

Principal Self-efficacy as a Predictor of Student Achievement and Differences
among Principals at Turnaround Versus Fully Accredited Schools in One Urban
Virginia School Division

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ABSTRACT

The intent of this non-experimental correlational and comparative study was to determine the extent to which self-efficacy predicts student achievement as well as the differences between the self-efficacy beliefs of principals in turnaround and fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. Principal leaders should be selected based on expertise related to their assigned school needs and challenges (Murphy, 2010a). Turnaround schools in the process of improvement present a distinct challenge and require individualized applications of effective leadership practices (Leithwood, Harris & Strauss, 2010).

Principal self-efficacy is defined as, "...a judgment of his or her own capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573). Overall principal self-efficacy as well as efficacy for management, instructional leadership, and moral leadership were measured using the Principal Sense of Efficacy Scale (PSES) (Tschannen-Moran & Gareis, 2004). The Virginia Standards of Learning (SOL) assessment results for reading and mathematics, specifically the overall school pass rates by subject, were used as indicators of student achievement.

The researcher sought to examine the usefulness of measuring self-efficacy as a potential method for identifying and assigning principals to specific school contexts based on any relationships and differences revealed by the data. A hierarchical multiple regression analysis was used to predict student achievement in reading and mathematics from overall principal self-efficacy and the three principal efficacy subscales while controlling for poverty. An independent samples t-test was conducted to compare the self-efficacy of principals at turnaround and fully accredited schools.

Analysis of the predictive relationship between principal self-efficacy and student achievement in reading and mathematics failed to reveal significant findings. Comparative analysis of the mean self-efficacy for turnaround and fully accredited school principals further failed to reveal statistically significant differences. Calculated effect size of the differences

between the groups indicated a medium effect. Implications for practice and recommendations for future research were developed from the findings.

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GENERAL AUDIENCE ABSTRACT

The intent of this study was to determine the extent to which self-efficacy predicts student achievement as well as the differences between the self-efficacy beliefs of principals in turnaround and fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. Principal self-efficacy is defined as, "...a judgment of his or her own capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573). Overall principal self-efficacy as well as efficacy for management, instructional leadership, and moral leadership were measured using the Principal Sense of Efficacy Scale (PSES) (Tschannen-Moran & Gareis, 2004). The Virginia Standards of Learning (SOL) assessment results for reading and mathematics, specifically the overall school pass rates by subject were used as indicators of student achievement. The researcher sought to examine the usefulness of measuring self-efficacy as a potential method for identifying and assigning principals to specific school contexts based on any relationships and differences revealed by the data. The data analysis failed to reveal any statistically significant findings for the research questions. Implications for practice and recommendations for future research were developed from the findings.

Dedication

This work is dedicated to my parents, Larry and Song Powell, my son, Derek Morrison, and my husband, David Anthony Walter, Sr. Mom and dad, I owe you a debt of love that I may never be able to repay. I am reminded daily of the amazing power and influence parents have over the lives of their children. Due to your commitment to being a positive influence over my life, I learned to value people and the importance of kindness and service to others. Education is my service and I hope that my service is a testament to you both.

Derek, before you came along, I didn't know that there was anything or anyone that could influence me more than your Nana and Papa. You have made everything in my life that much more important. Every choice I have made since the day I found out you were coming into this world has been about respecting the power and influence I have over your life as a mother. Nothing and no one is more important to me than you. This work is an example of my trying to be the best version of myself not just for me, but for you. I love you beyond any words and I hope my example always encourages you to be the best version of you.

Last but not least, Anthony, you make me really appreciate God's greatness and grace. Loving your parents and children usually happens without question or a lot of effort. Finding someone to choose to share your life with and love through ups and downs is really a blessing. You and I had already learned the hard way it isn't that easy when we happened upon the same place at the same time. It is so much more extraordinary than simply getting married. I don't say it enough or always realize how much you need to hear me say it but I am so very thankful to you and to be sharing my life with you. Thank you for being patient and supporting me through this journey. I love you, always.

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Chapter One

Introduction

Educational leadership researchers have demonstrated that school leaders contribute to student achievement and school success (Cotton, 2003; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Louis, Leithwood, Wahlstrom, & Anderson, 2010; Marzano, Waters, & McNulty, 2005). School leaders are subject to increased public scrutiny due to high-stakes assessments and a preoccupation with school accountability and labeling (Peck & Reitzug, 2014; Ravitch, 2010; Ravitch, 2014). The high-stakes accountability environment and school labeling have led to political, commercial, and research interests in improving failing schools (Meyers, 2012; Ravitch, 2010; Ravitch, 2014). Uniformly applicable strategies to accelerate the success of struggling schools remains a question in the research but the importance of school leaders, particularly the principal, has been widely acknowledged (Duke, 2008; Herman, Dawson, Dee, Greene, Maynard, Redding, & Darwin, 2008; Murphy, 2008; Murphy, 2010a).

This research study examined principal reported self-efficacy to determine the extent to which it could predict student reading and mathematics achievement and for differences in the self-efficacy of principals at turnaround and fully accredited elementary, middle, and high schools in one urban Virginia school division. Hallinger (2005) noted that, “The preponderance of evidence indicates that school principals contribute to school effectiveness and student achievement indirectly through actions they take to influence school and classroom conditions” (p. 229). Equipping stakeholders with tools that have the potential to help identify principals who possess the skills and capabilities properly suited to their assigned school needs must be on the agenda for public education.

Overview of the Study

This study used a non-experimental correlational and comparative design in one urban Virginia school division. Principal reported self-efficacy was collected using the Principal Sense of Efficacy Scale (PSES) developed by Tschannen-Moran and Gareis (2004). The instrument includes efficacy subscales for management, instructional leadership, and moral leadership. Reading and mathematics Virginia Standards of Learning (SOL) assessment results, specifically the overall school SOL pass rates for grades three through eight as well as the end of course (EOC) Grade 11 English and EOC Geometry were used as the indicators of student achievement.

Research on leadership practices and school improvement indicate that school context matters and that further study using comparison sites is needed to determine if leadership factors associated with turnaround schools are also present in other school contexts (Aladjem, Birman, Orland, Harr-Robins, Heredia, Parrish, & Ruffini , 2010; Herman et al., 2008). School context, specifically principals at turnaround schools versus fully accredited schools served as the comparison groups for this study.

Correlational analyses of principal reported self-efficacy and reading and mathematics student achievement were used to determine the extent to which principal self-efficacy could predict student achievement. Comparative analyses were used to examine the existence of any statistically significant differences between the self-efficacy of principals at turnaround versus fully accredited schools.

Historical Perspective

The Elementary and Secondary Education Act (ESEA) of 1965 influenced education reform with the intent of addressing disparities in educational opportunities and achievement for children in poverty. Almost forty years later ESEA was reauthorized and became what is known as the No Child Left Behind (NCLB) Act of 2001. This reauthorization expanded federal involvement in student achievement and school success by incorporating a variety of required practices and monitoring activities centered on national proficiency benchmarks, high-stakes student achievement testing, accountability, and labeling of schools (No Child Left Behind Act [NCLB], 2002).

Between 2002 and 2016 ESEA underwent additional reauthorizations, flexibility waivers for states and schools not meeting national benchmarks, and competitive federal funding grants tied to struggling states and failing schools. The most recent reauthorization was signed into law by President Obama in 2015 and was renamed the Every Student Succeeds Act (ESSA). The extent of the impact on public education as a result of ESSA has not yet been fully realized. The U.S. Department of Education (USDOE) has communicated that while assessment systems and practices may change, the essential requirements of the law and accountability expectations for schools will remain the same (U.S. Department of Education [USDOE], 2015). The responsibility of a focus on student achievement implemented through high stakes testing, accountability, and school labeling will continue to require local school division leaders to identify solutions (The White House, Office of the Press Secretary, 2015). The leadership

responsibility of identifying solutions for improving student achievement warrants a focus on the identification of principals with the skills and capabilities suited to successful school turnaround (Kowal & Ableidinger, 2011; Kutash, Nico, Gorin, Rahmatullah, & Tallant, 2010; Murphy, 2008; Murphy, 2010b).

Statement of the Problem

Turnaround schools in the process of improvement present a distinct challenge and require individualized applications of effective leadership practices (Leithwood et al., 2010). Murphy (2010a) states that principal leaders should be selected based on expertise related to their assigned school needs and challenges. The challenges of turnaround schools and school leadership (Leithwood et al., 2010; Herman et al., 2008; Rhim, Kowal, Hassel, & Hassel, 2007) as well as recommendations for effective leadership practices (Cotton, 2003; Marzano et al., 2005; Louis et al., 2010; Hattie, 2012) have been widely studied. Research identified that selecting principals with the appropriate leadership skills and capabilities related to their specific school challenges is necessary for school turnaround (Kowal & Ableidinger, 2011; Kutash et al., 2010; Murphy, 2008; Murphy, 2010b) but does not identify resources or tools to assist with making these selections. This study examined the usefulness of self-efficacy as a tool for identifying principals with the skills and capabilities suited to the challenge of turnaround schools.

Significance of the Study

National perspective. This study was significant because federal education programs and initiatives have identified the recruitment and development of school leaders, particularly in schools with chronically low achievement, and turning around achievement in the lowest performing schools as a priority (USDOE, 2009). President Obama signed the American Recovery and Reinvestment Act (ARRA) in February 2009. Over four billion dollars were set aside for competitive education grants named the Race to the Top (RTT) fund. RTT intentions were to monitor and reward states that successfully raised student achievement and then spread the most effective reform ideas across the country (USDOE, 2009). In spite of billions of dollars in reform efforts allocated toward these goals there remains a need for widely applicable solutions for accomplishing either goal. During the 2012-2013 school year, 45 states plus the District of Columbia, Puerto Rico, and the Bureau of Indian Education had applied for flexibility

waivers due to not having met all federal measures for student achievement and school outcomes (USDOE, *n.d.*).

Virginia state and local perspective. According to the Virginia Department of Education (VDOE), 81% of state schools met requirements for full accreditation based on school year 2015-2016 SOL pass rate achievement results (Virginia Department of Education [VDOE], 2016). Approximately 340 of the 1,800 schools make up the 19% of schools in the state that did not meet full accreditation requirements by various margins (VDOE, 2016). The VDOE utilizes multiple indicators for identifying turnaround schools, essentially those considered in a state of crisis or urgent need. These include Title I schools not meeting federal outcome requirements and schools that consistently have not met requirements for fully accredited status based on state accountability standards (VDOE, 2015). Identified schools are provided assistance with a focus on building school division-level capacity to support school improvement (VDOE, *n.d.*). Assistance in identifying and recruiting principals with the skills and capabilities proven by research to support student achievement in a challenged school context is not stated as a focus by the VDOE.

Purpose of the Study

The purpose of this non-experimental correlational and comparative study was to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in turnaround and fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. Principal self-efficacy is defined as, "...a judgment of his or her own capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573). Overall principal self-efficacy as well as efficacy for management, instructional leadership, and moral leadership as measured by the PSES (Tschannen-Moran & Gareis, 2004) were examined to determine the extent to which self-efficacy predicted student achievement. Overall school SOL assessment pass rates for reading and mathematics were used as indicators of student achievement.

Justification of the Study

The literature on principal leadership, turnaround schools, and student achievement noted practices likely to support student achievement and improvement (Cotton, 2003; Hattie, 2012;

Louis et al., 2010; Marzano et al., 2005) but lacks quantitative comparative data between principals at turnaround and high-performing schools (Aladjem et al., 2010; Herman et al., 2008). Additionally, the body of research is largely qualitative (Herman et al., 2008; Rhim et al., 2007) providing a narrative view of challenges, such as the lack of a universal improvement model (Aladjem et al., 2010; David, 2010; Leithwood et al., 2010) and the demand for rapid improvement (Calkins, Guenther, Belfiore, & Lash, 2007; Herman et al., 2008; Leithwood et al., 2010). As a result, there is an absence of research-based practices or resources recommended for identifying and assigning candidates with the skills and capabilities appropriate for turning around a school.

Further, there is a shortage of principal applicants (Dillon, 2011; Owings, Kaplan, & Chappell, 2011; Peck & Reitzug, 2014; Pijanowski, Hewitt, & Brady, 2009), principal turnover concerns (The Wallace Foundation, 2013), and a lack of evidence for successful school turnaround in the absence of an effective principal (Duke, 2008; Louis et al., 2010; Sammons, Hillman, & Mortimore, 1995). Therefore, research regarding differences in principal skills and capabilities in turnaround schools versus other contexts is necessary. These issues combined with the gap in the literature indicate a need to identify tools with the potential to aid in the appropriate selection of school leaders based on the challenges of their schools such as in turnaround versus fully accredited schools.

Research Questions

The following research questions were addressed as a part of this study:

1. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict reading SOL achievement in turnaround and fully accredited schools?
2. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict mathematics SOL achievement in turnaround and fully accredited schools?
3. What are the differences if any between principal reported self-efficacy in turnaround versus fully accredited schools?

Conceptual Framework

Albert Bandura's (1997) influential self-efficacy theory provided the foundation for the conceptual framework of this study. Bandura (1997) determined that self-efficacy beliefs can vary across contexts such as turnaround or fully accredited schools or a domain such as principal leadership. Based on Bandura's work, Tschannen-Moran and Gareis (2004) defined principal self-efficacy as his or her judgment about their own capabilities to execute a course of action that will lead to intended outcomes in their schools. Principals may feel efficacious within a particular school context but feel less so in a different context such as a turnaround versus fully accredited school (Tschannen-Moran & Gareis, 2004).

Research across a variety of fields has repeatedly shown that self-efficacy can contribute to motivation and action (Bandura, 1997; Bandura, 2010; Bandura & Locke, 2003) and predict behavior and performance (Bandura & Locke, 2003). Leithwood et al. (2010) stated that turnaround schools present a distinct challenge for school leaders and require individualized implementation of effective leadership actions and behaviors. Principals who feel highly efficacious have demonstrated persistence in goal attainment as well as flexibility in adapting strategies in order to meet the demands of their context specific school needs (Tschannen-Moran & Gareis, 2004).

