacy expectations exist within the environment which serve to influence one's own development of self-efficacy. According to mastery experiences, individuals who experience success resulting from their efforts will increase their own perceptions of self-efficacy. Applied within this study, schools that are meeting Adequate Yearly Progress (AYP) requirements and are not designated as PI are deemed to be successful as are the principals who lead them. In addition, verbal persuasion serves to increase one's sense of self-efficacy through support and praise from those within the environment. Similarly, principals of non-PI schools receive much support, praise, and acknowledgement at the school, district, and community levels. Therefore, for principals of schools that have excelled in maintaining high student achievement results and meeting the requirements set by AYP, there lie the necessary conditions for increased perceptions of self-efficacy. The opposite claim can be made for principals in Program Improvement schools, especially for those experiencing advanced levels of corrective action. Having parents remove their children from the school in order to transfer to a non-PI school, replacing school staff, restructuring the internal organization of the school, contracting with an

outside agency to manage the school, and/or allowing for state takeover are not necessarily the most positive conditions for principals to develop positive perceptions of self-efficacy (CDE, 2006).

In light of the results found from this study's first research question, it was not surprising to see principals from non-PI schools to have a higher sense of self-efficacy than principals from schools in PI. Drawing from these results and Bandura's triadic reciprocal causation model to better understand how the environment impacts not only principals' leadership behaviors but also principals' beliefs in their ability to lead can assist those whose intent it is to increase leadership self-efficacy by improving and/or offsetting current environmental conditions. As stated by Tschannen-Moran and Gareis (2005):

> Social cognitive theory provides guidance about practical implications for the preparation and professional development of school principals in order to equip them with the capabilities and resilient sense of efficacy that will enable them to enhance both their well being and accomplishments. (p. 583)

If educational leaders at district, state, and federal levels were to increase the frequency of mastery experiences for principals by providing principals appropriate models and coaching, support and praise principals for their accomplishments, and reduce stress in the workplace, they could begin to create conditions which foster more positive perceptions of self-efficacy for principals, empowering them to overcome the challenging conditions inherent within NCLB. It is one thing for educational leaders at the state and federal levels to set into motion an educational environment founded on high-stakes accountability for the purpose of raising student achievement levels, but to

not provide school-level principals the necessary tools to succeed in such an environment is counterproductive. At the end of the 2006-07 school year, 161 schools successfully exited PI (CDE, 2008). At first glance, this would appear to be a positive statistic. However, when one considers that there were a total of 2204 schools in PI during the 2006-07 school year, any sense of optimism quickly disappears. Thus, only 7% of schools in PI during the 2006-07 school year successfully exited PI. Ninety-three percent of schools remained in PI. Furthermore, these alarming statistics necessitate finding solutions to mitigate the negative effects of Program Improvement on a principal's sense of self-efficacy.

Duration in Program Improvement and Principal's Sense of Self-Efficacy

Examination of efficacy measures of principals from schools in Program Improvement revealed inconsistencies in principals' perceptions of self-efficacy (see Figure 7). However, by controlling for specific demographic factors incorporated within the survey, significant differences were found between Year 1 and Year 4 Program Improvement principals for two subgroups within the measure of Efficacy for Moral Leadership: principals of age less than 50 and principals with less than 6 years experience as a principal (see Tables 11a and 11b). Other significant subgroups were identified, although no significant differences surfaced between PI years. The fact that only two significant subgroups revealed differences in means of Efficacy for Moral Leadership between Year 1 and Year 4 Program Improvement indicates that younger and less experienced principals are more significantly affected by Program Improvement than other subgroups involved within this study's sample.

Bandura's (1977) social cognitive theory suggests that mastery experience is the most powerful source of efficacy expectation, which serves to increase one's sense of self-efficacy. One perspective resulting from this theory would indicate that, in order for principals to have the opportunity to undergo an increased number of mastery experiences, they first have to be in the position of principal for an extended amount of time. The majority of principals who participated in this study were over 50 years of age (59.7% of sample) and had 6 or more years of experience as a principal (63.2%). For newer and younger principals to be placed in schools that are or become Program Improvement is a hard challenge. Without having the opportunity to go through multiple mastery experiences and, at the same time, feeling the effects associated with Program Improvement described earlier, these principals are at a disadvantage in constructing an elevated sense of self-efficacy (Daly, 2006; Hamblin, 1958; Staw et al., 1981). As a result, similar to beginning teacher support programs, leadership professional development programs should target novice principals to provide them formidable training and resources so that they are better prepared to handle the challenges of leading in a high stakes accountability climate.

While age and experience can be positively correlated to higher levels of principal efficacy, an argument for these two demographic factors can, likewise, be made in support of lowering a principal's sense of self-efficacy. In a study on principal efficacy and the use of power on a sample of 121 principals, Lyons and Murphy (1994) found that principal experience was positively correlated with external use of legitimate, reward, and coercive power and negatively correlated with internal use of expert and referent power. In their study, they defined legitimate, reward, and coercive power to be

primarily dependent on forces outside of the individual. Expert and referent power, on the other hand, are based more on the acquisition of expertise and the principal's personality and personal attributes. Lyons and Murphy (1994) argued that since self-efficacy is associated with more internally based power, power that lies in the control of the individual, principals with high levels of efficacy used expert and referent power. As a result, their study demonstrated that, as principal experience increases, principal efficacy decreases. In addition, they discovered, too, that the longer a principal spends in one assignment, the more likely they are to use externally based power, equating to diminishing levels of self-efficacy. In referring to Bandura's social cognitive theory and the efficacy expectation of mastery experience, these researchers hypothesized that as principals gained more experience in their positions they either lost contact with teaching and learning, had more failure than success experiences, or became increasingly dependent on the power of their organizations than on their own power of efficacy.

Still, the findings from this study revealed younger and newer principals of PI schools to have the only statistically significant differences between Year 1 and Year 4 of Program Improvement for Efficacy for Moral Leadership. Whether or not age and experience are legitimate factors that can influence a principal's sense of self-efficacy is still a theory that requires a more thorough investigation. In relation to these preliminary exploratory findings for these two demographic variables, results from this study's third research question also revealed significant findings to support the important roles that age and experience play within the context of principal efficacy.

Predictive Factors of Principal's Sense of Self-Efficacy

The results of multiple regression analyses yielded six statistically significant demographic factors in predicting outcomes for the four efficacy measurements examined in this study. Age and the number of years of educational experience were the top two predictors of a principal's sense of self-efficacy. Following were PI status, school level, a school's percentage of English Learners, and, finally, API. Both age and PI status were the only two factors negatively associated with the different measurements of principal efficacy (i.e. Total Efficacy, Efficacy for Instructional Leadership, etc.). Consequently, increasing years of age and placement in a PI school, for principals, predict a decreasing sense of self-efficacy. Educational experience, on the other hand, was a positive predictor of a principal's sense of self-efficacy. One would interpret age and educational experience to be parallel constructs. Within this study, the two are opposing forces in influencing a principal's sense of self-efficacy.

School level was also found to be a positive predictor of a principal's sense of self-efficacy. As principals move up the ranks in the K -12 public education system from the elementary level to the high school level so, too, do their perceptions of self-efficacy. Findings identified a school's percentage of English Learners to also positively predict a principal's sense of self-efficacy. As discussed earlier in the literature review, the opposite was expected to be true (Collier, 1987; Cummins, 1981). Increasing percentages of English Learners in schools often lead to increasing challenges to get ELs to be academically proficient in a second language, especially when considering the short timeline characteristic of Program Improvement. However, perhaps it is this challenge that ignites a school leader to be efficacious, or perhaps it is this challenge that draws highly efficacious principals to Title I schools. When faced with challenging problems

that require solutions within a high stakes accountability climate, principals have the option to respond rigidly, resulting in centralization of authority, decreased communication, and restricted alternative thinking; or they could choose to respond proactively, leading to critical, innovative levels of thinking, empowerment of staff, and strong communication of a shared strategic plan (Hermann, 1963; Heifetz & Laurie, 1997; Staw et al., 1981). For successful principals who have their finger on the pulse of the school organization and understand the high stakes accountability climate in which they have been placed, to choose the latter is to choose efficaciously.

Lastly, API was identified through multiple regression analysis to be a positive, statistically significant predictor of a principal's sense of self-efficacy. This was not surprising as higher API scores are generally associated with school success. Based on Bandura's (1977) triadic reciprocal causation model, mastery experiences, verbal persuasion, and decreased levels of emotional arousal, all of which are inherent in conditions of school success, serve to foster increasing levels of principal efficacy. Accordingly, principals are expected to illustrate more positive perceptions of self-efficacy in schools achieving higher API scores.