The focus of this investigation included examining the relationship between principal reported self-efficacy and student achievement as well as differences in the self-efficacy of principals working in turnaround versus fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. The indirect impact of school leadership on student achievement and school success has been noted in the literature (Hallinger, 2005; Leithwood et al., 2004; Louis et al., 2010). A shortage of literature regarding methods for identifying principals with skills and capabilities related to specific school contexts exists. The presence of a significant relationship between principal self-efficacy and student achievement and meaningful differences in the self-efficacy of principals at turnaround versus fully accredited schools may indicate that measuring self-efficacy has potential as a method for identifying assigning, and supporting principals based on specific school needs and challenges. Figure 1 represents the conceptual framework developed for this study.

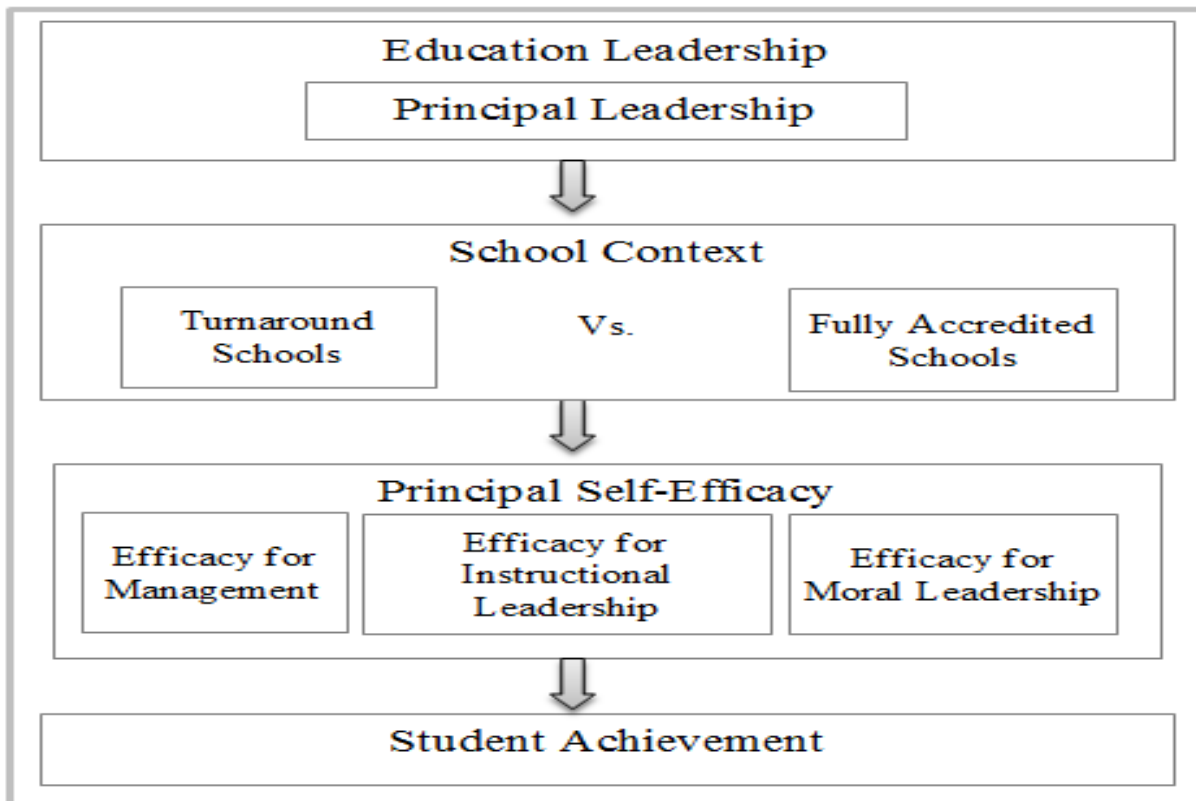


Figure 1. Conceptual framework. The figure illustrates the conceptual framework comparing the self-efficacy of principals at turnaround and fully accredited schools and connecting principal self-efficacy to student achievement.

Definition of Terms

The following terms were utilized and defined to direct this study.

Accreditation. Virginia public school accreditation ratings are determined by student achievement on the Virginia Standards of Learning (SOL) tests from the previous school year or an average of three-year achievement in English, history/social science, mathematics and science (VDOE, 2016).

Fully accredited school. Fully accredited elementary, middle, and high schools achieved 75 percent or higher in English and 70 percent or higher in mathematics, science, and history. High schools must also achieve a point value of 85 or greater on the Graduation and Completion Index (GCI) which measures on-time four-year graduation rates.

Instructional leadership. A “broad set of principal roles and responsibilities designed to address the workplace needs of successful teachers and to foster improved achievement among students” (DiPaola & Tschannen-Moran, 2003, p. 44).

Principal self-efficacy. According to Tschannen-Moran and Gareis (2004), a principal’s sense of self-efficacy is a judgment regarding individual capability to structure a course of action in order to produce desired outcomes in the school a principal leads. It is the principal’s perception regarding individual capability to perform the cognitive and behavioral tasks needed in order to manage group processes towards goal achievement.

Principal Sense of Efficacy Scale (PSES). Tschannen-Moran and Gareis (2004) defined principal self-efficacy and developed an 18 item scale designed to gain a better understanding of areas that create challenges for principals in their particular school activities. The scale provides a full scale measure of principal self-efficacy as well as efficacy subscale scores for management, instructional leadership, and moral leadership.

Efficacy for management. Principal self-efficacy for management is a six item subscale of the PSES focused on the principal’s perceptions regarding their current capability, resources, and opportunity for handling the paperwork and time demands of the job, maintaining control of their schedule, prioritizing among competing demands, and coping with job stress.

Efficacy for instructional leadership. Principal self-efficacy for instructional leadership is a six item subscale of the PSES focused on the principal’s perceptions regarding their current capability, resources, and opportunity for motivating teachers, establishing a shared vision, managing change, creating a positive learning environment, facilitating learning, and raising student achievement on standardized tests.

Efficacy for moral leadership. Principal self-efficacy for moral leadership is a six item subscale of the PSES focused on the principal’s perceptions regarding their current capability, resources, and opportunity for promoting acceptable student behavior, school spirit, a positive school image with the media, prevailing community values, and ethical behavior among staff in addition to effectively handling student discipline.

Socioeconomic Status (SES). Socioeconomic status is an indicator of student wealth or poverty and is most commonly measured in schools based on a student’s eligibility for free and reduced price lunch (Ladd, 2012; Sirin, 2005; Tienken, 2012).

School socioeconomic status. The percentage of students at each school who are eligible for free and reduced price lunch during the school year (Sirin, 2005).

Title I. Additional federal funding provided to schools with large populations of low SES students to address the imbalance of educational opportunities and results for impoverished students (Elementary and Secondary Education Act [ESEA], 1965). Schools receiving these funds are commonly referred to as Title I schools.

Student achievement. Indicators for student achievement utilized in this study were the reading and mathematics SOL assessment results for grades three through eight as well as end of EOC Grade 11 English and EOC Geometry. SOL assessments are criterion referenced tests approved by the Board of Education that measure the attainment of knowledge and skills outlined by the state standards for learning (VDOE, 2015).

Pass rate. The percentage of tests with a passing score as defined by the VDOE in each grade and subject area SOL test.

Turnaround school. Turnaround schools are discussed interchangeably throughout the research as a condition or state of crisis, as a process or journey towards improvement, and as a consequence of having achieved improved student success (Murphy, 2008). For the purposes of this study, schools identified as turnaround (in a condition or state of crisis) are any schools not meeting the fully accredited rating as a part of the VDOE accreditation designations.

Limitations

The study included the following limitations:

1. This study utilized a non-random, convenience sampling strategy within one urban Virginia school division and generalizability to other school divisions was limited.
2. Participation in the study was voluntary and therefore responses of principals who chose to participate may be different than those who chose not to participate.
3. Principals' sense of efficacy are based on a self-report and therefore some participants may not have responded honestly or may have felt the need to report highly favorable responses on the survey.
4. The study utilized a survey that forced participants into specific response categories, limiting the range of responses.

5. The study was a non-experimental correlational and comparative study. The existence of relationships and differences between the turnaround and fully accredited school comparison groups could not be generalized to indicate causation.

Delimitations

The study included the following delimitations:

1. The public school setting of the study participants was an urban school division in the Virginia Tidewater Region. The perceived sense of efficacy for principals in other areas of the state were not considered.
2. The study participants were restricted to those who served as the principal of their current school during the 2015-2016 school year prior to the study.

Assumptions

The following researcher assumptions existed as a part of this study:

1. Educational leadership, specifically the principal, is essential to student achievement.
2. The theoretical framework of self-efficacy theory predicts motivation and behavior and therefore may be instructive to state and school division leadership in recruiting, assigning, and supporting principal leaders for particular school contexts.

Organization of the Study

This study is organized into five chapters, references, and appendices. Chapter One introduced the study, including a historical perspective, overview of the study design and leading concepts related to the problem, significance of the study, research questions, purpose, conceptual framework, definitions, limitations, delimitations, assumptions, and an organizational summary. Chapter Two presents a review of the related literature pertaining to education reform in the United States, turnaround schools, turnaround school challenges, turnaround school recommended practices and findings, principal leadership, principal leadership challenges, principal instructional leadership and practices for impacting student achievement, principal leadership and turnaround schools, and self-efficacy as a theoretical framework. Chapter Three explains the quantitative methodology used in the study. Included are the research design justification and questions, sample selection, data collection and gathering procedures,

instrument design, data treatment and management, and how the data were analyzed and interpreted. Chapter Four reports and describes the data, providing a descriptive analysis of the sample participants and their self-reported sense of efficacy. Correlational and comparative data between principal self-efficacy and student reading and mathematics SOL pass rate achievement at turnaround versus fully accredited schools is also reported. Chapter Five provides a summary of the findings, implications for professional practice, and recommendations for further research. The study concludes with references and appendices.

Chapter Two

Literature Review

Literature Search Process

The literature search process for this study was conducted by accessing the Virginia Polytechnic Institute and State University online library and databases in addition to public internet search engines. Keywords related to the research included a combination of phrases such as principal leadership, turnaround schools, poverty, school improvement, student achievement, and principal self-efficacy. Search limits to restrict for scholarly and peer-reviewed sources published from 2005 to present were applied. Approximately 10,000 sources were identified and narrowed based on a scan of titles and abstracts. A more detailed review of abstracts resulted in nearly 200 remaining scholarly journal articles, professional books, newspaper or magazine articles, and government documents. These sources related to school reform, turnaround schools, principal leadership, self-efficacy theory, student achievement, and instructional leadership. Throughout the literature review process, works referenced by other authors related to the topic of turnaround schools, school leadership, and student achievement were appraised and utilized.

Purpose of the Literature Review

This review of the literature focused on education reform in the United States, turnaround schools, principal leadership challenges, principal instructional leadership and impact on student achievement, and self-efficacy as a theoretical framework. Principals are the individuals ultimately held accountable for student achievement and school success (Duke, 2004; Fullan, 2014). Leadership has been reported as the second most contributing factor to student learning with its effects being largest in the areas of greatest need (Leithwood et al., 2004). As such, school leaders must be able to act in order to create successful schools.

This literature review is organized into four sections: history of education reform in the United States, turnaround schools, principal leadership and factors that impact student achievement, and self-efficacy theory as a theoretical framework. The first section focuses on the historical background of education reform in the United States up to the current turnaround school movement. The second section defines turnaround schools and identifies challenges and best practices. The third section details research on principal leadership, instructional leadership

as a specific model, and relationship to student achievement. School leader challenges and best practices for supporting student achievement are identified. The final section examines self-efficacy theory as a framework for identifying, developing, and supporting principals capable of improving student achievement outcomes in the turnaround school setting.

Education Reform in the United States

The ESEA (1965) was the rise of a “movement towards centralization” (Meyers, 2012) for school improvement and reform through federal education legislation. Enacted during the Civil Rights era as a part of President Johnson’s “War on Poverty”, the intent was to address the imbalance of educational opportunities and results for poor children (Meyers, 2012). The law proposed to provide monetary support, referred to as Title I funds, to local school divisions that served a high concentration of poor students. Funds were designated to enlarge and improve educational programs and services. At its inception, ESEA (1965) left monitoring and accountability of outcomes for local education agencies to the states and explicitly outlined that,

Nothing contained in this Act shall be construed to authorize any department, agency, officer, or employee of the United States to exercise any direction, supervision, or control over the curriculum, program of instruction, administration, or personnel of any educational institution or school system. (p. 57)

In 1983 the National Commission on Excellence in Education published *A Nation at Risk*, which heralded the advent of declining public confidence in public education. Throughout the report, The National Commission on Excellence in Education (1983) urged public concern with such statements as “the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people” and descriptions of educational performance as “acts of war” (p. 5). The stated intent was to, “generate reform of our educational system in fundamental ways and to renew the Nation’s commitment to schools and colleges” (p. 6). Report findings such as American students’ lagging international performance on achievement tests, high numbers of functionally illiterate adults and teens—particularly minority teens, and declines in science achievement, higher order thinking skills, writing, and ability to solve multi-step mathematics problems among U.S. 17-year-olds were called upon to necessitate school reform. The aftermath of *A Nation at Risk* has been a contradiction. The report called for unifying efforts to improve education that avoided blaming,

particularly of teachers, and stated a belief that “the assistance of the Federal Government should be provided with a minimum of administrative burden and intrusiveness” (National Commission on Excellence in Education, 1983, p. 33).

Despite these cautions, the watershed reauthorization of ESEA (1965), known as the No Child Left Behind (NCLB) Act of 2001 would be the most significant federal legislation to follow *A Nation at Risk*. Conceived to improve schools and address concerns for student achievement, the expectations of NCLB ran counter to the original ESEA (1965) disclaimers and cautions of *A Nation at Risk* regarding the federal government’s involvement in public education. The potential withdrawal of federal funds left local school divisions with little choice but compliance. Additionally, local school divisions were faced with the threat of federally prescribed state interventions if schools continued to miss the expected targets (NCLB, 2002).

NCLB (2002) charged schools with a number of achievements to include:

- 100% student proficiency on state achievement tests by 2014;
- state assessment of students annually in reading and mathematics for grades three through eight and once in high school;
- meet achievement targets known as Annual Measurable Objectives (AMOs), reported as Adequate Yearly Progress (AYP) for various student demographic subgroups, attendance, and graduation rates in an effort to reduce gaps between groups;
- provide tutoring at no charge if AYP is not met for three consecutive years;
- allow students to transfer to a school with better performance if AYP is not met for two years; and
- staff schools with teachers and paraprofessionals meeting certifications and predetermined levels of proficiency in their content area, commonly referred to as “highly qualified”.

Some research on the outcomes of NCLB (2002) has resulted in the identification of positive outcomes (Detrich & Lewis, 2012; Kantor, 2015; Husband & Hunt, 2015; Sims, 2013). Positive outcomes of the legislation include:

- a shift in targeted attention towards the performance of students living in poverty and students of color and a belief that achievement should not be limited by ethnic, racial, or economic circumstances (Kantor, 2015);
- an increase in the number of highly qualified paraprofessionals and attention towards the expertise and development of paraprofessionals (Husband & Hunt, 2015);
- an increase in teacher self-efficacy related to professional development programs and projects offered by NCLB (Husband & Hunt, 2015);
- an increase in the amount of resources available to teachers (Husband & Hunt, 2015);
- an upward trend in the overall average test scores of students and the percent of students meeting expectations on achievement tests (Husband & Hunt, 2015; Sims, 2013);
- a shift in principal and superintendent practices to include increased attention to data, greater involvement in instruction, encouragement of collaboration among teachers, and focused effort on hiring and retaining of highly qualified teachers (Husband & Hunt, 2015); and
- progress toward a shift in education from intangible to more evidence-based practices, towards the development of more rigorous standards for validating evidence-based practices, and towards emphasizing the need to improve implementation of evidence-based practices with integrity and fidelity (Detrich & Lewis, 2012).

In spite of the aforementioned positive outcomes, since its passage in 2002, NCLB has been subject to a variety of criticisms (Klein, 2015; Meyers, 2012; Ravitch, 2010; Ravitch, 2014). Negative outcomes of the legislation include:

- imposed remedies and practices that were not proven effective by research (Ravitch, 2010; Ravitch, 2014);
- punished failure to meet unrealistic student proficiency goals (Klein, 2015; Ravitch, 2010; Ravitch, 2014);
- increased federal control and authority over public education (Klein, 2015; Meyers, 2012; Ravitch, 2010; Ravitch, 2014);

- emphasized standardized testing as the best measure for student success and teacher and school quality (Klein, 2015; Ravitch, 2010, Ravitch, 2014);
- labeled schools as failing in the eyes of the media and public (Ravitch, 2014);
- narrowed the curriculum focus for students based on what was tested (Ravitch, 2010; Ravitch, 2014); and
- invited unprecedented for-profit, private sector interest and control of public education (Ravitch, 2014).

These challenges led to the passage of the American Recovery and Reinvestment Act (ARRA) of 2009, referred to as economic stimulus funding by President Obama's administration. As a part of the ARRA, over four billion dollars were earmarked as competitive education grants called the Race to the Top (RTT) Fund with the goal of "creating the conditions for education innovation and reform" (USDOE, 2009, p. 2). Whereas RTT was intended to address criticisms of NCLB, Ravitch (2014) argued that RTT was only slightly different but more damaging than NCLB by further endorsing testing, accountability, and school choice. Further, RTT signaled a shift in the provision of federal monies based on need and the promotion of equity to a "position that competition was a better way to award federal funding" (Ravitch, 2014, p. 15).

In 2010 almost 40% of U.S. schools were not meeting AYP (Klein, 2015). Due to the number of schools struggling to meet AYP, in 2012 President Obama's administration offered states flexibility waivers from meeting original mandates in exchange for other directives (Klein, 2015). In order to be granted a waiver states had to either adopt a national curriculum known as the Common Core State Standards or have their standards confirmed as rigorous by higher education, continue assessing students annually using tests aligned to the standards, develop teacher evaluation systems that included accountability for student test performance, and target 15% of the state's lowest performing schools for "turnaround" efforts (Klein, 2015).

Adjustments to federal proposals, initiatives, and competitive funding continued through 2015 in an effort to improve schools labeled as failing. In spite of various iterations of federal education legislation, the concept of identifying and targeting failing schools by turning them around remained. NCLB (2002) required schools that consistently failed to reach expected achievement levels to be subject to prescribed state intervention in the form of school closure,

reopening as a charter school, reconstitution or replacement of the school principal and staff, or another significant school transformation strategy. This prescription for improvement remained constant through NCLB, RTT, and the flexibility waivers.

The Every Student Succeeds Act (ESSA) was signed into law by President Obama on December 10, 2015. The U.S. Department of Education (USDOE) in a *Dear Colleague* letter dated December 18, 2015 notes that they were “reviewing the ESSA to better understand the impact of any changes to the requirements for state assessment systems but...the essential requirements are unchanged” (USDOE, 2015, p. 1). ESSA has promised to continue supporting quality education for students through the implementation of college-and career-ready standards; expand preschool opportunities; and give back control to local states and school divisions regarding accountability measures, targets, and interventions. At its core, ESSA still requires that states identify the lowest performing schools and apply interventions (The White House, Office of the Press Secretary, 2015). Until the nuances of implementation are realized, changes in the impact for all stakeholders, including school leaders, remain to be seen.

Turnaround Schools

Turnaround schools are discussed interchangeably throughout the research as a condition or state of crisis, as a process or journey towards improvement, and as a consequence of having achieved improved student success (Murphy, 2008). In spite of consistently low success rates of 25-30% in business, school turnaround is a concept derived from the private sector (David, 2010; Kowal & Ableidinger, 2011; Peck & Reitzug, 2014). Organizations that experience significant declines in performance and are characterized as being unable to survive in the absence of swift improvements are the essence of turnarounds (Hofer, 1980). Education has adopted this mindset and applied it to schools repeatedly failing to meet student achievement goals, typically measured by high-stakes state tests. The current focus on schools demonstrating substantial and rapid improvement of student achievement during a short period of time, frequently specified as two years, is the current federal turnaround school framework (Cai, 2011; Calkins et al., 2007; Herman et al., 2008; Leithwood et al., 2010; Mass Insight, 2010).

Turnaround school challenges and criticisms. The origin of the turnaround concept from the private sector creates some challenges. First, public education has modeled after a domain where hiring and firing of staff is easier (Dillon, 2011). Secondly, turnaround as a successful strategy for organizational improvement is not supported by research (David, 2010;

Kowal & Ableidinger, 2011; Peck & Reitzug, 2014). Mette and Scribner (2014) reiterated that efforts from the business sector more often resulted in failure and argued that ignoring and selectively applying concepts from the literature is not only fatuous but compromises school leaders' abilities to lead ethically in the best interest of students. Murphy (2010b) in a less strident argument cautioned overgeneralizing private sector research findings to the school context. Additionally, the time criticality of school turnaround, also a derivative of the private sector, demands that significant achievement gains are realized in a short period of time, typically within two years (Calkins et al., 2007; Herman et. al, 2008; Leithwood et al., 2010). This expectation diverges from school improvement research that indicates increasing student achievement and the quality of a school is better realized over a three to five year period (Calkins et al., 2007; Leithwood et al., 2010; Peck & Reitzug, 2014; Ylimaki, Brunderman, Bennett, & Dugan, 2014).

The impact of individual school context is also consistently identified as a significant barrier to turning around schools. An abundance of scholarly work emphasized that there is no one size fits all model for turning around a school (Aladjem et al., 2010; David, 2010; Leithwood et al., 2010; Herman et al., 2008; Murphy, 2008; Rhim et al., 2007). Contrary to the efforts of federal mandates, strategies and actions put into place in one school cannot be applied to all struggling schools with the same results. High schools with their varied curriculum content have experienced a greater degree of difficulty in identifying practices that promote school turnaround (Aladjem et al., 2010; Kutash et al., 2010; Leithwood et al., 2010; Salmonowicz, 2009). A criticism of the federal turnaround model is that it applied an already specified approach to improvement in targeted schools (Duke, 2006). As a consequence, a byproduct of the context issue is that most schools in turnaround fail to dedicate time and effort up front to identifying the reasons for individual school decline before applying interventions (Duke, 2006; Duke, 2008; Murphy, 2008).

A particular challenge for turnaround schools is that many are also schools with a higher population of students living in poverty (Calkins et al., 2007; Kutash et al., 2010; Peck & Reitzug, 2014). The most commonly used measure of student socioeconomic status (SES) in schools is a student's eligibility for free or reduced price lunch (Ladd, 2012; Sirin, 2005; Tienken, 2012). School SES is frequently defined as the percentage of students at each school who are eligible for free and reduced price lunch during the school year (Sirin, 2005).

There exists an inequality of school funding between poorer and wealthier communities and schools (Children's Defense Fund, 2014). ESEA (1965) included a component designed to provide additional federal funding to schools with high percentages of low SES students to address the imbalance of educational opportunities and results for impoverished students. This component is referred to as Title I.

The negative impact of poverty on student and school achievement has been extensively demonstrated in the research (Children's Defense Fund, 2014; Ladd, 2012; Sirin, 2005; Tienken, 2012; Tienken, 2014). The Children's Defense Fund (2014) concluded that nearly three-quarters or more of low SES fourth and eighth grade students could not read or compute on grade level compared to 52 percent or less of higher SES students. Tienken (2014) reported that the ranking of American students on national mathematics assessments such as the Programme for International Student Assessment (PISA) increased drastically when school scores were separated by poverty. For example, U.S. rankings increased from 31st to 3rd place on the 2009 PISA when schools were separated by poverty and comparable schools with a poverty rate of 10% or less were considered.

In a meta-analytic review of the literature linking SES and academic achievement, Sirin (2005) described that there is a medium level of correlation between SES and achievement at the student level, $d = .28$, and a large degree of association at the school level, $d = .60$. Sirin (2005) elaborated that 60 percent of the variance in standardized test scores can be explained by poverty. Sirin's (2005) meta-analysis did not indicate what variables accounted for the other 40 percent of variance. Tienken (2012) asserted that the correlation between SES and school level achievement is significant for school leaders because this is the level at which principal quality or expertise is measured.

Further complicating matters, effective school turnaround research primarily consists of qualitative case studies and theories that provide recommendations rather than proven causal practices. The research on effective school turnaround is lacking in rigorous empirical studies (Herman et al., 2008; Rhim et al., 2007). Combine this with the reality that the person largely responsible for implementing change and realizing turnaround, the principal, is in short supply (Dillon, 2011; Peck & Reitzug, 2014) and it is no wonder that in the 2013-2014 school year only 35.5 percent of schools nationally and 31.6 percent of Title I designated schools made AYP in all areas (Ed.gov, 2015). Given the many pressures and challenges of turning around a school, it is

not surprising that schools able to achieve turnaround success are faced with the considerable challenge of sustaining their success (Aladjem et al., 2010; Peck & Reitzug, 2014).

Turnaround school recommended practices and findings. Although turnaround schools are context specific and the better part of the research is qualitative in nature, some similarities have emerged regarding traits or actions taken in schools that have successfully managed to turnaround. Notable themes or commonalities from turnaround school literature include:

- the presence of new or task specifically qualified principals leading change (Aladjem et al., 2010; Herman et al., 2008; Kowal & Ableidinger, 2011; Kutash et al., 2010; Leithwood et al., 2010; Mass Insight, 2010; Murphy, 2008; Murphy, 2010b; Robinson & Buntrock, 2011; Salmonowicz, 2009);
- use of data to monitor initiatives frequently and in transparent or public ways (Aladjem et al., 2010; Kowal & Ableidinger, 2011; Peck & Reitzug, 2014);
- school or leader autonomy to take needed actions (Calkins et al., 2007; Kutash et al., 2010; Leithwood et al., 2010; Mass Insight, 2010; Peck & Reitzug, 2014; Rhim et al., 2007);
- increasing capacity in staff, particularly the school leader, often specified in terms of targeted and specific professional development (Calkins et al., 2007; Kutash et al., 2010; Mass Insight, 2010; Salmonowicz, 2009);
- diagnosing causes of school decline (Duke, 2008; Murphy, 2010a; Murphy, 2010b; Salmonowicz, 2009);
- beginning with a series of “quick wins” or easily implemented items to establish some success (Herman et al., 2008; Kutash et al., 2010; Murphy, 2010b; Rhim et al., 2007; Salmonowicz, 2009);
- narrow and maintain a focus, including alignment of interventions to instruction (Duke, 2008; Kutash et al., 2010; Murphy, 2010a; Peck & Reitzug, 2014);
- transition from school leader directed change to distributed leadership with staff (Aladjem et al., 2010; Calkins et al., 2007; Herman et al., 2008; Peck & Reitzug, 2014); and

- create hope and a sense of urgency through vision and goal setting (Leithwood et al., 2010; Mendels, 2012; Murphy, 2010a; Murphy, 2010b; Peck & Reitzug, 2014; Robinson & Buntrock, 2011).

While research revealed that turnaround schools share common characteristics, most of the literature pointed to the presence of capable school leadership. Murphy (2008) asserted that there is a lack of attention paid to leadership in the effort to find a solution that fits all schools. He insisted that "...one should be less than sanguine about turnaround strategies that attempt to 'work around' school leaders. That is, 'leader proof' recovery efforts are about as likely to be effective as 'teacher proof' curriculum programs" (Murphy, 2008, p. 90). According to Leithwood et al. (2010), inadequate leadership is a primary cause of school decline. Leithwood and colleagues noted a similarity of practices used by leaders in all contexts but maintained that the most successful leaders address the needs of their particular school.

Principal Leadership

The current federal policy climate places student achievement at the forefront of discussions around school quality and success (Louis et al., 2010; NCLB, 2002; USDOE, 2015). School reform in American education, including the current turnaround school focus, is predicated on the notion that student achievement in identified schools does not meet public or political expectation. The impact of the principal on student achievement has been one area of interest and it is widely held that school leadership is the second most influential factor impacting student achievement behind teachers (Leithwood et al., 2004). Principal, principal leadership, and school leadership are used interchangeably throughout this literature review.