Furthermore, it is necessary to remind the reader that, though, these six demographic factors did prove to be statistically significant predictors of a principal's sense of self-efficacy, the total amount of variance explained by the set of sixteen computable demographic factors for each of the four efficacy measurements was minimal. The highest of which, Efficacy for Moral Leadership, only explained 11% of the total variance. Therefore, it is equally important to put into perspective the limitations of this study when interpreting the results.

Limitations of Study

Limitations of this study, which are typical of quantitative studies, included: representation, response bias, response rate, data limitations, and generalizability of findings. The total sample targeted in this study comprised of more than 6,000 K -12 Title I public school principals in California during the 2006-07 school year. When compared to other seminal studies on principal efficacy, this sample size is quite substantial. However, since the number and type of participants who completed the electronic survey could not be controlled, sample size was compromised. A total of 549 CA Title I K-12 principals completed the survey. Though this number is significant when compared to other studies within this field of research, it still remains to be a small percentage of the total population.

In conjunction with limiting effects due to sample size, there exists potential response bias from those principals that did respond to the survey. However, when comparing percentages of similar subgroups (i.e. schools in PI, schools not in PI, schools that have exited PI) between this study's sample and that of the total population, there does show to be good representation (see Table 1). In addition, this study focused primarily on the principal as the unit of analysis. Therefore, there was the belief that principals could correctly measure their own perceptions of self-efficacy regardless of the perceptions of those around them. Data collected from the surveys relied on the principal's ability to do so both accurately and honestly. As a result, limitations due to response bias occur both at the sample and at the respondent levels within this study.

Response rate was another limitation of this study. Findings from this study solely depended on the number of surveys returned by selected participants. The fact that

the surveys were sent electronically to principals' e-mail addresses automatically reduced the potential sample size from 6065 to 4253 participants. An additional 1184 principals were excluded due to the fact that the CDE database contained invalid e-mail addresses or that principals' school districts used spam blockers to prevent e-mails, such as the one used in this study, from being delivered. Time of study also may have negatively impacted response rate as the window for survey completion opened on May 16th, 2007 and closed on July 1st, 2007. This time of year can be difficult for most site leaders. As such, this study only yielded a total response rate of 23% with a total of 695 respondents, 549 of which were principals from Title I schools. Compared to results from previous principal efficacy research, Tschannen-Moran and Gareis' 2004 study yielded a total response rate of 28% with a total of 544 principal participants, while Tschannen-Moran and Gareis' 2005 study yielded a total response rate of 29% with a total of 558 principal participants. As a result, the size of the sample resulting from this study's research design was similar in comparison to recent principal efficacy studies.

A fourth limitation came during the series of multiple regression analyses performed while testing the third null hypothesis of this study. The variance totals explained by the independent demographic variables for Total Efficacy, Efficacy for Instructional Leadership, Efficacy for Management Leadership, and Efficacy for Moral Leadership were .082, .081, .038, and .107, respectively. Thus, the highest total variance explained by demographic factors for Efficacy for Moral Leadership was less than 11%, which is minimal compared to other studies in this field of research. This result suggests that there exist other factors at play in determining a principal's sense of efficacy, which were not incorporated within this study.

All four of these factors, sample size, response bias, response rate, and total amount of explained variance served in limiting the generalizability of the findings produced from this study. Moreover, for the purpose of other researchers, it is important to put these limitations into perspective when comparing this study's findings to those from similar studies on principal efficacy.

Conclusion

Incorporating the theoretical framework of Albert Bandura's (1977) social cognitive theory of triadic reciprocal causation, this dissertation research study investigated the relationship between a principal's sense of self-efficacy and personal and school-level demographic variables characteristic of the current high stakes school accountability climate which has resulted from No Child Left Behind. A total of 549 California Title I K-12 principals participated in this study's online survey. Data obtained from the demographic survey and the Principal Sense of Efficacy Scale were examined through quantitative exploratory analyses to test the three hypotheses which served as the foundation of this dissertation's research agenda. Results of data analysis yielded three critical findings: 1) Principals in PI schools had significantly lower perceptions of self-efficacy than principals in non-PI schools; 2) Remaining in PI had a negative affect on a principal's sense of self-efficacy, specifically for those less than 50 years of age and for those with less than six years of experience as a principal; and 3) Age was the strongest negative predictor of a principal's sense of self-efficacy. Inherent within this study's research design were limitations which served to decrease the generalizability of findings.

In conclusion, this dissertation study has contributed significantly to the existing body of research on principal efficacy. Based on the findings of this study, implications can be made to further future research, policy, and practice within this educational field of school leadership.

CHAPTER 6: IMPLICATIONS

Through the development of a quantitative research design to explore the relationship between a principal's sense of self-efficacy and demographic characteristics of the school environment, this dissertation study yielded significant findings to support that such a relationship does exist. By targeting a large statewide sample and by adapting Bandura's social cognitive theory to the current high stakes accountability climate, this study has illuminated key elements of NCLB which have the potential to negatively impact principals' beliefs in their ability to maintain increasing levels of student achievement in order to meet mandated requirements under Adequate Yearly Progress (AYP).

The study of principal efficacy is a complex construct. Developing an accurate understanding into how our current high stakes accountability climate may impact a principal's ability to lead schools towards success is far from being achieved. Knowing that the principal holds a critical role in shaping the school culture necessary for that success increases the level of urgency for this pursuit. Given the fact that the reauthorization of NCLB has been postponed provides us with minimal time to address this policy's affect on those leading our schools. This study offers insight into some of the implications for future research, policy, and practice.

Research

Until recently, studies on efficacy in the field of education have revolved around the constructs of the student, teacher, and the collective staff as a whole. Few studies have centered on the role of the principal. Given the current climate of high stakes

accountability created by NCLB, the role of the school principal has signified even greater importance. By utilizing Bandura's (1977) triadic reciprocal causation model as a theoretical framework to explore a principal's sense of self-efficacy, this study served to contribute to this understudied field of research. Acquisition of a representative sample of California Title I K-12 principals magnified the significance of implications from this study's findings. Furthermore, by replicating instrumentation developed by Tschannen-Moran and Gareis (2004), this study assisted in strengthening the validity and reliability of their Principal Sense of Efficacy Scale (PSES).

Due to the limitations present in this dissertation's research design, further research is needed to confirm and/or clarify the findings produced from this study. Based on the design of the PSES survey, this study focused solely on the principal's sense of self-efficacy. To create a more comprehensive understanding of principal efficacy, it would be important for researchers to investigate how other critical school community stakeholders (i.e. teachers, staff, parents, etc.) rate their principal's level of self-efficacy and compare it to the principal's own sense of self-efficacy to determine commonalities or differences between the two. As a result, Tschannen-Moran and Gareis' (2004) PSES survey could be used in combination with another similar scale which evaluates other school community members' sense of their principal's efficacy. In so doing, one would be able to validate or discredit the results produced from the PSES survey.

Likewise, as teacher self-efficacy scales have already been developed by previous researchers such as Ashton and Webb (1986) and Pajares (1996), it would also be useful to compare results of the PSES survey to results of teacher self-efficacy scales within the same organization. This would serve in identifying any significant relationships between

teacher efficacy and principal efficacy. One could also measure these constructs in PI and non-PI settings to determine if PI has the ability to change the relationship between teacher and principal efficacy. A similar research design could be developed in comparing collective and principal efficacy, as collective efficacy scales have already been developed by researchers such as Goddard et al. (2000). Lastly, comparisons of self-efficacy could also be made between the principal and the district office levels. By doing so, one could investigate the dynamics and relationships of efficacy between school and district office leaders as both environments have the ability to differ significantly. The scope of superintendents and assistant superintendents is typically focused on the entire school district organization, while principals are focused on their single school site. Should comparisons yield high levels of efficacy at the district office level corresponding to low levels of efficacy at the school level, especially within PI settings, this would have great implications on the importance of the connections between these two settings. Moreover, since efficacy is a context-related construct, numerous studies could be developed to examine a principal's sense of self-efficacy in a multitude of diverse, educational circumstances.

The response rate obtained from this study's survey was minimal, partly due to the fact that it relied solely on the accuracy and validity of e-mail addresses obtained from the CDE database. If future researchers wanted to create more robust studies on principal efficacy, they would need to develop a more complete CA school principal database. Only then would future studies on principal efficacy for CA administrators more accurately represent this large statewide population.