Principal leadership challenges. This field of knowledge and practice is not without challenges despite the consensus around the impact of school leadership. Empirical research specifically focused on the relationship between principal leadership and student achievement remains a fairly new area of interest (Branch, Hanushek, & Rivkin, 2013; Hallinger & Heck, 1996; Marzano et al., 2005). Difficulty isolating the impact of school leadership from other factors that may affect student achievement contributes to the lack of quantitative research (Branch et al., 2013; Hallinger, 2005; Marzano et al., 2005). Similar to turnaround school research, isolating and determining influential variables and practices in high schools has been more difficult (Cotton, 2003; Hallinger, 2005).

Considered from the practitioner perspective, many researchers further argue that the job of a school leader has become impossibly broad for one person in terms of energy and expertise (DiPaola & Tschannen-Moran, 2003; Duke, 2004; Fullan, 2014, Marzano et al., 2005; Portin, Knapp, Dareff, Feldman, Russell, Samuelson, & Yeh, 2009). School leaders confident that they can do it all will be faced with the challenge of accurately applying the needed skills to the appropriate context (Dodman, 2014; Duke, 2004; Hallinger, 2005; Marzano et al., 2005). Mendels (2012) fittingly described that, “Knowing what constitutes good school leadership is one thing. Putting it into effect is another” (p. 58).

Principals as instructional leaders. Mendels (2012) proposed that the modern role of the principal is no longer focused on managerial tasks but that of instructional leadership which works collaboratively to tap into potential by setting high expectations, developing professional learning communities, and spreading leadership. He specified that this type of leader is focused on instruction and has a strong professional or content knowledge of the job (Mendels, 2012). Research supports that principals who are knowledgeable and involved in instruction have better student achievement results (Cotton, 2003; Hattie, 2012; Marzano et al., 2005).

Hallinger (2005) observed that a significant amount of research found that principals impact student achievement indirectly through actions that influence school and classroom conditions. Principal effects on instruction are more closely related to culture and modeling versus direct supervision and evaluation (Hallinger, 2005). Hattie (2012) indicated that instructional leaders attend to the quality and impact of all aspects of their school on student learning. They have high expectations for staff and students and focus on minimizing disruptions to learning, visiting classrooms, and interpreting data about the quality of learning in their schools. These research findings reflect an inclusive instructional leadership model that DiPaola and Tschannen-Moran (2003) defined as a, “broad set of principal roles and responsibilities designed to address the workplace needs of successful teachers and to foster improved achievement among students” (p. 44). This definition reflects an understanding of Fullan’s (2014) criticism that research and practice have too narrowly defined instructional leadership as a principal’s direct involvement in classroom instruction. In his book titled *The Principal: Three Keys to Maximizing Impact*, he argues that an alternative to the obsession with classroom instruction and checklists is to “reposition the role of the principal as overall

instructional leader so that it maximizes the learning of all teachers and in turn of all students” (Fullan, 2014, p. 6).

A broad definition of the principal as instructional leader to include a focus on leader behaviors and school and classroom conditions is supported by the Louis et al. (2010) findings regarding the indirect relationship between leader self-efficacy and student achievement. Louis et al. (2010) found significant correlations between leader self-efficacy and leader behaviors such as setting directions, developing people, redesigning the organization, and managing the instructional program as well as school and classroom conditions.

Principal practices for impacting student achievement. Although rigorous examination of the link between principal leadership and student success is relatively new, there exists landmark research and contributions to best practices in this area. Cotton (2003) conducted a narrative review of the literature on principal leadership and student achievement. Eighty-one studies completed since 1985 were included. Seventy-four were completed in the U.S. and over half focused on low SES students. Forty-nine were primary documents or research studies while twenty-three were reviews or summaries. The review considered principal behaviors as they related to a variety of student outcome behaviors, with the majority (56 studies) utilizing student achievement in a specific content or in general as the measure. Studies that were interested in principal behaviors, such as use of time, but did not relate behaviors to student outcomes were not included in the review. The majority of the studies included in Cotton’s work were qualitative. Most studies surveyed teachers and principals from high-achieving schools about the leadership behaviors observed and implemented or utilized research observations and analysis.

Cotton’s analysis did not provide quantitative results but did conclude that principal leadership has an indirect effect on student outcomes and patterns for leader behavior emerged. The 25 school leader practices identified as indirectly influencing student outcomes are: (a) safe and orderly environment; (b) vision and goals focused on high levels of student learning; (c) high expectations for student learning; (d) self-confidence, responsibility, and perseverance; (e) visibility and accessibility; (f) positive and supportive climate; (g) communication and interaction; (h) emotional and interpersonal support; (i) parent and community outreach and involvement; (j) rituals, ceremonies, and other symbolic actions; (k) shared leadership, decision making, and staff empowerment; (l) collaboration; (m) instructional leadership; (n) ongoing

pursuit of high levels of student learning; (o) norm of continuous improvement; (p) discussion of instructional issues; (q) classroom observation and feedback to teachers; (r) support of teachers' autonomy; (s) support of risk taking; (t) professional development opportunities and resources; (u) protecting instructional time; (v) monitoring student progress and sharing findings; (w) use of student progress for program improvement; (x) recognition of student and staff achievement; and (y) role modeling (Cotton, 2003, p. 7-44). Though Cotton (2003) addressed these practices individually she clarified that "...in the real world they do not exist separately....On the contrary, the extraordinary principals who are the focus of some of these studies embody all or nearly all of these traits and actions" (p.7).

Marzano et al. (2005) conducted a landmark study on the relationship between principal behaviors and student achievement. Meta-analysis techniques were used to synthesize research on the topic and for the first time attempted a comprehensive quantitative analysis of links between school leader behaviors and student achievement in the United States. Marzano and colleagues examined 69 studies completed between 1978 and 2001. The researchers analyzed relationships between general leadership behavior and average student achievement by school reported as a correlation coefficient. An average .25 correlation between principal leadership and student achievement was revealed. They elaborated that the .25 correlation translated into an increase in average student achievement from the 50th to the 60th percentile when a leader experiences a one standard deviation increase in leadership ability or practices. The authors explained that while an average correlation for a study this comprehensive should be used with caution, the findings are significant.

Based on their meta-analysis, the team was able to identify 21 leadership principles or behaviors that they refer to as responsibilities and further quantified the data to provide correlation coefficients between each responsibility and student achievement. The 21 responsibilities of school leaders identified were: (a) affirmation; (b) change agent; (c) contingent rewards; (d) communication; (e) culture; (f) discipline; (g) flexibility; (h) focus; (i) ideals or beliefs; (j) input; (k) intellectual stimulation; (l) involvement in curriculum, instruction, and assessment; (m) knowledge of curriculum, instruction, and assessment; (n) monitoring or evaluating; (o) optimizer; (p) order; (q) outreach; (r) relationships; (s) resources; (t) situational awareness; and (u) visibility (Marzano et al., 2005, p. 42-43). Average correlations for the responsibilities ranged from .33 for situational awareness to .18 for relationships. The team

warned against rigidly assigning importance to the various responsibilities based on the strength of the correlation coefficient and maintained that all responsibilities are important to successful leadership.

Marzano et al. (2005) conducted a factor analysis of the 21 responsibilities and classified them as either first-order or second-order change. First-order change was defined as incremental change that help to refine and enhance a current system while second-order change was labeled as drastic actions that significantly alter the system. All 21 responsibilities were important to first-order change but only seven were related to second-order. The seven responsibilities related to second-order change include:

- knowledge of curriculum, instruction, and assessment;
- optimizer;
- intellectual stimulation;
- change agent;
- monitoring or evaluation;
- flexibility; and
- ideals or beliefs (Marzano et al., 2005, p. 70).

Marzano and colleagues reasoned that accurately assessing a need for first-order versus second-order change and appropriately enacting the correct leader behaviors is a more effective use of the 21 responsibilities.

Contrasting findings were obtained in a Witziers, Bosker, and Kruger (2003) meta-analysis of the direct effects of principals on student outcomes. Witziers et al. (2003) found small but negligible overall positive effects of principal leadership on achievement. The effect size for the complete sample was .02 and .04 when studies outside of the United States were removed. Larger effects were demonstrated with specific individual leadership behaviors such as defining and communicating a mission.

Marzano et al. (2005) explained their findings in comparison to Witziers et al. (2003) and noted that their own study included methodological differences, which would produce stronger results as follows: (a) use of only studies conducted within the United States; (b) removal of statistical outliers; and (c) correction for attenuation in the measures of achievement and principal leadership, meaning scores using instruments with low reliability were corrected.

While Marzano and colleagues explained their comparatively positive findings, additional limitations of their study and findings must be noted.

Although positive and significant correlations were identified, they are considered small to moderate. Additionally, Marzano et al. (2005) did not report effect sizes which further help to explain findings by quantifying not only the relationship between variables but the amount of variation that can be attributed to the tested variable (Howell, 2014). Finally, over 50 of the 69 studies included in their meta-analysis were unpublished doctoral dissertations. Although doctoral dissertations are considered scholarly works, they vary widely in quality and it is generally advised that they are chosen selectively (Creswell, 2014). Despite the potential limitations noted, Marzano et al. (2005) reveal that their results are not new findings, highlighting the similarity between the 21 responsibilities and Cotton's (2003) 25 categories. The researchers affirmed that "to a great extent, our findings validate the opinions expressed by leadership theorists for decades" (Marzano et al., 2005, p. 41).

Louis et al. (2010) added a third influential work to the literature around school leadership and student achievement. The researchers utilized quantitative and qualitative methods to complete a multiple-methods study over a six year period. The study sample encompassed nine states, 43 school divisions, 180 schools, 312 classroom observations, 8,391 teachers, and approximately 1,400 school, school division, and state level administrators. Existing student achievement data from state language and mathematics standardized tests for school years 2002-2003 to 2006-2007 were also analyzed.

In an effort to identify characteristics and actions implemented by school, school division, and state level leaders that improve student achievement, Louis et al. (2010) collected two rounds of survey data from principals and teachers, three rounds of site-visit data from schools and school divisions (including classroom observations and school staff interviews), and two rounds of interviews for state education leaders. A stratified random sampling plan was used to identify nine states with five school divisions per state and four schools per school division. Each region of the country (East Coast, South, and Midwest and West combined) included three states in the sample. School divisions were then further stratified by size and level of student poverty and diversity. The study was sponsored by the Wallace Foundation and as a result, states participating in leadership development efforts funded by the foundation had to

be included in the sample. Louis et al. (2010) limited these states to four in an effort to prevent the sample from being overly biased by the externally funded leadership development program.

Following the sample selection, Louis et al. (2010) collaboratively developed and field tested teacher and principal surveys prior to their round one and round two data collection. Round one data collection took place from February 2005 to November 2006. Round two was completed in 2008. Survey items were revised for round two to include any items for which repeated measures were desired and excluded items that led to little variation in response to allow for new items involving additional inquiries based on round one data. Protocols were developed for ten separate job specific interviews as well as classroom observations. All researchers were trained to complete interviews and observations. Coding schemes were developed for each.

A variety of quantitative statistical tests were run to provide a comprehensive understanding of leadership impact on student achievement. Louis et al. (2010) calculated Pearson product correlations to determine strength of relationships between variables in their study. Multiple regression analysis and hierarchical multiple regression were used to examine effects of specific variables from other independent variables as well as the effects of variable sets on the dependent variables. Additionally, t-tests and analyses of variance were used to determine the significance of a variety of demographic variables such as leader gender, school level, or race and ethnicity.

Louis et al. (2010) key findings related to principal leadership include:

- Principal leadership has an indirect but significant impact on student achievement.
- Principals have the most influence on school decisions but they are not the only source of leadership. Collective leadership defined as multiple stakeholders having input into school decisions had a stronger relationship to student achievement than individual leadership.
- Principals are seen as the primary source of leadership able to influence collective leadership and their influence does not diminish as they encourage others to share in the decisions.
- Principals' indirect impact on student achievement was most strongly related to their influence on teacher motivation and work setting rather than teacher capacity.

- A lack of principal efficacy to carry out initiatives can derail school division efforts for improvement.
- Principals' perception of their capability or self-efficacy did not have a direct significant impact on the mean student achievement gains on state assessments. Leader self-efficacy did have significant correlations with school leadership behaviors and school and classroom conditions that indirectly impact student achievement. The strength of relationships ranged from low to high with developing people (.25), redesigning the organization and managing instructional programs (.30), and setting directions (.39). The correlation between leader self-efficacy and school conditions and classroom conditions was .37 and .30 respectively.
- Principals that focus on goals and expectations, professional development needs of teachers, and creating opportunities for collaboration are better able to contribute to effective instruction.

Louis et al. (2010) contributed a wide-range of findings related to the impact of leadership on student achievement at the school, school division, and state level. The researchers affirmed that “we have not found a single case of a school improving in the absence of talented leadership” (Louis et al., 2010, p. 9). This aspect of their work supports the justification for the continued examination of principal leadership in the context of turnaround schools.

Hattie's (2012) seminal work titled, *Visible Learning for Teachers: Maximizing Impact on Learning*, provided an in-depth analysis of 150 variables (interventions, programs, behaviors, or actions) and their level of impact on student learning. Hattie's work reviewed over 900 meta-analyses which included approximately 60,000 research studies, 160,000 effect sizes, and 245 million students. Effect sizes for each study were calculated for comparison either between groups or over time dependent on the study details. Hattie (2012) found an overall average effect size from all of the meta-analysis included in his work of $d = .40$.

He presented an argument that when the expectation of improving learning is set at simply making any change at all, then virtually any intervention can take credit for impacting learning. Hattie (2012) argued that in order for interventions to be considered there needed to be a baseline expectation for consideration that is at minimum the average impact on student learning or $d = .40$. Based on findings, Hattie (2012) ranked variables and their impact on student achievement by effect size from most influential (number one) to least influential or even

detrimental (number 150) to student learning. He cautioned that other factors such as cost and amount of resources or time needed for implementation must be considered when considering effect sizes, interventions, and individual school needs.

While the focus of the study largely addressed teachers and the practices that have a greater than average impact on student learning, Hattie's work also has implications for school leaders attempting to turnaround a school. He found that overall school effects on student learning had an effect size of $d = .48$. School effects was ranked fifty-five among the variables. Principals or school leaders as a specific variable were near the overall average at $d = .39$ and ranked 73. Particularly significant however, is the impact of school leaders on other factors such as professional development, $d = .51$, that influence student learning.