Since this study was constructed from Bandura's (1977) triadic reciprocal causation model, future studies on principal efficacy within this theoretical framework of social cognitive theory should develop an instrument to evaluate the four sources of a principal's level of efficacy expectations: mastery experience, vicarious experience, verbal persuasion, and physiological states. The ability of these factors to predict a principal's sense of self-efficacy, as assessed by the PSES survey, could then be examined to further support Bandura's social cognitive theory. Since there was a limited amount of variance explained by the 19 demographic factors used for multiple regression analyses within this study, one could predict, based on Bandura's theory, that these four sources of efficacy expectations would explain a much larger amount of the variance observed in the resulting efficacy measurements.

Results of this study identified age and years of experience as promising constructs in helping to explain differences in principals' perceptions of self-efficacy. As this study was purely quantitative in design, a more qualitative understanding of how age and years of experience may impact a principal's sense of self-efficacy is lacking. Principal interviews which draw out this information could be critical in bettering our understanding around these two unique demographic factors.

Policy

To more deeply understand the impacts of federal policy on school leaders, this study tested a key hypothesis: there is a significant difference in the level of a principal's sense of self-efficacy between schools in Program Improvement (PI) and those not in PI schools. Meaning, a principal's sense of self-efficacy will diminish if that principal's school enters PI for not meeting AYP guidelines and is placed under federal sanctions of

corrective action. Consequently, a lowered sense of self-efficacy further limits a principal's ability to achieve school success. Since AYP requirements for student academic proficiency are steadily climbing to the 100% mark in 2014, the percentage of schools in PI will also most likely increase. Currently, for the 2007-08 school year, 36% of CA K – 12 public schools are in PI as compared to 37% when this study was conducted. This was expected as AYP requirements for student academic proficiency have remained the same these past three years. It will be interesting to compare these percentages to next year's when the mandated student proficiency levels increase by almost 10%.

If 100% of CA schools were to be in PI by the year 2014, what does this say about NCLB? More importantly, how does the current accountability climate set by NCLB affect a principal's belief in one's own ability to lead a school? Since findings from this study suggest an inverse relationship between PI status and a principal's sense of self-efficacy, it is important to address this issue now before NCLB is reauthorized. If the goal of NCLB is to improve student achievement, is the use of federal sanctions of corrective action the most effective manner in going about providing schools rationale to conduct positive school reform efforts in order to meet the nation's expectations for student success? As studies have shown such measures of threat to negatively impact an organization's ability to respond to the desired outcomes of the environment, placement of schools in PI can have counteracting effects to original purpose of NCLB (Daly, 2006; Nichols & Berliner, 2007; Staw et al., 1981). Moreover, given a representative statewide sample of CA public school principals and the fact that 36% of CA Title I public schools

are currently in PI, this study provides significant implications to the current state of public education within our United States.

Practice

To read the standard job description of a school principal can be an overwhelming task. To place this description within the context of the current high stakes accountability can be even more intimidating. Here, the implications of principal efficacy for practice will be discussed at both the school and district levels.

At the school level, in order for principals to successfully fulfill the expectations of the public education system, they need to possess the necessary skills and abilities to create positive, effective school reform efforts, while fostering a professional learning community, in order to increase student achievement levels commensurate with AYP requirements. In addition to possessing these skills, they also have to believe that they are able to successfully execute such a mission. Here lies the vital nature of efficacy and the complexity behind measuring such an abstract construct. Measurement of one's beliefs and one's actual performance or behavior could lead to two different outcomes. Thus, it is important, as Bandura's (1977) triadic reciprocal causation model illustrates, to regard both efficacy and behavior as two parts of a whole; constructs which, by themselves, lack meaningful value.

For principals who are faced with meeting both short-term and long-term expectations at the school, district, state, and federal levels, it is critical to keep in mind the value of efficacy when leading in today's high stakes accountability climate. Sharing a similar definition with motivation, efficacy serves to provide individuals the stamina necessary to keep pace with the increasing demands made by the public education

system, while maintaining a level of optimism that all is possible. Having a solid grasp on Bandura's social cognitive theory and a thorough understanding of how the four different sources of efficacy expectations can be impacted by the educational environment in which they are placed, principals and, especially, educational leaders can begin to embed efficacy scaffolds within the system to counteract the negative side affects associated with Adequate Yearly Progress and Program Improvement.

Efficacy, as Bandura (1977) stated, is a personal factor unlike individual behavior. It is a context-related construct that can change based on the environment in which an individual is placed. Efficacy can not easily be seen, measured, or determined through tests, scales, or even resumes. One's efficacy, however, can be observed by those around the individual who come into contact and experience with that person. Efficacy can serve to influence and impact not just the behavior from whom it is exuded, but the behaviors of others in the surrounding environment.

At the district level, to search out and find highly efficacious candidates for open school leadership positions is a difficult task, especially when applicants come from outside of the area of the seeking school district. Paper screening and job interviews do not always necessarily successfully identify highly efficacious potential leaders. Accordingly, hiring a principal with low levels of efficacy could have damaging effects on a school organization that are difficult to remedy. As such, it is critical for school districts and their employment offices to adopt employment search strategies which allow them opportunities to observe potential candidates working in the school environment to ensure that the prospective principal possesses the necessary leadership skills to be successful in the new position. Even more important, school districts must integrate

principal support structures of modeling and coaching to allow new principals the opportunity to increase their own levels of efficacy in order to have a greater positive impact on the schools they lead. By shaping environmental conditions based on the four sources of efficacy expectations, school districts can begin to set the necessary conditions which enable a principal's sense of self-efficacy to flourish in light of the negative influences associated with the current high stakes accountability climate.

Moreover, this dissertation research study's theoretical and exploratory analysis of principal efficacy can help continue to support the role of school leaders and their mission to positively impact student learning in light of the challenges they face along the way. This study also serves to encourage educational leaders and policy makers to rethink the impacts current accountability systems make on those at the school level who are fighting to instill positive school reform and improve student achievement. For knowing what is best for our children at the classroom and school level does not always transcend unaltered to the state and federal levels.

APPENDIX

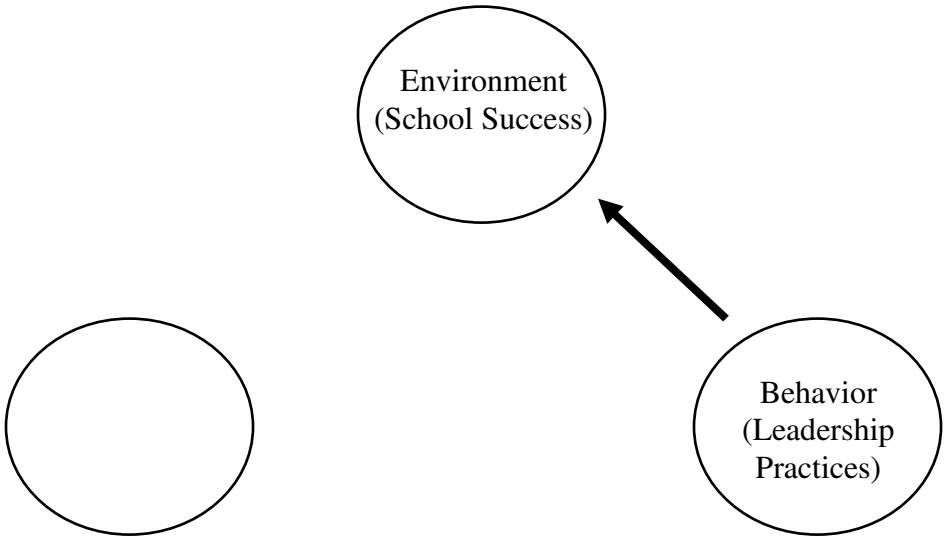


Figure 1. Traditional focus of literature in the field of educational leadership: Impact of effective leadership practices on achieving school success.

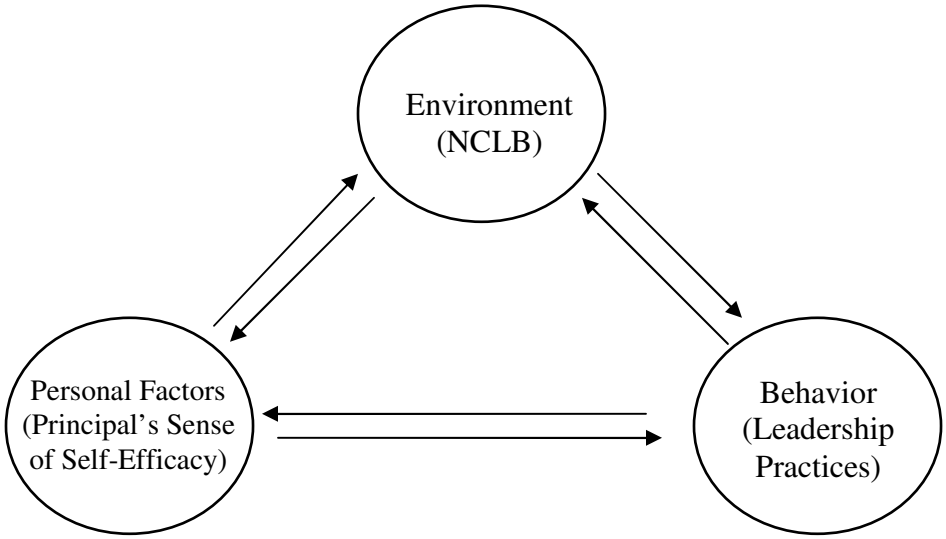


Figure 2. Illustration of Bandura's (1977) triadic reciprocal causation model as it has been applied within the context of this study.

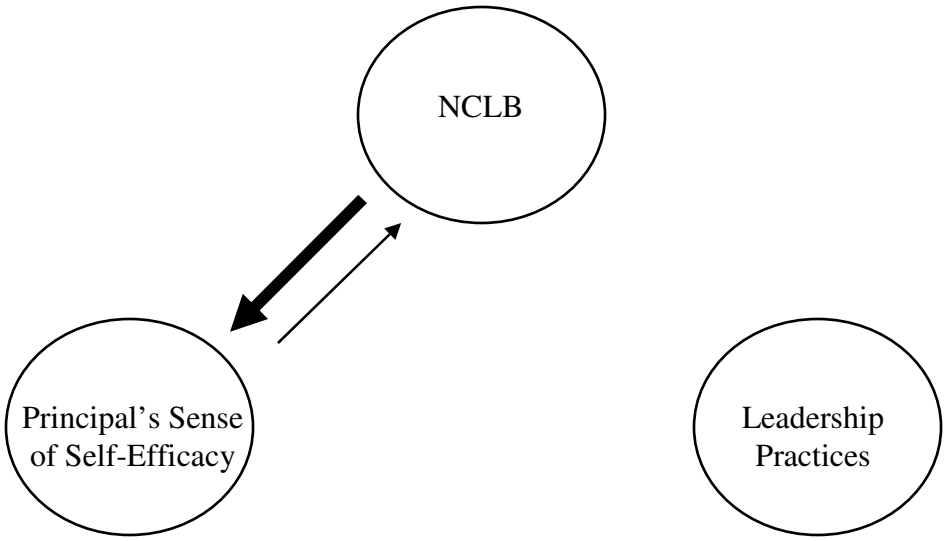


Figure 3. Purpose of study: Exploration of the relationship between NCLB and other environmental factors and principals' sense of self-efficacy.

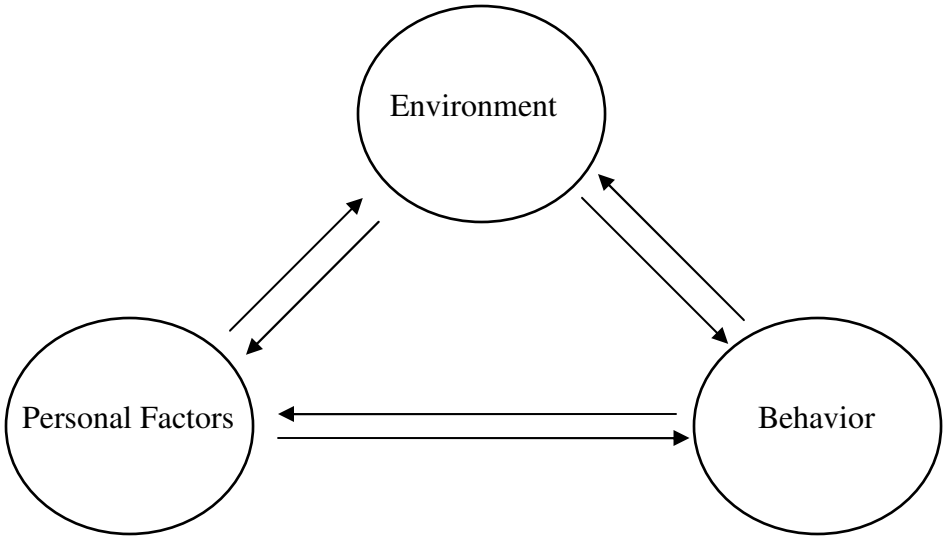


Figure 4. Illustration of the triadic reciprocal causation model (Bandura, 1977).

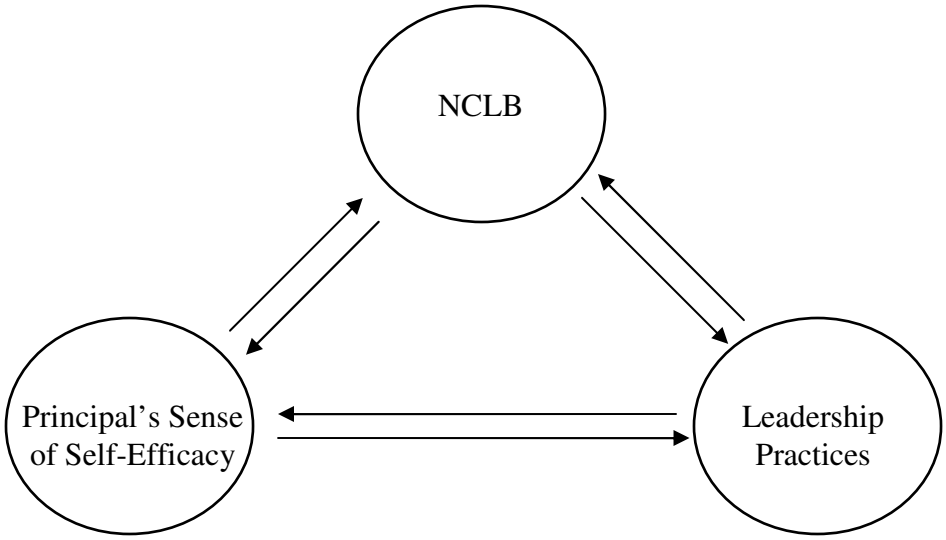


Figure 5. Illustration of how Bandura's (1977) model was applied within the context of this study.

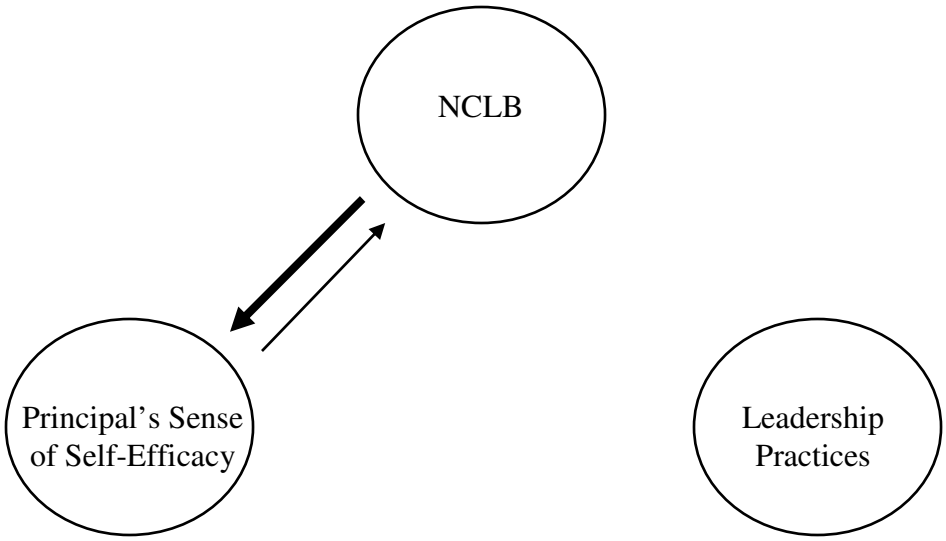


Figure 6. Purpose of study: Exploration of the relationship between NCLB and other environmental factors and a principal's sense of self-efficacy.