Research clearly indicates that school leader impact on student learning is indirect (Cotton, 2003; Marzano et al., 2005; Louis et al., 2010), is strongly related to influence on teachers' motivation and work setting (Hallinger, 2005; Louis et al., 2010), and involves the ability to establish visions and goals focused on student learning (Cotton, 2003; Marzano et al., 2005; Leithwood et al., 2010). Successful implementation of research regarding student learning, particularly in a turnaround school context, is dependent on the decision-making and presence of a capable principal (Leithwood et al., 2010).

Principal leadership and turnaround schools. Duke (2008), Louis et al. (2010), nor Sammons et al. (1995) found examples or evidence of school turnaround without strong leadership in their research or review of the literature. Additionally, Leithwood et al. (2004) not only found that leadership impact on student achievement was second only to teachers', but that the impact was greatest in areas of significant need.

Turnaround school research emphasizes the importance of understanding school context in achieving success (Aladjem et al., 2010; David, 2010; Leithwood et al., 2010; Herman et al., 2008; Murphy, 2008; Rhim et al., 2007). Marzano et al. (2005) argued that understanding contextual need and applying the right combination of leadership practices was more influential than attempting to perform all identified leader behaviors. Leader behaviors identified as effective in all contexts versus turnaround contexts are not mutually exclusive. Leithwood and his colleagues aptly stated, "Turnaround schools, it would seem, are unique contexts for leadership and require unique enactments of successful leadership practices" (Leithwood et al., 2010, p.19).

Patterns emerged in the literature regarding leadership behaviors that were observed in turnaround schools. Instructional leadership as a principal best practice has been identified in seminal research studies (Cotton, 2003; Hattie, 2012; Marzano et al., 2005). Herman et al. (2008) noted that a consistent focus on improving instruction was present in turnarounds. Creating a vision, setting goals, and building a committed staff were frequently noted in successful turnaround schools (Leithwood et al., 2010; Mendels, 2012; Murphy, 2010a; Murphy, 2010b; Peck & Reitzug, 2014; Robinson & Buntrock, 2011). Principal use of data and monitoring of initiatives are additional practices observed across multiple turnaround studies (Aladjem et al., 2010; Kowal & Ableidinger, 2011; Peck & Reitzug, 2014).

A variety of principal practices identified as effective in all contexts could be found in the turnaround research. Alternatively, what turnaround schools literature divulged is that practical challenges inherent to principal leadership in general, such as unrealistic job expectations (DiPaola & Tschannen-Moran, 2003; Duke, 2004; Fullan, 2014, Marzano et al., 2005; Portin et al., 2009) and complexity in achieving results (Dodman, 2014; Duke, 2004; Hallinger, 2005; Marzano et al., 2005) are further intensified in turnaround environments. Salmonowicz (2009) provided the following illustration,

When it comes to turning around a school, the principal is akin to a professional stunt driver who must whip a car around 180 degrees in traffic, achieving a drastic change in direction without causing an accident or flipping the car. (p.21)

Murphy (2008) advised, “it is helpful for turnaround leaders to have unusual supplies of optimism and persistence and a penchant for enjoying the risks needed to break a school’s pernicious cycle of decline” (p. 91).

Theoretical Framework

Self-efficacy theory is examined as a potential link for helping to identify leaders with the necessary skills and dispositions to lead turnaround schools. Research has confirmed that effective school leadership has become an increasingly complex but critical area of need, especially in a turnaround environment (Leithwood et al., 2010). The premise of school turnaround is achieving quick and drastic improvements to student achievement, often measured by high-stakes, standards-based tests (Cai, 2011; Calkins et al., 2007; Herman et al., 2008; Leithwood et al., 2010; Mass Insight, 2010). As such, school leader capability and skill in

applying an instructional leadership model may provide additional insights into the impact and success of principals in a turnaround school (Cotton, 2003; Marzano et al., 2005; Herman et al., 2008).

Self-efficacy Theory

Albert Bandura's work on self-efficacy provides the theoretical underpinning for this study. Self-efficacy is one element of Bandura's social cognitive theory that works jointly with other components to direct thought, motivation, and action. The functional benefit of self-efficacy to contribute to motivation and action may yield benefits for school leaders (Bandura, 1997; Bandura, 2010; Bandura & Locke, 2003). Hoy (1998) reasoned,

The implications for administrators seem clear. Strong administrator self-efficacy seems critical in such areas as leadership, innovation, decision making, communication, and motivation. Efficacy beliefs affect all these basic administrative processes by influencing which course of action will be taken, how much effort will be expended, how long administrators will persevere in the face of adversity, and the level of success they will eventually achieve. (p.154)

Defining self-efficacy. Self-efficacy, interchangeably referred to as efficacy, is defined as the assurance in one's capability to carry out the necessary actions that will lead to intended outcomes (Bandura, 1977; Bandura, 1995; Bandura, 1997). In the context of the principal role "A principal's sense of efficacy is a judgment of his or her own capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573).

The differences between efficacy, the concept of outcome expectancy, and confidence are important and often confused distinctions. Outcome expectancy refers to the belief that specific behaviors will lead to certain outcomes absent personal judgment about one's capacity to perform the behaviors. Bandura argued that efficacy compels a person's behavior and therefore functions as a predictor of behavior while outcome expectancy does not. Simply, a person may believe that certain behaviors or actions lead to particular outcomes but this belief does not influence action unless the person also believes they are capable of performing the behaviors (Bandura, 1977; Bandura, 1997). Confidence is an indistinct label that describes the strength of belief in general without parameters on the context of the conviction. An individual can be

confident that they are incapable of a particular task. Efficacy is a construct distinguished by the belief in capability to act toward a deliberate outcome. These differences are of importance to the contextual questions of principal leadership and turnaround schools.

Based on the notion of outcome expectancy any educator could be provided with a “to do” list for increasing school and student achievement and meet with success. Confidence can apply equally to belief in failure or success. Efficacy has been repeatedly proven in research across a variety of fields to predict behavior and performance (Bandura & Locke, 2003).

Influences on and variations of self-efficacy. The literature provides guidance on factors that impact the development of efficacy. Four factors that influence efficacy beliefs include enactive mastery experiences (success experiences), vicarious experiences (social modeling), social persuasion (verbal suggestion or affirmation), and physiological and emotional states (physical and emotional reactions). Mastery experiences are consistently reported as having the most significant influence on the development of efficacy beliefs (Bandura, 1977; Bandura, 1995; Bandura, 1997; Bandura, 2010). Utilizing low-performing and failing schools as an example, providing initial success opportunities would continue to positively influence efficacy or establish a resilient sense of efficacy (Bandura, 1995; Bandura, 2010). Bandura (1995) indicates,

A resilient sense of efficacy requires experiences in overcoming obstacles through perseverant effort. Some difficulties and setbacks in human pursuits serve a useful purpose in teaching that success usually requires sustained effort. After people become convinced that they have what it takes to succeed, they persevere in the face of adversity and quickly rebound from setbacks. (p. 3)

Additionally, beliefs among individuals with the same ability can vary based on several properties to include magnitude, generality, and strength. Magnitude refers to the level of task difficulty for which a person may feel efficacious. Generality indicates how far an individual’s efficacy beliefs extend (i.e. task specific or across a larger domain). Strength focuses on the conviction of the individual efficacy belief (Bandura, 1977; Bandura, 1997).

Developing self-efficacy. While the elements influencing efficacy are clear, creating efficacy developing opportunities is complex due to the individually interpretive nature of the information. Each person can process information from the four influencing components

differently. The way an individual processes efficacy information as either credited to internal or external factors will influence the development of their efficacy beliefs (Bandura, 1977; Bandura, 1997).

Bandura (2010) explained that various features can affect the construction of efficacy beliefs. For example, similarity between the model and the subject of efficacy development is a trait that would influence interpretation. If the desired actions or behaviors are demonstrated by a model that is perceived to be different than the observer then it is less likely that the observer will interpret that experience in a way that increases their own efficacy.

Self-efficacy and context. Efficacy beliefs can vary across domains, i.e. leadership, or based on context such as leading a low performing school (Bandura, 1997). These two traits do not operate in an “either /or” fashion but rather they function reciprocally. An individual may have a high sense of efficacy across a domain but a low sense of efficacy based on a specific context. As efficacy influencing information is processed (i.e. mastery experiences) in a domain, efficacy beliefs for a specific context can also increase. These can also influence each other conversely. An individual’s sense of efficacy for a particular domain could also impact their sense of efficacy for a different domain.

Measuring self-efficacy. The multiple influences, variety of dimensions, and context specific nature of efficacy results in the lack of a single measure (Bandura, 1977; Bandura, 2012). Betz (2013) made the following recommendations regarding the development of efficacy measures: (a) subject matter expertise is required in order to construct an accurate scale, (b) behaviors specific to the domain of interest must be clearly outlined so that efficacy can be accurately assessed, and (c) researchers must give consideration to the area of interest and associated behaviors when using already available efficacy scales.

Bandura (2012) presented additional considerations for measuring efficacy to include use of a unipolar scale, content related specificity, and multiple gradations to account for differences based on the dimensions of efficacy.

- 1.) Efficacy is described as a unipolar scale, meaning that it only works in one direction ranging from no efficacy beliefs at all to the maximum level of efficacy. It can range from zero confidence in one’s ability to apply actions toward a desired outcome or complete confidence. It cannot have negative degrees below zero confidence.

- 2.) The content specific nature of efficacy dictates specificity. An individual cannot make a belief judgment about their ability to complete a course of action towards an intended outcome if the behaviors involved and intended outcome is not clearly identified.
- 3.) The varying dimensions of efficacy were stated as a consideration for measurement. Scales with a limited number of responses are less reliable because they do not account for differentiating information; measures with multiple degrees of strength are stronger predictors of performance (Bandura, 2012).

Summary of the Literature

An examination of the history of school reform in the U.S. confirmed that turning around failing schools continues to occupy a large focus in current educational policy (Leithwood et. al, 2010). Modern education policy and research frequently identifies failing schools as turnaround schools- those where students consistently miss benchmark expectations on standardized high-stakes tests and are in need of quick and drastic improvement (Murphy, 2008).

The literature shows that principal leadership has a significant influence on student achievement outcomes and this impact is amplified in the areas of greatest need such as turnaround schools (Leithwood et al., 2004). Simultaneously, the responsibilities and demands of school leaders have increased to the extent that, “We have put the principal on a pedestal, and now we expect miracles; a few can pull it off, but mere mortals have little chance” (Fullan, 2014, p. 6-7). In an effort to distinguish the few, a fairly new but significant body of research focused on the relationship between principal leadership and student outcomes provided insights into leader actions and behaviors that support improvement (Cotton, 2003; Louis et al., 2010; Marzano et al., 2005). Principal actions and behaviors that impact student outcomes in turnaround schools were not unique. Instead, turnaround schools provide specific contexts that require distinctive applications of effective leader practices (Leithwood et. al, 2010).

While the challenges of turnaround schools and school leaders as well as recommendations for effective leadership are made clear in the literature, how to identify principals with the right skills or determine if the right principals are already in place is less defined. The functional benefit of self-efficacy as a predictor and contributor to motivation and action (Bandura, 1997) as well as an inclusive definition of instructional leadership (DiPaola & Tschannen-Moran, 2003) in capturing a wide-range of effective leadership practices provide

promise. This gap in the literature supports the exploration of potential tools and constructs that might assist with selecting the right leaders, determining if the right leaders are in place, and identifying their potential needs in a turnaround school. This research investigation aimed to examine the following areas:

- relationships between principal self-efficacy and student achievement in turnaround and fully accredited schools,
- differences in the self-efficacy of principals in turnaround schools versus fully accredited schools,
- principal self-efficacy as a construct for identifying leaders prepared for the task of turnaround schools, and
- principal self-efficacy as a tool for identifying the needs of leaders in turnaround schools.

Chapter Three

Methodology

Purpose of the Study

The purpose of this non-experimental correlational and comparative study was to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in turnaround and fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. Principal self-efficacy was defined as, "...a judgment of his or her own capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573). Overall principal self-efficacy as well as efficacy for management, instructional leadership, and moral leadership as measured by the PSES (Tschannen-Moran & Gareis, 2004) was examined to determine the extent to which self-efficacy predicted student achievement. The SOL assessment results for reading and mathematics, specifically the overall school pass rates by subject were used as indicators of student achievement.

Research Design and Justification

This study utilized a non-experimental quantitative research design to examine the identified research questions. "Non-experimental study is one in which there is no control over what may influence subjects' responses. The investigator is interested in studying what occurred or occurs naturally," (McMillan & Wergin, 2010, p. 4). This type of quantitative design is often used to uncover relationships and describe events. The use of a self-reported survey instrument and participants' prior assignments to either a turnaround or fully accredited school necessitated a non-experimental design in this study. The researcher did not have control over what may have influenced participant self-efficacy responses and did not assign intervention to groups for experimental purposes to determine impact on student achievement.

Correlational statistical analyses were used to investigate relationships between principal reported self-efficacy and student reading and mathematics achievement. McMillan and Wergin (2010) specify that correlational designs examine relationships between variables by calculating a correlation coefficient score. According to McMillan and Wergin (2010) the correlation

coefficient score indicates the strength and direction of any relationships as opposed to focusing on differences in variables.

Comparative statistical analyses were used to examine differences in the self-efficacy of principals at turnaround versus fully accredited schools. Comparative research examines the differences between two or more variables by comparing groups to one another or investigating existing relationships between the two (McMillan & Wergin, 2010). Comparative research design does not investigate or make claims regarding causality.

Research Questions

The following research questions were addressed as a part of this study:

1. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict reading SOL achievement in turnaround and fully accredited schools?
2. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict mathematics SOL achievement in turnaround and fully accredited schools?
3. What are the differences if any between principal reported self-efficacy in turnaround versus fully accredited schools?