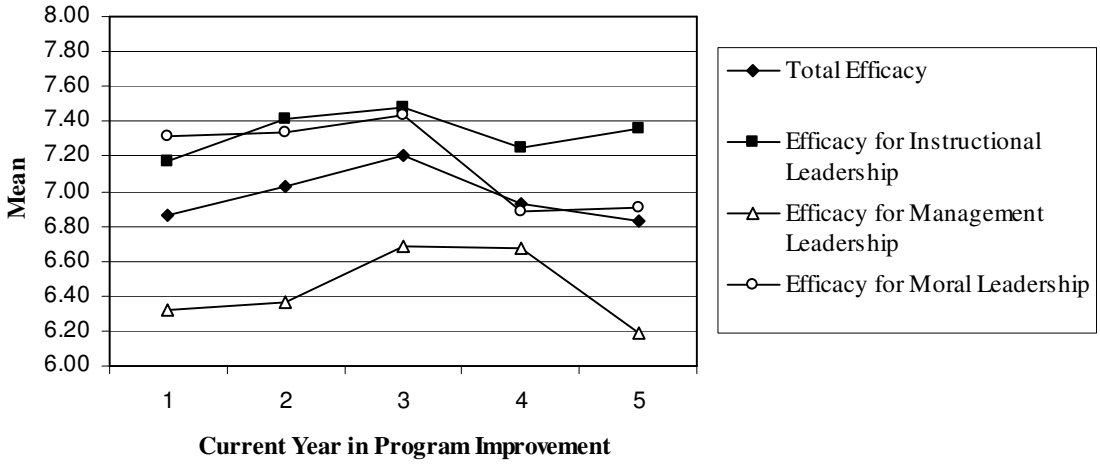


Figure 7. Line graph of means from efficacy measurements by current year in Program Improvement.

Table 1

Study's Targeted Principal Population versus Actual Sample (CDE, 2006).

2006-07 CA School Population Characteristics	Total Population N	Total Population %	Study Sample N	Study Sample %
Total # of CA Title I Public Schools	6065	100%	549	100%
Total # of Schools Not in PI	3418	56%	275	50%
Total # of Schools in PI	2217	37%	180	36%
Year 1 PI	719	12%	53	10%
Year 2 PI	339	6%	32	6%
Year 3 PI	482	8%	34	6%
Year 4 PI	343	6%	28	5%
Year 5 PI	357	6%	30	6%
Total # of Schools that have Exited PI	426	7%	50	10%

Note. N = Number of schools. % = Corresponding percentage to total number of schools.

Table 2

Study's Response Rate Based on Valid/Accessible E-mail Addresses

Participant Response Variable	N	%
Total # of Principals with E-mail Addresses	4253	
Total # of Principals with Valid/Accessible E-mails	3069	
Total # of Principals who Responded to Survey	695	
Total # of Title I Principals who Responded to Survey	549	
Total Response Rate		23%

Note. N = Number of Principals. Total Response Rate % = 695/3069

Table 3

Description of Data Analyses to Test Study's Hypotheses.

Research Question	Hypothesis	Data Collection	Data Analysis
1. Is there a difference in the levels of principals' sense of self-efficacy in Program Improvement versus non-Program Improvement schools?	There is a significant difference in the level of a principal's sense of self-efficacy between principals in Program Improvement schools and those not in Program Improvement schools.	Demographic and Principal Efficacy Surveys	ANOVA
2. Is there a relationship between a principal's sense of self-efficacy and Program Improvement status within K – 12 CA public schools?	There is an inverse relationship between a school principal's sense of self-efficacy and a school's Program Improvement status.	Demographic and Principal Efficacy Surveys	Simple bivariate correlation ANOVA
3. What are the key predictors of a principal's sense of self-efficacy?	Program Improvement designation (independent variable) is the primary predictor of a principal's sense of self-efficacy (dependent variable).	Demographic and Principal Efficacy Surveys	Simple bivariate correlation Stepwise multiple regression

Table 4

Demographic Frequencies of Study Sample (Categorical Variables)

Independent Variable			Frequency	Percent	Valid Percent	Cumulative Percent
Gender:	Valid	Male	204	37.9	39.9	39.9
		Female	307	57.1	60.1	100.0
		Total	511	95.0	100.0	
	Missing	System	27	5.0		
	Total		538	100.0		
Age:	Valid	<30	1	0.2	0.2	0.2
		30-34	16	3.0	3.1	3.3
		35-44	106	19.7	20.7	24.0
		45-49	68	12.6	13.3	37.3
		50+	321	59.7	62.7	100.0
		Total	512	95.2	100.0	
	Missing	System	26	4.8		
	Total		538	100.0		
Ethnicity:	Valid	Other	15	2.8	2.9	2.9
		African American	26	4.8	5.1	8.0
		Asian	8	1.5	1.6	9.6
		Latino	90	16.7	17.6	27.2
		White	372	69.1	72.8	100.0
		Total	511	95.0	100.0	
	Missing	System	27	5.0		
	Total		538	100.0		
Highest degree earned:	Valid	Bachelors	27	5.0	5.3	5.3
		Masters	57	10.6	11.1	16.3
		Masters+30	363	67.5	70.6	87.0
		Doctorate	67	12.5	13.0	100.0
		Total	514	95.5	100.0	
	Missing	System	24	4.5		
	Total		538	100.0		

Table 4 Continued

School level:	Valid	Other	60	11.2	11.7	11.7
		Elementary	317	58.9	61.9	73.6
		Middle	64	11.9	12.5	86.1
		High	71	13.2	13.9	100.0
		Total	512	95.2	100.0	
	Missing	System	26	4.8		
	Total		538	100.0		
Number of years as an educator (including this school year):	Valid	1-3	1	0.2	0.2	0.2
		4-7	5	0.9	1.0	1.2
		8-15	96	17.8	18.8	19.9
		16-23	144	26.8	28.1	48.0
		24-30	119	22.1	23.2	71.3
		31+	147	27.3	28.7	100.0
		Total	512	95.2	100.0	
	Missing	System	26	4.8		
	Total		538	100.0		
Number of years as an educator in your current school district (including this school year):	Valid	1-3	45	8.4	8.9	8.9
		4-7	115	21.4	22.6	31.5
		8-15	131	24.3	25.8	57.3
		16-23	110	20.4	21.7	78.9
		24-30	55	10.2	10.8	89.8
		31+	52	9.7	10.2	100.0
		Total	508	94.4	100.0	
	Missing	System	30	5.6		
	Total		538	100.0		
Number of years as a principal (including this school year):	Valid	1	11	2.0	2.2	2.2
		2	20	3.7	3.9	6.1
		3-5	157	29.2	30.7	36.8
		6-10	160	29.7	31.3	68.1
		11+	163	30.3	31.9	100.0
		Total	511	95.0	100.0	
	Missing	System	27	5.0		
	Total		538	100.0		
Number of years as a principal in your current school (including this school year):	Valid	1	31	5.8	6.2	6.2
		2	52	9.7	10.3	16.5
		3-5	238	44.2	47.3	63.8
		6-10	132	24.5	26.2	90.1
		11+	50	9.3	9.9	100.0
		Total	503	93.5	100.0	
	Missing	System	35	6.5		
	Total		538	100.0		

Table 4 Continued

SCHOOL enrollment:	Valid	0-499	170	31.6	33.7	33.7
		500-999	255	47.4	50.5	84.2
		1000-1999	60	11.2	11.9	96.0
		2000-2999	16	3.0	3.2	99.2
		3000+	4	0.7	0.8	100.0
		Total	505	93.9	100.0	
	Missing	System	33	6.1		
	Total		538	100.0		
DISTRICT enrollment:	Valid	0-249	8	1.5	1.6	1.6
		250-899	26	4.8	5.1	6.7
		900-2499	47	8.7	9.3	16.0
		2500-4999	77	14.3	15.2	31.2
		5000+	349	64.9	68.8	100.0
		Total	507	94.2	100.0	
	Missing	System	31	5.8		
	Total		538	100.0		
School's percentage of students on free and reduced lunch:	Valid	0-9%	6	1.1	1.2	1.2
		10-19%	14	2.6	2.8	4.0
		20-39%	52	9.7	10.3	14.3
		40-59%	115	21.4	22.8	37.1
		60%+	317	58.9	62.9	100.0
		Total	504	93.7	100.0	
	Missing	System	34	6.3		
	Total		538	100.0		
School's percentage of English Learners:	Valid	0-9%	53	9.9	10.6	10.6
		10-19%	59	11.0	11.8	22.3
		20-39%	156	29.0	31.1	53.4
		40-59%	106	19.7	21.1	74.5
		60%+	128	23.8	25.5	100.0
		Total	502	93.3	100.0	
	Missing	System	36	6.7		
	Total		538	100.0		
School's percentage of students receiving Special Education services:	Valid	0-4%	58	10.8	11.6	11.6
		5-9%	213	39.6	42.5	54.1
		10-14%	175	32.5	34.9	89.0
		15-19%	38	7.1	7.6	96.6
		20%+	17	3.2	3.4	100.0
		Total	501	93.1	100.0	
	Missing	System	37	6.9		
	Total		538	100.0		

Table 4 Continued

PI Status:	Valid	Not in PI	267	49.6	53.9	53.9
		Is in PI	178	33.1	36.0	89.9
		Successfully Exited	50	9.3	10.1	100.0
		Total	495	92.0	100.0	
	Missing	System	43	8.0		
	Total		538	100.0		
Current year in Program Improvement (PI):	Valid	Year 1 PI	53	9.9	29.9	29.9
		Year 2 PI	32	5.9	18.1	48.0
		Year 3 PI	34	6.3	19.2	67.2
		Year 4 PI	28	5.2	15.8	83.1
		Year 5+ PI	30	5.6	16.9	100.0
		Total	177	32.9	100.0	
	Missing	System	361	67.1		
	Total		538	100.0		
Year entered PI:	Valid	2002-2003	48	8.9	28.1	28.1
		2003-2004	33	6.1	19.3	47.4
		2004-2005	18	3.3	10.5	57.9
		2005-2006	24	4.5	14.0	71.9
		2006-2007	48	8.9	28.1	100.0
		Total	171	31.8	100.0	
	Missing	System	367	68.2		
	Total		538	100.0		
Year exited PI:	Valid	2003-2004	10	1.9	20.8	20.8
		2004-2005	15	2.8	31.3	52.1
		2005-2006	12	2.2	25.0	77.1
		2006-2007	11	2.0	22.9	100.0
		Total	48	8.9	100.0	
	Missing	System	490	91.1		
	Total		538	100.0		

Table 5

Descriptive Statistics of Study Sample (Continuous Variables)

	Number	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
School's 2006-07 API:	456	428	908	717.18	79.748	.501	.228
Mean score of efficacy for Instructional Leadership	489	1.00	9.00	7.4933	1.08110	2.012	.220
Mean for efficacy for Management Leadership	488	2.67	9.00	6.5600	1.28183	-.255	.221
Mean of efficacy for Moral Leadership	488	4.50	9.00	7.4530	.97147	-.411	.221
Mean of PSES Total Efficacy	489	1.00	9.00	7.1613	.97363	2.387	.220
Valid N (listwise)	450						

Table 6

Descriptive Statistics of Rating Averages for PSES Survey Responses by PI Status and Current Year in Program Improvement Demographic Variables

	PI Status			Current Year in Program Improvement				
Question No.[a]	In PI	Not in PI	Exited PI	1	2	3	4	5+
	N=178	N=267	N=50	N=53	N=32	N=34	N=28	N=30
1	7.50	7.64	7.66	7.21	7.53	7.75	7.25	7.97
2	7.79	8.05	7.96	7.79	7.91	7.81	7.61	7.80
3	6.57	6.76	7.24	6.38	6.63	7.09	6.68	6.23
4	7.35	7.50	7.56	7.35	7.63	7.41	7.36	7.03
5	7.21	7.60	7.60	7.21	7.31	7.59	6.82	7.03
6	7.68	8.12	7.96	7.75	7.88	7.97	7.46	7.24
7	6.59	6.85	6.98	6.37	6.44	6.84	6.79	6.70
8	7.02	7.60	7.12	7.02	7.16	7.19	6.79	6.90
9	7.18	7.47	7.34	7.31	7.06	7.10	7.04	7.37
10	6.84	7.32	6.98	6.94	6.91	7.10	6.79	6.37
11	5.95	6.06	5.98	5.83	5.84	6.03	6.54	5.70
12	6.45	6.76	6.96	6.43	6.44	6.66	6.57	6.20
13	7.41	7.80	7.74	7.5	7.63	7.84	6.82	7.10
14	7.55	7.92	7.75	7.58	7.66	7.91	7.18	7.38
15	6.33	6.49	6.80	6.29	6.25	6.56	6.46	6.17
16	7.18	7.49	7.42	7.56	7.38	6.97	6.89	6.80
17	6.63	6.57	7.00	6.58	6.47	6.88	6.93	6.33
18	6.62	6.93	7.27	6.48	6.59	6.84	6.82	6.53

Note. a: See Appendix D for the text of the questions these numbers correspond to.

Table 7

Total Variance Explained by PSES Instrument

Com.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cum. %	Total	% of Variance	Cum. %	Total	% of Variance	Cum. %
1	7.967	44.264	44.264	7.967	44.264	44.264	4.962	27.564	27.564
2	2.106	11.698	55.962	2.106	11.698	55.962	3.870	21.502	49.066
3	1.275	7.085	63.047	1.275	7.085	63.047	2.517	13.981	63.047
4	.872	4.843	67.891						
5	.784	4.354	72.244						
6	.690	3.836	76.080						
7	.656	3.642	79.723						
8	.486	2.702	82.424						
9	.451	2.506	84.930						
10	.436	2.424	87.354						
11	.416	2.312	89.665						
12	.377	2.096	91.762						
13	.294	1.635	93.397						
14	.278	1.543	94.940						
15	.264	1.467	96.407						
16	.242	1.343	97.749						
17	.212	1.180	98.930						
18	.193	1.070	100.000						

Note. Extraction Method: Principal Component Analysis. Com. = Component. Cum. % = Cumulative %

Table 8

Rotated Component Matrix

	Component		
	1	2	3
InstructionalLead6-Motivate Teachers	.824		
InstructionalLead2-Generate Enthusiasm for Shared Vision	.787		
InstructionalLead3—Manage change in School	.761	.377	
InstructionalLead1-Facilitate Student Learning	.713		
InstructionalLead4--Create a positive learning environment	.681		.475
InstructionalLead5--Raise Student Achievement on Tests	.678		
MoralLead2--Promote a positive image of your school	.565		
MoralLead1--Promote school spirit among students	.563		.493
MoralLead3-Promote the prevailing values of the community	.550		.441
MoralLead6-Promote ethical behavior among school personnel	.506		.350
Management4-handle the paperwork required of the job		.837	
Management6-Prioritize among competing demands of the job		.803	
Management1-Handle the Time Demands		.789	
Management5-Cope with the stress of the job		.775	
Management2-Maintain control of own daily schedule		.759	
Management3-Shape the operational policies and procedures	.406	.468	
MoralLead4-handle effectively the discipline of students			.852
MoralLead5-promote acceptable behavior among students			.828

Note. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations.

Table 9

Comparison of Means for Efficacy Measurements by Program Improvement Status

	Program Improvement Status					
	in PI		not in PI		exited PI	
Efficacy Measurement	Mean	SD	Mean	SD	Mean	SD
Total Efficacy	7.0*	1.07*	7.3*	0.89*	7.3	0.97
Efficacy for Instructional Leadership	7.3*	1.19*	7.6*	0.98*	7.6	1.08
Efficacy for Management	6.4	1.37	6.6	1.25	6.9	1.08
Efficacy for Moral Leadership	7.2*	0.98*	7.6*	0.91*	7.4	1.08
N	174		264		50	

Note. N = Number. * indicates significance level of $p<.01$.

Table 10

Correlation Matrix of Efficacy Measurements by Current Year in Program Improvement Independent Variable

		Mean of Total Efficacy	Mean of Efficacy for Instructional Leadership	Mean for Efficacy for Management	Mean of Efficacy for Moral Leadership
Current year in Program Improvement Factor	Pearson Correlation	-0.003	0.041	0.017	-0.172*
	Sig. (2-tailed)	0.972	0.592	0.828	0.024
	N	173	173	172	172

Note. * indicates significance at the p<.05 level (2-tailed).

Table 11a

Comparison of Means for Efficacy Measurements by Current Year in Program Improvement Year 1 through Year 4

	Current Year in Program Improvement											
	Year 1 N=53			Year 2 N=32			Year 3 N=34			Year 4 N=28		
Efficacy Measurement	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Total Efficacy	6.86	1.30	52	7.03	1.06	31	7.20	0.86	32	6.93	1.00	28
Efficacy for Instructional Leadership	7.17	1.37	52	7.41	1.06	31	7.48	1.11	32	7.25	1.23	28
Efficacy for Management	6.32	1.46	51	6.36	1.50	31	6.68	1.15	32	6.67	1.26	28
- principals at age 50 or more*	5.83	1.49	30	6.37	1.55	24	6.94	0.77	18	6.76	1.11	20
Efficacy for Moral Leadership	7.32	0.91	51	7.34	1.06	31	7.44	0.82	32	6.88	1.02	28
- principals of "other" schools*	6.77	0.51	5	7.36	1.07	6	7.33	0.33	3	8.67	N/A	1
- male principals*	7.23	1.04	20	7.40	1.04	13	7.46	0.95	12	6.60	0.81	16
- principals of age less than 50*	7.72*	0.82*	21*	7.29	0.93	7	7.16	0.71	14	6.69*	0.91*	8*
- principals with less than 6 years experience as a principal*	7.37*	0.96*	26*	7.05	0.71	7	7.08	0.66	10	6.49*	0.81*	14*
- principals with less than 31 years of experience as an educator*	7.42	0.89	36	7.25	1.02	22	7.43	0.85	25	6.75	1.00	21

Note. M = Mean. SD = Standard Deviation. N = Number of respondents. * indicates significance at the $p<.05$ level.