Site and Sample Selection

The study design included a non-random, convenience sample. A convenience sampling design provided the researcher with an accessible, clearly defined, and limited group for study. Use of a convenience sampling design does include a potential for sampling bias. Taylor-Powell (2009) states, "Sampling bias can occur any time your sample is not a random sample. If it is not random, some individuals are more likely than others to be chosen," (p. 1). A single-stage sampling procedure that involves researcher access to names in the population from which they can sample was utilized (Creswell, 2014). Invited participants were anticipated to have the experiences necessary to form perceptions with the phenomenon investigated.

The population identified for invitation to participate in this study included school principals from a single urban PreK-12 public school division in the Tidewater region of Virginia. Population selection was determined due to convenience to the researcher and the existence of multiple turnaround and fully accredited schools at the elementary, middle, and high

school levels within the school division. A population of approximately 30,000 students is served across five early childhood centers, 24 elementary schools, seven middle schools, and five high schools. Student demographic composition is shared in Table 1.

Table 1

School Division Student Demographic Composition

Student Characteristic	% of Population
African-American	55.3
White	25.3
Hispanic	12.6
Asian	2.5
Multi-ethnic	5.7
Other (Including Native American and Hawaiian or Pacific Islander)	<1
Low-SES Students	62.6
Students with Disabilities	13.3
Talented and Gifted	13.5

As outlined in Table 1, the school division’s ethnic demographic composition is largely African-American (55.3%). White (25.3%) and Hispanic (12.6%) students make up the second and third largest ethnic groups. Additionally, a majority of the students in the division are identified as low SES (62.6%) based on their free and reduced price lunch eligibility. Both students with disabilities and talented and gifted students make up approximately 13% of the population separately.

A principal self-efficacy survey instrument was offered for voluntary completion to all principals in the groups of interest, turnaround and fully accredited schools, who were employed in the participating school division and served as the principal of their assigned school during the 2015-2016 school year. Early childhood center principals were excluded from this study as those schools do not participate in the state and federal accountability system and therefore are not categorized as turnaround schools or fully accredited. One of the 24 school division elementary schools only serves students in Grades K-2 and was not invited to participate due to an absence of SOL assessment results. The K-2 school’s fully accredited or turnaround status is designated based on the SOL performance of another school within the school division to which students matriculate in Grades 3-5. Additionally five elementary schools and one middle school did not receive an invitation to participate in the study as the principals were not employed at the

school during the 2015-2016 school year. The final population meeting principal tenure and SOL assessment data requirements included 29 elementary, middle, and high schools from the identified school division. Turnaround schools consisted of nine elementary, four middle, and one high school. Nine elementary, two middle, and four high schools comprised the fully accredited schools group. Surveys were returned from 26 principals for an 89.6% response rate.

Instrument Design and Validation

Participants were asked to complete the PSES developed by Tschannen-Moran and Gareis (2004) (see Appendix A). This instrument was utilized due to the measurement of specific variables of interest, established reliability and validity, and ease and time required for administration. A request for permission to use the PSES as a part of this dissertation study was sent to one of the authors of the instrument, Dr. Tschannen-Moran, on December 29, 2016 through electronic communication (see Appendix B). A letter granting permission to use the instrument was received on January 18, 2017 (see Appendix C).

The PSES is an 18-item scale used to measure principals' perceptions of their capability to complete various school leadership tasks in their assigned school (Tschannen-Moran & Gareis, 2004). A nine-point Likert scale is anchored at: 1 = not at all, 3 = very likely, 5 = some degree, 7 = quite a bit, and 9 = a great deal. The instrument provides an aggregate efficacy score and scores for three factors identified as subscales for principal self-efficacy to include principal self-efficacy for management, instructional leadership, and moral leadership. Each subscale includes six corresponding items. Items 3, 11, 12, 15, 17, and 18 relate to efficacy for management; items 1, 2, 4, 6, 7, and 9 relate to efficacy for instructional leadership; and items 5, 8, 10, 13, 14, and 16 relate to efficacy for moral leadership. Survey instructions direct principals to, "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" (Tschannen-Moran & Gareis, 2004). In order to address the context specific nature of self-efficacy (Bandura, 1997), survey items begin with the instruction, "In your current role as principal, to what extent can you..." (Tschannen-Moran & Gareis, 2004).

Tschannen-Moran and Gareis (2004) conducted three studies using their instrument as well as principal self-efficacy instruments from other researchers in order to identify a reasonably reliable and valid scale. The PSES initially included 50 items modeled after a teacher efficacy scale and was reduced to 18 items of moderate to strong correlation to principal self-

efficacy following a principal component factor analysis (Tschannen-Moran & Gareis, 2004). The analysis identified the three primary factors as efficacy for management, instructional leadership, and moral leadership. Factor loadings for management ranged from .53 to .82; factor loadings for instructional leadership ranged from .45 to .81; and factor loadings for moral leadership ranged from .43 to .78 (Tschannen-Moran & Gareis, 2004). Overall, these factor loadings explain 60% of the variance in principals' self-efficacy for the sample studied (Tschannen-Moran & Gareis, 2005). Tschannen-Moran and Gareis did not provide any explanation in their study findings regarding factors that may have explained the remaining variance in principals' self-efficacy.

Tschannen-Moran and Gareis (2005) again tested the PSES in a follow-up study which sought to identify supports provided to principals such as principal preparation and various stakeholder assistance that were associated with stronger principal self-efficacy. Utilizing Chronbach's alpha of internal consistency, a high reliability of .91 was obtained for the sample study. Reliability for the three primary factors were also high to include .87 for efficacy for management, .86 for efficacy for instructional leadership, and .83 for efficacy for moral leadership. Following second-order factor analysis, Tschannen-Moran and Gareis (2005) found that when the three primary factors were loaded together, the resulting eigenvalue of 2.10 explained 70% of the variance in principals' self-efficacy.

Data Collection Procedures

Principal reported self-efficacy data were collected by electronically administering the PSES to the 29 principals included in the final sample. Reading and mathematics SOL assessment results for grades three through eight as well as EOC Grade 11 English and EOC Geometry were used as measures of student achievement at the elementary, middle, and high school levels. Specifically, the overall SOL pass rate, which calculates the percentage of tests with a passing score for each grade and subject area test, were included as the student achievement measure for this study (VDOE, 2015). The SOL pass rates for school years 2011-2012 through the most recent testing year of 2015-2016 are currently available to the public through the VDOE website by state, school division, and school. The school SOL reading and mathematics pass rate data for the 2015-2016 school year were included for responding school principals. The data are available as Microsoft Excel® files and can be retrieved at http://www.doe.virginia.gov/statistics_reports/school_report_card/index.shtml.

Additionally, the percentage of students identified as low SES for each school, an indicator for poverty, was utilized. Free and reduced price lunch eligibility is the most commonly used measure of low SES students in schools (Ladd, 2012; Sirin, 2005; Tienken, 2012). School SES data, measured as the percentage of students at each school eligible for free and reduced price lunch during the school year (Sirin, 2005), are also available through the VDOE website by school division and school. School SES data for the 2015-2016 school year were utilized for responding schools. The data are available as Microsoft Excel® files and can be retrieved at <http://www.doe.virginia.gov/support/nutrition/statistics/index.shtml>.

Data Gathering Procedures and Timeline

Institutional Review Board (IRB) Human Subjects Protection training (see Appendix D) was completed by the researcher on September 6, 2014. An IRB Proposal Request Application was submitted to the Virginia Polytechnic Institute and State University's IRB and approval was granted on December 19, 2016 (see Appendix E). Upon IRB approval, the researcher requested permission from the identified school division's Research and Authorization Committee (RAC) to conduct the study with school division personnel and SOL assessment data. The RAC guidelines and protocols for the participating school division were followed and approval was granted on January 17, 2017 (see Appendix F).

Following the school division's approval to conduct research, the PSES was administered online through Qualtrics®, a Virginia Polytechnic Institute and State University IRB approved electronic survey platform. The study design proposed four participant contacts to include an introduction and invitation to participate in the study, a phone invitation to participate in the study, a follow-up prompt for participation, and a final reminder regarding participation and gratitude for participation. All contacts with the exception of the phone invitation were initiated through the school division email system. The first contact was sent to participants on January 20, 2017 and included a Study Cover Letter and Invitation (see Appendix G) to explain the research being conducted, communication that IRB and school division approval was secured, notification that participation was voluntary, assurances that all responses would be confidential, instructions for accessing the survey, details regarding the use of participant shared information during and after the study, and an explanation that participant completion of the survey would imply consent to participate in the study.

A second contact occurred three days after the initial email on January 23, 2017. The contact consisted of a personal phone invitation to all selected participants and verbal clarification that an invitation and explanation was sent on the specified date of the initial contact. A script was developed for the second contact and was used when speaking with participants or left as a voice message for participants who were unavailable (see Appendix H). This was followed by a third contact sent via school division email seven days after the phone contact (see Appendix I). The Study Cover Letter, a note of thanks for those who have already submitted their input, encouragement to participate for those who have not yet completed the survey, and a closing date for the survey was included. A final email prompt was sent seven days following the third contact (see Appendix J). This communication was identical to the third contact with the additional comment that the study would close on February 13, 2017.

Data Treatment and Management

Electronic, Web-based survey formats support maintenance of respondent confidentiality (Creswell, 2014). Each participant received instructions for assessing an individual Qualtrics® PSES survey coded by number in place of school names during participant contacts. The use of individual survey links allowed the researcher to align PSES responses to the corresponding school's student achievement and SES data while keeping participant and school identity confidential. Additionally, confidentiality of all survey data collected was maintained by the researcher through use of secure, password protected Statistical Package for Social Sciences® (SPSS®) files. All data will be destroyed following successful dissertation defense in order to maintain security and confidentiality of participant and school division information.

Data Analysis

Study data were analyzed using the SPSS® software package. In order to address research questions one and two, a hierarchical multiple regression analysis was used to predict student achievement in reading and mathematics from overall principal self-efficacy and the three principal efficacy subscales (efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership).

Research has demonstrated that poverty impacts student achievement (Children's Defense Fund, 2014; Ladd, 2012; Sirin, 2005; Tienken, 2012; Tienken, 2014). Due to the potential of poverty to influence student achievement, school SES, was included as the first

independent variable, specifically a control variable, in the hierarchical multiple regression. Creswell (2014) explained that control variables “are a special type of independent variable that researchers measure because they potentially influence the dependent variable” (p. 53). This type of variable needs to be “controlled” in order to determine the true influence of the predictor variable of interest on the dependent variable (Creswell, 2014). The independent variables for research questions one and two included principals’ overall self-efficacy and self-efficacy for the three subscales. Self-efficacy variables are continuous and were labeled as scale variables based on the calculated mean of all 18 items on the PSES and the calculated mean for each subscale. The dependent variables for research questions one and two were school reading and mathematics SOL achievement respectively.

Utilizing SPSS® to conduct a hierarchical multiple regression provided a number of correlational statistics that were used to analyze the study data. These included: (a) the coefficient of determination statistically represented as R^2 , which provided the proportion of variance in the dependent variable explained by the independent variable; (b) the adjusted R^2 which corrected for positive bias of the R^2 , providing a more accurate value to that which would be expected in the general population; and (c) an analysis of variance (ANOVA) table which evaluated the statistical significance of the overall model (Howell, 2014). Statistical significance of the data was determined at the $p < .05$ level.

The third research question made use of an independent samples t-test to compare the self-efficacy of principals at turnaround and fully accredited schools. The independent samples t-test is used to determine if a statistically significant difference exists between the means of two separate groups on a continuous dependent variable (Howell, 2014). School context, specifically principals at turnaround versus fully accredited schools served as the identifier for comparison groups. The dependent variable was principal reported self-efficacy for the purpose of research question three. An independent samples t-test provided comparative statistics to include: (a) the mean difference; (b) 95% confidence intervals which explained the magnitude of differences; and (c) statistical significance or p -value (Howell, 2014). A Cohen’s d effect size was also calculated to measure the meaningfulness or practical significance of the difference (Howell, 2014).

Summary of Methodology

This research study entailed a non-experimental correlational and comparative design. The researcher collected data from a single, urban school division in the Tidewater region of Virginia. Twenty-nine elementary, middle, and high school principals at turnaround and fully accredited schools were invited to participate in the study based on their assignment at their current school during the 2015-2016 school year with 26 principals responding. Principals were asked to provide their perceptions of individual self-efficacy using the PSES (Tschannen-Moran & Gareis, 2004). Elementary, middle, and high school reading and mathematics SOL assessment pass rates, including EOC Grade 11 English and EOC Geometry, were used as measures of student achievement. The SOL assessment results from the 2015-2016 school year for the selected school division were utilized in this study.

Data collected enabled the researcher to determine the extent to which principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predicted reading and mathematics SOL achievement in turnaround and fully accredited schools through the use of a hierarchical multiple regression analysis. School SES (percentage of students eligible for free and reduced price lunch at individual schools) was included as a control variable in order to address the potential influencing effects of poverty on student achievement. An independent samples t-test allowed the researcher to determine if any statistically significant differences existed between the self-efficacy of principals at turnaround versus fully accredited schools while a Cohen's *d* effect size provided a measure of practical significance. Confidentiality of all data was maintained through the use of an online survey platform, Qualtrics®, and password protected SPSS® files. The SPSS® software was used to conduct the hierarchical multiple regression, independent samples t-test, and analyze the data.

Chapter Four

Analysis of Data

The purpose of this non-experimental correlational and comparative study was to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in turnaround and fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. For this study, principal self-efficacy was defined as, "...a judgment of his or her own capabilities to structure a particular course of action in order to produce desired outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573). The PSES (Tschannen-Moran & Gareis, 2004) was distributed electronically to 29 principals in the selected school division. Overall principal self-efficacy as well as efficacy for management, instructional leadership, and moral leadership as measured by the PSES was examined to determine the extent to which self-efficacy predicted student achievement. The SOL assessment for reading and mathematics, specifically the overall pass rates by subject were used as indicators of student achievement. Principals at turnaround and fully accredited schools were used as the comparison groups for self-efficacy.

Principal leadership, turnaround school, and student achievement literature suggests practices likely to support student achievement and improvement (Cotton, 2003; Hattie, 2012; Louis et al., 2010; Marzano et al., 2005) but lacks quantitative comparative data between principals at high-performing and turnaround schools (Aladjem et al, 2010; Herman et al., 2008). There is also a lack of evidence for successful school turnaround in the absence of an effective principal (Duke, 2008; Louis et al., 2010; Sammons et al., 1995). This study sought to examine the relationship between self-efficacy and student achievement. Additionally, the aim of this study was to examine the differences in turnaround and fully accredited school principals' self-efficacy to determine the usefulness of self-efficacy as a tool for selecting and supporting school leaders based on the challenges of their school contexts. This chapter reports and analyzes the data collected from the PSES in order to answer the following research questions:

1. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict reading SOL achievement in turnaround and fully accredited schools?

2. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict mathematics SOL achievement in turnaround and fully accredited schools?
3. What are the differences if any between principal reported self-efficacy in turnaround versus fully accredited schools?

Descriptive Sample Data Analysis

Survey response rate. The PSES was administered online through Qualtrics® to 29 elementary, middle, and high school principals in one urban Virginia school division. Invited principals were those assigned to their current school during the 2015-2016 school year and whose school administered SOL assessments that resulted in an accreditation rating for their school. There was an overall response rate of 89.6% as calculated by dividing the number of completed responses ($N = 26$) by the number of invited participants.

School demographic data. School demographic data included type of school (elementary, middle, or high school), school accreditation status (turnaround or fully accredited school), school SES, reading SOL assessment pass rates, and mathematics SOL assessment pass rates. All demographic data used were available to the public and could be retrieved from the school division or VDOE websites. The number of responding schools by type and accreditation status is represented in Table 2.

Table 2

School Type and Accreditation Status

School Type	Turnaround	Fully Accredited	Total
Elementary	9	8	17
Middle	4	1	5
High	1	3	4
Total	14	12	26

There were 26 responding schools in the overall sample ($N = 26$) as detailed in Table 2. The self-efficacy of principals at all schools were considered when examining the extent to which efficacy could predict student achievement. Fourteen of the 26 schools were identified as turnaround schools ($n = 14$) and 12 were identified as fully accredited ($n = 12$) when comparing the difference between the mean self-efficacy of each group.

Table 3

Minimum and Maximum School SES and SOL Pass Rates

	<i>N</i>	Minimum	Maximum
SES Percentage	26	29	100
Reading SOL Pass Rate	26	45	95
Mathematics SOL Pass Rate	26	38	96

The range of school SES percentages as well as reading SOL and mathematics SOL pass rates for the sample are represented in Table 3. School SES for the study sample encompassed a minimum of 29% low SES students at one school to a maximum of 100% low SES students at other schools within the same division. Reading SOL and mathematics SOL pass rates included low scores of 45 and 38 respectively to high scores of 95 and 96 across the sample. Table 4 further provides the mean school SES as well as reading SOL and mathematics SOL pass rates by school type and accreditation status.

Table 4

Mean Low SES and SOL Pass Rates by School Type and Accreditation

Characteristic		<i>N</i>	<i>M</i>
Low SES by School Type	Elementary	17	67.62
	Middle	5	58.84
	High	4	53.93
Low SES by Accreditation	Turnaround	14	76.19
	Fully Accredited	12	49.41
SOL Reading Pass Rate by School Type	Elementary	17	71.06
	Middle	5	67.60
	High	4	85.25
SOL Reading Pass Rate by Accreditation	Turnaround	14	63.07
	Fully Accredited	12	83.67
SOL Mathematics Pass Rate by School Type	Elementary	17	72.00
	Middle	5	72.20
	High	4	63.50
SOL Mathematics Pass Rate by Accreditation	Turnaround	14	62.07
	Fully Accredited	12	80.83

As summarized in Table 4, the mean percentage of low SES students in turnaround schools was 76% compared to fully accredited schools with a mean of 49% low SES students. Elementary schools were the largest group of schools and had the highest average percent of low SES students ($M = 67.62$). Additionally, the mean SOL pass rates indicated approximately a 20% difference between turnaround and fully accredited schools for both reading and mathematics. The SOL pass rates in turnaround schools were lower.

Descriptive principal self-efficacy data analysis. Principal self-efficacy was measured using the PSES developed by Tschannen-Moran and Gareis (2004). The PSES is an 18-item scale used to measure principals' perceptions of their capability to complete various school leadership tasks in their assigned school. The PSES is a nine-point Likert scale anchored at: 1 = not at all, 3 = very likely, 5 = some degree, 7 = quite a bit, and 9 = a great deal. Survey instructions directed principals to, "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" (Tschannen-Moran & Gareis, 2004). In order to address the context specific nature of self-efficacy (Bandura, 1997), survey items began with the descriptor, "In your current role as principal, to what extent can you..." (Tschannen-Moran & Gareis, 2004). School contexts examined for this study included elementary, middle, and high schools that were grouped as turnaround or fully accredited. An aggregate overall efficacy score and subscale scores (management, instructional leadership, and moral leadership) were obtained. The minimum, maximum, and mean for overall self-efficacy scores, self-efficacy subscale scores, and by PSES survey question are presented in Table 5. The survey questions in Table 5 are organized according to their corresponding self-efficacy subscale.

Table 5

Minimum, Maximum, and Mean Self-efficacy Overall, by Subscale, and by Question

	<i>N</i>	Minimum	Maximum	<i>M</i>
Overall Self-Efficacy	26	6.11	8.61	6.95
Efficacy for Management	26	4.66	8.16	6.25
Handle the time demands of the job	26	4.00	9.00	6.35
Maintain control of your own daily schedule	26	3.00	8.00	5.58
Shape the operational policies and procedures that are necessary to manage your school	26	3.00	9.00	6.27
Handle the paperwork required of the job	26	3.00	9.00	6.54
Cope with the stress of the job	26	4.00	9.00	6.23
Prioritize among competing demands of the job	26	5.00	9.00	6.62
Efficacy for Instructional Leadership	26	5.66	9.00	7.39
Facilitate student learning in your school	26	4.00	9.00	7.27
Generate enthusiasm for a shared vision for your school	26	6.00	9.00	8.27
Manage change in your school	26	6.00	9.00	7.12
Create a positive learning environment in your school	26	6.00	9.00	8.00
Raise achievement on standardized tests	26	3.00	9.00	6.58
Motivate teachers	26	6.00	9.00	7.58
Efficacy for Moral Leadership	26	6.00	9.00	7.14
Promote school spirit among a large majority of the student population	26	5.00	9.00	7.62
Promote a positive image of your school with the media	26	5.00	9.00	7.08
Promote the prevailing values of the community in your school	26	5.00	9.00	7.04
Handle effectively the discipline of students in your school	26	3.00	9.00	6.77
Promote acceptable behavior among students	26	6.00	9.00	7.46
Promote ethical behavior among school personnel	26	3.00	9.00	6.92

As presented in Table 5, the mean scale score for self-efficacy across the sample was 6.95. According to the PSES Likert scale, a mean of 6.95 indicated that all principals in the study, absent school context, held self-efficacy beliefs that were slightly below “quite a bit”

efficacious (seven points on the scale). Efficacy for management resulted in a mean scale score of 6.25, which represented the lowest mean score among the PSES subscales. This indicated that principals overall perceived themselves to have the least amount of ability, resources, and opportunity in this area of leadership. Survey question three, "...to what extent can you maintain control of your own daily schedule", yielded the lowest mean ($M = 5.58$) for both the subscale and PSES questions overall. Alternately, question 18, "...to what extent can you prioritize among the competing demands of the job", resulted in the highest subscale mean ($M = 6.62$).

Self-efficacy for instructional leadership represented the highest mean subscale score ($M = 7.39$). Within the instructional leadership subscale, principals were least efficacious in their ability to raise achievement on standardized tests ($M = 6.58$) while being most efficacious in generating enthusiasm for a shared vision of learning ($M = 8.27$). Self-efficacy for moral leadership resulted in a mean subscale score of 7.14. Study participants felt least efficacious in handling the discipline of students, which had the lowest mean ($M = 6.77$), and promoting school spirit among students had the highest mean ($M = 7.62$) for this subscale.

Research Question Data Analysis

1. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict reading SOL achievement in turnaround and fully accredited schools? A hierarchical multiple regression analysis was performed using SPSS® to determine the extent to which principal reported self-efficacy could predict reading SOL achievement. The primary variables of interest for this research question included principal self-efficacy overall and by subscale within the PSES instrument and student achievement as measured by reading SOL pass rates. Poverty, as measured by school SES, was included as a control variable due to its confirmed negative effects on student achievement (Children's Defense Fund, 2014; Ladd, 2012; Sirin, 2005; Tienken, 2012; Tienken, 2014). School SES was placed into the first independent variables block to control for the influence of poverty on reading SOL achievement and ensure that its predictive value was established first. The overall self-efficacy score on the PSES was entered into the second block to determine the additional variance of the reading SOL scores after school SES was controlled. Self-efficacy subscale scores for management, instructional leadership, and moral leadership were entered into the third block as listed to determine any additional variance in reading SOL achievement as a result of the subscales.

Checks for the assumptions of a hierarchical multiple regression analysis were completed by reviewing the SPSS® statistical tests prior to interpreting results. Each principal invited to participate in the study provided individual ratings of their self-efficacy using the PSES. Additionally, surveys were administered online through individual Web-based survey links ensuring that all observations were independent. As a result, independence of residuals, as assessed by the Durbin-Watson statistic was not reviewed. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values.

Multicollinearity assesses when predictors are highly correlated with each other (Howell, 2014). There was no multicollinearity for Model 1 (VIF = 1.00 for SES) and Model 2 (VIF = 1.153 for SES and overall self-efficacy). School SES continued to indicate a low level of multicollinearity in Model 3 (VIF = 1.303) while overall self-efficacy (VIF= 115.727), efficacy for management (VIF = 29.176), instructional leadership (VIF = 14.469), and moral leadership (VIF = 20.702) indicated high multicollinearity. Specific groups of questions from the PSES correspond to subscale scores. This feature of the survey design accounts for the high level of multicollinearity between overall self-efficacy and subscale self-efficacy. As a result, the presence of multicollinearity for Model 3 was not interpreted as an indication that a hierarchical multiple regression analysis was an incorrect statistical test for analyzing these study data.

In setting up the statistical test, SPSS® was instructed to treat any standardized residual greater than ± 3 standard deviations as outliers. There were no cases that met these parameters. Leverage values for each case were also reviewed to determine any cases that displayed high leverage. Ten of the 26 sample cases were noted as high leverage values (cases 1, 3, 5, 6, 7, 9, 20, 24, 25, and 26) and further checked as influential points by reviewing the Cook's Distance values. This resulted in a single case (Case 1) noted as both a high leverage value and a high influence point. Case 1 represents a fully accredited elementary school with a 100% low-SES student population. The researcher removed Case 1 and repeated the steps to conduct the hierarchical multiple regression again to determine if there were differences in the significance of the models for predicting reading SOL pass rates with and without Case 1. In both tests, Model 1 (SES) was the only model that explained a statistically significant variance in reading SOL pass rates. Model 2 (SES and overall self-efficacy) and Model 3 (SES, overall self-efficacy, and efficacy subscales) were not statistically significant in further explaining the

variance in reading SOL pass rates for either test. Subsequently, results from the first hierarchical multiple regression test including all 26 cases are reported.

The aim of this research question was to determine if the addition of principal overall self-efficacy followed by the efficacy subscales for management, instructional leadership, and moral leadership obtained from an efficacy survey improved the prediction of reading SOL pass rates over and above school SES alone. Statistical significance was set at $p < .05$. The full model of school SES, overall self-efficacy scores, and self-efficacy subscale scores to predict reading SOL pass rates (Model 3) was statistically significant, $R^2 = .693$, $F(5, 20) = 9.029$, $p < .001$, adjusted $R^2 = .616$.

Table 6

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy Predicting Reading SOL Pass Rates

Variable	Reading SOL Pass Rate					
	Model 1		Model 2		Model 3	
	R^2	β	R^2	β	R^2	β
School SES	.606**	-.778**		-.707**		-.786**
Overall Self-Efficacy			.639	.196		1.694
Self-Efficacy Subscales					.693	
Management						-.548
Instructional Leadership						-.625
Moral Leadership						-.709
ΔR^2	.606**		.033		.054	
F	9.029**					
ΔF			2.114		1.169	

* $p < .05$. ** $p < .001$.

Table 6 provides a summary of details on each of the regression models for reading SOL pass rates. School SES was the only statistically significant variable across all three models for predicting reading SOL pass rates. School SES explained 60.6% of the variance when entered into Model 1 as the control variable as evidenced by $R^2 = .606$. In this model, for every one standard deviation increase in school low SES, a -.778 standard deviation decrease in reading SOL pass rates is expected ($\beta = -.778$, $p < .001$).

The addition of principal overall self-efficacy to the prediction of reading SOL pass rates (Model 2) did not lead to a statistically significant increase in R^2 of .033, $F(1,23) = 2.114$, $p = .159$. As outlined in Table 6, the change in R^2 of .033 from Model 1 to Model 2 specifies that the addition of overall self-efficacy in Model 2 only explained an additional 3.3% of the variance in reading SOL pass rates above school SES. Similarly, the addition of self-efficacy subscales to the prediction of reading SOL pass rates (Model 3) also did not lead to a statistically significant increase in R^2 of .054, $F(3,20) = 1.169$, $p = .346$. There was an increase in R^2 of .054 from Model 2 to Model 3 explaining an additional 5.4% of the variance.

While the overall model (Model 3) explained 69.3% of the variance in reading SOL pass rates as indicated by $R^2 = .693$, neither increase from Model 2 or Model 3 was statistically significant. Additionally, due to the multicollinearity that was present between overall self-efficacy and the self-efficacy subscales, the additional explained variance of 5.4% in Model 3 is potentially misleading because self-efficacy scores were essentially entered into the model twice. Consequently, the increase in R^2 of .033 is considered a more accurate representation of the additional variance in reading SOL pass rates explained by principal self-efficacy.

2. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict mathematics SOL achievement in turnaround and fully accredited schools? A hierarchical multiple regression analysis was also performed using SPSS® to determine the extent to which principal reported self-efficacy could predict mathematics SOL achievement. All data analysis procedures conducted for research question two were identical to those conducted for research question one with the exception of student achievement being measured as mathematics SOL pass rates. Poverty, as measured by school SES, was again included as a control variable in the analysis. School SES was placed into the first independent variables block, followed by overall self-efficacy scores in the second block, and finally efficacy subscale scores for management, instructional leadership, and moral leadership were entered into the third block.