Table 11b

Comparison of Means for Efficacy Measurements by Current Year in Program Improvement Year 5+

	Current Year in Program Improvement Year 5+ N=30		
Efficacy Measurement	M	SD	N
Total Efficacy	6.83	0.94	30
Efficacy for Instructional Leadership	7.36	1.09	30
Efficacy for Management	6.19	1.42	30
- principals at age 50 or more*	5.99	1.64	16
Efficacy for Moral Leadership	6.91	1.07	30
- principals of "other" schools*	5.42	0.35	2
- male principals*	6.53	0.94	16
- principals of age less than 50*	6.88	1.04	14
- principals with less than 6 years experience as a principal*	7.29	0.69	8
- principals with less than 31 years of experience as an educator*	6.85	1.06	22

Note. M = Mean. SD = Standard Deviation. N = Number of respondents.

Table 12

Correlation Matrix of Efficacy Measurements by Demographic Factors

Demographic Factor		Efficacy Measurement			
		Mean of Total Efficacy	Mean score of Efficacy for Instructional Leadership	Mean for Efficacy for Management Leadership	Mean of Efficacy for Moral Leadership
Gender:	Pearson Correlation	0.083	0.089	0.029	.135**
	Sig. (1-tailed)	0.067	0.051	0.523	0.003
	N	485	485	484	484
Age:	Pearson Correlation	-.019	-.004	-.051	.005
	Sig. (1-tailed)	.340	.464	.130	.453
	N	488	488	487	487
Ethnicity:	Pearson Correlation	0.004	0.003	0.011	0.009
	Sig. (1-tailed)	0.936	0.948	0.805	0.841
	N	486	486	485	485
Highest degree earned:	Pearson Correlation	0.041	0.062	0.048	-0.010
	Sig. (1-tailed)	0.368	0.169	0.294	0.827
	N	489	489	488	488
School level:	Pearson Correlation	0.009	0.017	0.022	-0.069
	Sig. (1-tailed)	0.847	0.713	0.632	0.127
	N	488	488	487	487
Number of years as an educator (including this school year):	Pearson Correlation	.116*	.105*	0.067	.108*
	Sig. (1-tailed)	0.010	0.021	0.137	0.017
	N	488	488	487	487
Number of years as an educator in your current school district (including this school year):	Pearson Correlation	0.066	0.055	0.045	0.075
	Sig. (1-tailed)	0.145	0.231	0.323	0.102
	N	484	484	483	483
Number of years as a principal (including this school year):	Pearson Correlation	.082*	.102*	.022	.083*
	Sig. (1-tailed)	.036	.012	.314	.034
	N	488	488	487	487

Table 12 Continued

Number of years as a principal in your current school (including this school year):	Pearson Correlation	0.032	0.050	-0.009	0.046
	Sig. (1-tailed)	0.481	0.276	0.847	0.313
	N	486	486	485	485
SCHOOL enrollment:	Pearson Correlation	0.004	0.014	0.053	-0.041
	Sig. (1-tailed)	0.934	0.765	0.241	0.370
	N	489	489	488	488
DISTRICT enrollment:	Pearson Correlation	0.017	0.033	0.020	0.002
	Sig. (1-tailed)	0.701	0.467	0.668	0.963
	N	487	487	486	486
School's percentage of students on free and reduced lunch:	Pearson Correlation	-0.005	0.018	0.028	-.112*
	Sig. (1-tailed)	0.918	0.693	0.531	0.014
	N	488	488	487	487
School's percentage of English Learners:	Pearson Correlation	.111*	.101*	.100*	0.060
	Sig. (1-tailed)	0.015	0.026	0.028	0.191
	N	486	486	485	485
School's percentage of students receiving Special Education services:	Pearson Correlation	-0.017	-0.037	0.003	0.002
	Sig. (1-tailed)	0.709	0.417	0.951	0.972
	N	487	487	486	486
School's 2006-07 API:	Pearson Correlation	.114*	.120*	0.013	.203**
	Sig. (1-tailed)	0.016	0.011	0.775	0.000
	N	451	451	450	450
PI Status:	Pearson Correlation	-0.067	-0.064	0.019	-.140**
	Sig. (1-tailed)	0.137	0.156	0.681	0.002
	N	488	488	487	487
Current year in Program Improvement (PI):	Pearson Correlation	-0.003	0.041	0.017	-.172*
	Sig. (1-tailed)	0.972	0.592	0.828	0.024
	N	173	173	172	172
Year entered PI:	Pearson Correlation	0.009	-0.008	-0.008	0.150
	Sig. (1-tailed)	0.903	0.918	0.917	0.053
	N	168	168	167	167

Table 12 Continued

Year exited PI:	Pearson Correlation	-0.136	-0.136	-0.047	-0.181
	Sig. (1-tailed)	0.357	0.356	0.753	0.219
	N	48	48	48	48

Note. N = Number of respondents. * indicates significance at the p<.05 level (1-tailed). ** indicates significance at the p<.01 level (2-tailed).

Table 13

Multiple Regression of Total Efficacy and Efficacy for Instructional Leadership as Predicted by Demographic Factors

	Total Efficacy[a]			Efficacy for Instructional Leadership[b]		
Demographic Factors	Beta	T	Sig.	Beta	T	Sig.
Gender:	.095	.993	.321	.133	1.253	.211
DISTRICT enrollment:	-.045	-.848	.397	-.029	-.493	.622
Ethnicity:	-.025	-.521	.603	-.027	-.507	.613
Highest degree earned:	.030	.424	.672	.067	.857	.392
SCHOOL enrollment:	-.008	-.137	.891	-.001	-.008	.993
School's percentage of students receiving Special Education services:	.009	.169	.866	-.007	-.127	.899
Number of years as an educator (including this school year):	.159*	2.576*	.010	.128	1.863	.063
School's percentage of students on free and reduced lunch:	.036	.524	.6	.106	1.403	.161
PI Status:	-.105	-1.408	.160	-.104	-1.262	.208
Number of years as an educator in your current school district (including this school year):	.015	.394	.694	.001	.019	.985
Number of years as a principal in your current school (including this school year):	-.045	-.754	.451	-.036	-.551	.582
School level:	.106	1.742	.082	.143*	2.124*	.034
School's 2006-07 API:	.002*	3.000*	.003	.003*	3.505*	.001
School's percentage of English Learners:	.140*	3.202*	.001	.126*	2.609*	.009
Age:	-1.67*	-2.444*	.015	-.139	-1.838	.067
Number of years as a principal (including this school year):	.089	1.361	.174	.134	1.858	.064

Note. Number of respondents (N) = 489. a: R^2 = .082; Adjusted R^2 = .048; S.E. = .950. b: R^2 = .081; Adjusted R^2 = .047; S.E. = 1.055. * indicates significance at the p<.05 level.

Table 14

Multiple Regression of Efficacy for Management and Efficacy for Instructional Leadership as Predicted by Demographic Factors

	Efficacy for Management[a]			Efficacy for Moral Leadership[b]		
Demographic Factors	Beta	T	Sig.	Beta	T	Sig.
Gender:	.038	.294	.769	.166	1.755	.080
DISTRICT enrollment:	-.054	-.750	.454	-.024	-.457	.648
Ethnicity:	.017	.262	.793	-.046	-.970	.333
Highest degree earned:	.054	.570	.569	-.038	-.542	.588
SCHOOL enrollment:	.060	.722	.471	-.027	-.446	.656
School's percentage of students receiving Special Education services:	.023	.331	.741	.018	.363	.717
Number of years as an educator (including this school year):	.184*	2.215*	.027	.115	1.896	.059
School's percentage of students on free and reduced lunch:	.023	.254	.800	-.090	-1.349	.178
PI Status:	.001	.012	.991	-.158*	-2.154*	.032
Number of years as an educator in your current school district (including this school year):	.015	.279	.780	.035	.930	.353
Number of years as a principal in your current school (including this school year):	-.055	-.696	.487	-.037	-.637	.525
School level:	.058	.710	.478	.025	.420	.675
School's 2006-07 API:	.001	1.066	.287	.002*	3.097*	.002
School's percentage of English Learners:	.122*	2.079*	.038	.140*	3.268*	.001
Age:	-.225*	-2.450*	.015	-.114	-1.699	.090
Number of years as a principal (including this school year):	.039	.448	.654	.077	1.200	.231

Note. Number of respondents (N) = 488. a: R^2 = .038; Adjusted R^2 = .003; S.E. = 1.280. b: R^2 = .107; Adjusted R^2 = .074; S.E. = .935. * indicates significance at the p<.05 level.

Appendix A: Electronic Mail Message

We would greatly appreciate if you could find about 15 minutes of your time to support our research project on educational leadership. We will be closing our survey on June 30th. We thank you for your consideration and support.

Dear CA School Site Administrator,

You have been selected to participate in a statewide survey that is being conducted as part of a doctoral dissertation study focused on educational leadership. The purpose of this study is to explore the relationship between school leadership factors and Program Improvement accountability measures under No Child Left Behind (NCLB). This research study will provide us with vital information that will inform the educational community about the impact of NCLB on a principal's ability to lead.

Your participation will require you take approximately **15 minutes** to complete an online questionnaire via SurveyMonkey. Your participation is completely voluntary. We realize that this is an extremely busy time for you; however, your participation will allow us to inform the educational community regarding the practice of school leaders. While we cannot guarantee that you will receive any benefits from participation in this study, your participation will allow you some self-reflection regarding your own leadership.

TO COMPLETE THE ONLINE SURVEY, PLEASE CLICK ON THE FOLLOWING LINK: [SurveyLink]

Thank you for your consideration and support.

Sincerely,

Andrés Santamaría
Principal
Maie Ellis Elementary School
Fallbrook Union Elementary School District

If you are no longer a school site administrator (i.e. promoted, retired, or returned to classroom) please click on the survey link [SurveyLink] and answer only the first question so we will know not to send you any future reminders.

If you are currently a school site administrator and wish to opt out of the survey, please click on this link: [RemoveLink] and you will be removed from our email list.

Appendix B: Description of Survey with Participation Consent

Andrés Santamaría, a graduate student at the University of California, San Diego is conducting a study on principal leadership within the context of Program Improvement (PI). You, along with 4,251 other California Title I school principals have been selected to participate in this statewide study.

This study has one main objective: To identify a principal's ability to lead schools within the current accountability climate of No Child Left Behind.

Your participation in this study is voluntary and will take you approximately 15 minutes to complete the following survey. There are no known risks to participate in this study. Your survey responses will be kept confidential; available only to the research team for analysis purposes. If the length of the survey is inconvenient for you, you may discontinue taking the survey at any time without any consequence to you.

Although there is no direct benefit to you for participating in this study, I feel your participation will benefit all Title I principals faced with meeting Adequate Yearly Progress expectations under NCLB.

Survey responses will not be linked to your name or address. Instead, a unique code will be randomly assigned to each survey I collect. Only the research team will have access to the information you give us. We do this to ensure that your responses remain confidential and that you feel free to respond as candidly as possible.

If you have questions about the study, you may direct those to the principal investigator, Andrés Santamaría at 760.731.4304 or the researcher's advisor, Dr. Alan Daly at 858.534.6926. If you have any questions about your rights as a research participant, you may contact the Institutional Review Board at the University of California, San Diego.

By clicking on NEXT you agree to participate in this research study.

The aim of this study is to create a large, statewide sample of CA Title I public school principals in order to receive a representative response of completed surveys by principals within each of the following categories: schools in PI, schools not in PI, and schools that have successfully exited PI; as well as to have balanced representation from principals in elementary, middle, and high schools.

The purpose of this demographic survey is to gather specific personal and school-level information from you to be able to analyze a variety of variables that may play an impact on your responses to the subsequent questions.

Again, all data used for the study will not be identifiable to specific participants. Random numbers will replace school ID numbers and participant names will not be collected.

Appendix C: Principal Demographic Survey

1. Are you currently a California Title I public school site principal/co-principal/director/principal-superintendent?
   - ☐ Yes
   - ☐ No

2. Your gender:
   - ☐ Male
   - ☐ Female

3. Your age:
   - ☐ < 30 years of age
   - ☐ 30 – 34 years of age
   - ☐ 35 – 44 years of age
   - ☐ 45 – 49 years of age
   - ☐ 50+ years of age

4. Your ethnicity:
   - ☐ African American
   - ☐ Asian
   - ☐ Latino
   - ☐ White
   - ☐ Other (please specify) _____

5. Highest degree earned:
   - ☐ Bachelors
   - ☐ Masters
   - ☐ Masters + 30 units
   - ☐ Doctorate

6. School level:
   - ☐ Elementary
   - ☐ Middle
   - ☐ High
   - ☐ Other (please specify) _____

7. Number of years as an educator (including this school year):
   - ☐ 1 – 3 years
   - ☐ 4 – 7 years
   - ☐ 8 – 15 years
   - ☐ 16 – 23 years
   - ☐ 24 – 30 years
   - ☐ 31+ years

8. Number of years as an educator in your current school district (including this school year):
   - 1 – 3 years
   - 4 – 7 years
   - 8 – 15 years
   - 16 – 23 years
   - 24 – 30 years
   - 31+ years

9. Number of years as a principal (including this school year):
   - 1 year
   - 2 years
   - 3 – 5 years
   - 6 – 10 years
   - 11+ years

10. Number of years as a principal in your current school (including this school year):
    - 1 year
    - 2 years
    - 3 – 5 years
    - 6 – 10 years
    - 11+ years

11. SCHOOL enrollment:
    - 0 – 499
    - 500 – 999
    - 1000 – 1999
    - 2000 – 2999
    - 3000+

12. DISTRICT enrollment:
    - 0 – 249
    - 250 – 899
    - 900 – 2,499
    - 2,500 – 4,999
    - 5,000+

13. School's percentage of students on free and reduced lunch:
    - 0 – 9%
    - 10 – 19%
    - 20 – 39%
    - 40 – 59%
    - 60%+

14. School's percentage of English Learners:
    - □ 0 – 9%
    - □ 10 – 19%
    - □ 20 – 39%
    - □ 40 – 59%
    - □ 60%+

15. School's percentage of students receiving Special Education services:
    - □ 0 – 4%
    - □ 5 – 9%
    - □ 10 – 14%
    - □ 15 – 19%
    - □ 20%+

16. School's 2006-07 API:
    School's API _____

17. Your school:
    - □ is not / has never been in Program Improvement (leads to next PSES survey)
    - □ is in Program Improvement (leads to questions 18, 19, then to PSES survey)
    - □ has successfully exited Program Improvement (leads to question 20, then to PSES survey)

18. Current Year in Program Improvement (PI):
    - □ Year 1
    - □ Year 2
    - □ Year 3
    - □ Year 4
    - □ Year 5+

19. Year entered PI:
    - □ 2002 – 2003 school year
    - □ 2003 – 2004 school year
    - □ 2004 – 2005 school year
    - □ 2005 – 2006 school year
    - □ 2006 – 2007 school year

20. Year exited PI:
    - □ 2003 – 2004 school year
    - □ 2004 – 2005 school year
    - □ 2005 – 2006 school year
    - □ 2006 – 2007 school year

Note. Question 1 was not considered a demographic variable as it screened principal who responded to the survey instrument in order to ensure that the study sample only included principals who were from Title I schools.

Appendix D: PSES Survey

The next series of questions is designed to help us gain a better understanding of principal leadership across the state of California.

Directions: Please indicate your opinion about each of the questions that follow by marking one of the responses in the columns on the right side. Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position. Your answers are confidential.

For each question, participants are asked to select an answer from a 9 point Likert scale:

1 – None At All	6
2	7 – Quite a Bit
3 – Very Little	8
4	9 – Great Deal
5 – Some Degree	

In your current role as principal, to what extent can you…

1. facilitate student learning in your school? (INS)
2. generate enthusiasm for a shared vision for the school? (INS)
3. handle the time demands of the job? (MAN)
4. manage change in your school? (INS)
5. promote school spirit among a large majority of the student population? (MOR)
6. create a positive learning environment in your school? (INS)

7. raise student achievement on standardized tests? (INS)
8. promote a positive image of your school with the media? (MOR)
9. motivate teachers? (INS)
10. promote the prevailing values of the community in your school? (MOR)
11. maintain control of your own daily schedule? (MAN)
12. shape the operational policies and procedures that are necessary to manage your school? (MAN)

13. handle effectively the discipline of students in your school? (MOR)
14. promote acceptable behavior among students? (MOR)
15. handle the paperwork required of the job? (MAN)
16. promote ethical behavior among school personnel? (MOR)
17. cope with the stress of the job? (MAN)
18. prioritize among competing demands of the job? (MAN)

MAN – Efficacy for Management Leadership
INS – Efficacy for Instructional Leadership
MOR – Efficacy for Moral Leadership

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