Checks for the assumptions of a hierarchical multiple regression analysis were completed. Independence of residuals, as assessed by the Durbin-Watson statistic was not reviewed due to data gathering procedures such as the Web-based administration of individual PSES surveys ensuring that all principal observations were independent. There was

homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values.

The model VIF values assessing multicollinearity for research question number two were identical to those obtained in research question number one. There was no multicollinearity for Model 2. Model 3 continued to indicate a high level of multicollinearity between overall self-efficacy and subscale efficacy scores for management, instructional leadership, and moral leadership. It was anticipated that any increase in the explained variance for mathematics SOL pass rates would not be statistically significant with the addition of the efficacy subscales in Model 3 based on research question one. Subscale scores were repeated in the procedure for research question two in order to maintain procedural consistency between research questions one and two.

There were no cases identified as an outlier based on the ± 3 standard deviation parameters established in SPSS®. A review of leverage values for each case identified the same 10 sample cases found in research question one. A review of the Cook's Distance values revealed a single identical case (Case 1) as both a high leverage value and a high influence point that as noted in results for research question one. The researcher again removed the case and conducted the hierarchical multiple regression a second time as a precaution for determining if there were differences in the significance of the models for predicting mathematics SOL pass rates with and without Case 1. In both tests, Model 1 (SES) explained a statistically significant variance in mathematics SOL pass rates with no other statistically significant differences obtained. Results from the first hierarchical multiple regression test including all cases are reported. Table 7 provides a summary of details on each of the regression models for mathematics SOL pass rates. The full model of school SES, overall self-efficacy scores, and self-efficacy subscale scores to predict mathematics SOL pass rates (Model 3) was statistically significant, $R^2 = .650$, $F(5, 20) = 7.425$, $p < .001$, adjusted $R^2 = .562$.

Table 7

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy Predicting Mathematics SOL Pass Rates

Variable	Mathematics SOL Pass Rate					
	Model 1		Model 2		Model 3	
	R^2	β	R^2	β	R^2	β
School SES	.495**	-.703**		-.646**		-.721**
Overall Self-Efficacy			.516	.157		3.549
Self-Efficacy Subscales					.650	
Management						-1.848
Instructional Leadership						-.988
Moral Leadership						-1.335
ΔR^2	.495**		.021		.134	
F	9.029**					
ΔF			1.011		2.552	

* $p < .05$. ** $p < .001$.

As presented in Table 7, Model 3 explained 65% of the variance in mathematics SOL pass rates overall. The explained variance is noted as $R^2 = .650$ in Table 6. School SES was once again the only statistically significant variable across all three models. School SES explained 49.5% of the variance when entered into Model 1 as the control variable as delineated by $R^2 = .495$. In this model, for every one standard deviation increase in school SES, a -.703 standard deviation decrease in mathematics SOL pass rates is expected ($\beta = -.703$, $p < .001$).

The addition of principal overall self-efficacy to the prediction of mathematics SOL pass rates (Model 2) did not lead to a statistically significant increase in R^2 of .021, $F(1,23) = 1.011$, $p = .325$. The change in R^2 of .021 from Model 1 to Model 2 specifies that the addition of overall self-efficacy in Model 2 only explained an additional 2.1% of the variance in mathematics SOL pass rates above school SES. The addition of self-efficacy subscales to the prediction of mathematics SOL pass rates (Model 3) also did not lead to a statistically significant increase in R^2 of .134, $F(3,20) = 2.552$, $p = .084$. The increase in R^2 of .134 from Model 2 to Model 3 explains an additional 13.4% of the variance. This resulted in an R^2 of .650 for the full model.

It should be noted once again that the existing multicollinearity between Model 2 and Model 3 creates a potentially misleading additional explanation of variance of 13.4% because the addition of self-efficacy subscale scores in Model 3 is redundant. Model 2 explains 51.6% of the

variance in mathematics SOL pass rates as noted by a change in $R^2 = .021$, $p = .325$. The model is not statistically significant but is likely a more accurate representation of the additional variance in mathematics SOL pass rates explained by principal self-efficacy above school SES.

3. What are the differences if any between principal reported self-efficacy in turnaround versus fully accredited schools? An independent samples t-test was performed to determine if a statistically significant difference exists between the means of principal reported self-efficacy in turnaround versus fully accredited schools. Principals assigned to turnaround or fully accredited schools were used as the comparison groups for the independent variable. Principal overall self-efficacy was used as the dependent variable. The total sample ($N = 26$) consisted of 14 turnaround school principals ($n = 14$) and 12 fully accredited school principals ($n = 12$).

Checks for the assumptions of an independent samples t-test were completed by running the Explore procedure in SPSS® as well as reviewing the Levene's tests for equality prior to interpreting statistical results. There were no outliers in the data as assessed by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box. Turnaround school principal efficacy scores were not normally distributed while fully accredited school principal efficacy scores were normally distributed as assessed by Shapiro-Wilk's test ($p > .05$). As turnaround school principal efficacy resulted in $p = .036$ and the independent samples t-test is considered sturdy against violations of normality (Howell, 2014) the test procedure was continued without transformation of data or removal of cases. There was homogeneity of variances for efficacy scores for turnaround and fully accredited school principals, as assessed by Levene's test for equality of variances ($p = .368$).

Table 8 provides a summary of the group statistics for turnaround and fully accredited school principals. Table 9 provides a summary of the independent samples t-test in determining the presence of statically significant differences between self-efficacy for the principal groups.

Table 8

Group Statistics for Turnaround and Fully Accredited School Principal Self-Efficacy

		<i>n</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
Overall Efficacy	Turnaround School	14	6.73	0.59	0.16
	Fully Accredited	12	7.21	0.80	0.23

Note. *SD* = standard deviation; *SE* = standard error of the mean.

As displayed in Table 8, the mean self-efficacy of principals was 6.73 for turnaround schools and 7.21 for fully accredited schools. The standard error of the mean (*SE*) provides a statistical measure of how reliably the sample means represent the population (Howell, 2014). Turnaround schools *SE* of 0.16 explains that given multiple samples taken from the population, the means of each sample would vary about 0.16. Sample means would vary by 0.23 if the same were done for the fully accredited schools.

Table 9

Independent Samples t-Test for Turnaround and Fully Accredited School Principal Self-Efficacy

	t-test for Equality of Means					
	<i>t</i>	df	Sig. (2-tailed)	<i>MD</i>	95% CI	
					<i>LL</i>	<i>UL</i>
Overall Self-Efficacy	-1.736	24	0.095	-0.48	-1.04	0.09

Note. *MD* = Mean Difference; *CI* = confidence interval; *LL* = lower limit, *UL* = upper limit.

* $p < .05$.

Table 9 provides data explaining the differences in the mean self-efficacy of turnaround and fully accredited school principals. While principal self-efficacy was lower for turnaround schools ($M = 6.73$, $SD = 0.59$) than for fully accredited schools ($M = 7.21$, $SD = 0.80$), the difference was not statistically significant at the $p < .05$ level, $M = -.48$, 95% CI [-1.04, 0.09], $t(24) = -1.736$, $p = .095$, $d = 0.67$. The data did indicate that the probability of finding a significant effect when one is not present in the actual population, described as a Type I error (Howell, 2014), is less than ten percent ($p = .095$). After concluding that there was no statistically significant difference between the mean self-efficacy of turnaround and fully accredited school principals, additional t-tests were conducted to examine differences between the self-efficacy subscales scores. The mean self-efficacy subscale scores were not statistically different for turnaround and fully accredited school principals.

An effect size is a descriptive statistic that is not dependent on the relationship in the data representing the population and attempts to examine practical significance absent inferences to the population (Creswell, 2014). The Cohen's d effect size was calculated as $d = .67$. While, the results of the independent samples t-test resulted in no statistically significant differences at the $p < .05$ level, an effect size of $d = 0.67$ indicates a medium effect or medium difference between the group means. Figure 2 presents the mean difference between the overall self-efficacy of turnaround and fully accredited school principals.

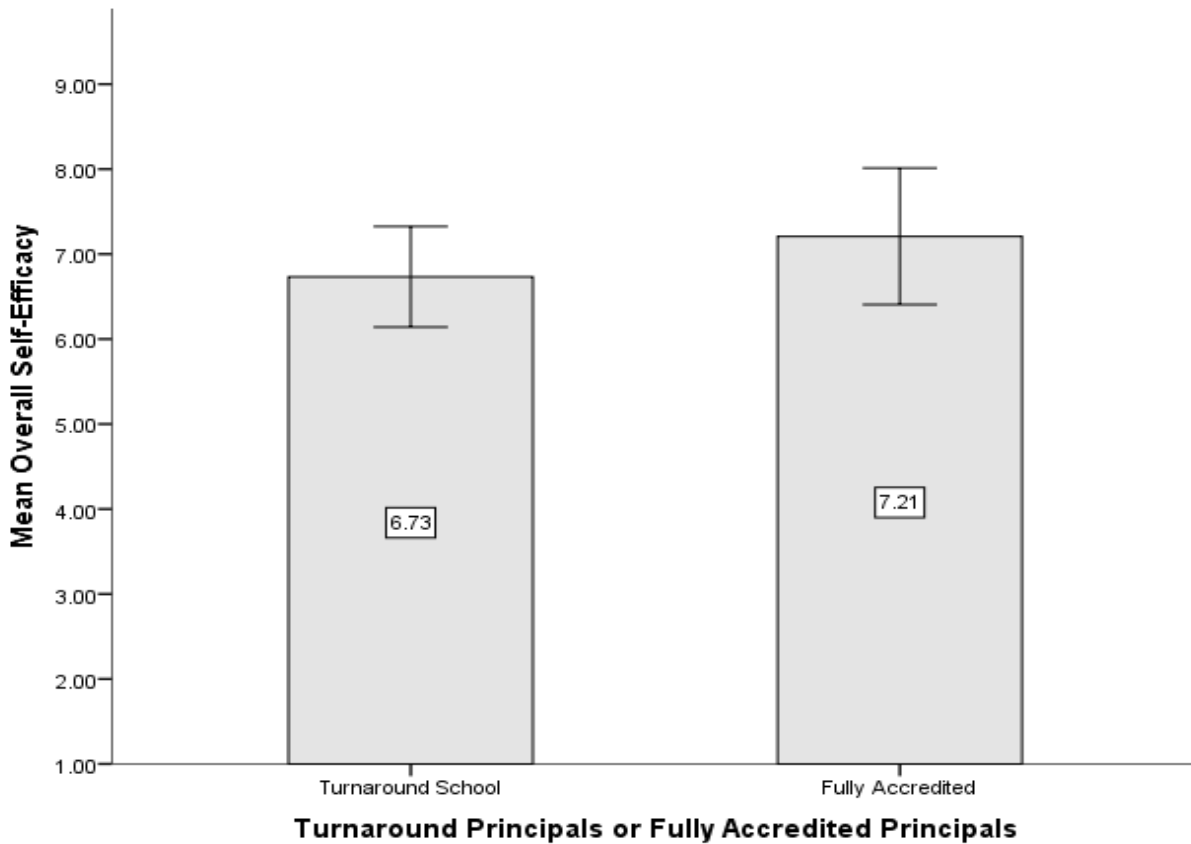


Figure 2. Mean self-efficacy differences for turnaround and fully accredited school principals. This figure illustrates the mean difference in the overall self-efficacy of principals at turnaround versus fully accredited schools. Error bars = 95% confidence intervals.

Summary of Data Analysis

Chapter Four provided an analysis of the descriptive data for the study sample based on PSES survey instrument responses. Data analysis for research questions one and two examining the relationships between principal self-efficacy and student reading and mathematics achievement were also reported. A hierarchical multiple regression analysis was used to determine if principal self-efficacy was statistically significant in predicting reading SOL and

mathematics SOL pass rates at the school level. School SES was used as a measure of poverty and was included in the analysis as a control variable. The data showed that principal self-efficacy was not statistically significant in predicting either school level reading SOL or mathematics SOL achievement.

Research question three examined the differences between the mean overall self-efficacy of turnaround and fully accredited schools principals using an independent samples t-test. The data revealed that there were no statistically significant differences between the means. While not statistically significant, the calculated effect size ($d = .67$) indicated a medium sized difference between the group means. Findings, implications, and recommendations for future research obtained from the data are discussed in Chapter Five.

Chapter Five

Findings, Implications and Recommendations

The purpose of this non-experimental correlational and comparative study was to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in turnaround and fully accredited schools at the elementary, middle, and high school levels in one urban Virginia school division. Evidence of successful school turnaround in the absence of an effective principal is missing from the literature (Duke, 2008; Louis et al., 2010; Sammons et al., 1995). Additionally, Leithwood et al. (2004) found that leadership impact on student achievement was second only to teachers' and that the impact was greatest in areas of significant need. Examination of the research questions through hierarchical multiple regression analysis and an independent samples t-test sought to explore the usefulness of self-efficacy as a tool that might assist with the selection of school leaders, determine if effective leaders are in place, and identify leader needs in their specific school context, particularly in turnaround schools.

The following research questions were addressed as a part of this study:

1. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict reading SOL achievement in turnaround and fully accredited schools?
2. To what extent does principal reported self-efficacy, overall and by subscales (management, instructional leadership, and moral leadership), predict mathematics SOL achievement in turnaround and fully accredited schools?
3. What are the differences if any between principal reported self-efficacy in turnaround versus fully accredited schools?

Data analysis revealed a number of findings summarized in this chapter. Implications for practice, recommendations for future research, and researcher reflections for the study are also presented.

Findings

The data analysis for this study resulted in several findings related to principal self-efficacy and its predictive relationship to student achievement as measured by reading and

mathematics SOL achievement. Differences in principal self-efficacy as measured by the PSES survey instrument (Tschannen-Moran & Gareis, 2004) at turnaround and fully accredited schools were also revealed. The findings obtained from the research questions are developed below.

Finding one. Overall principal self-efficacy failed to demonstrate a statistically significant impact in predicting student achievement as measured by reading or mathematics SOL pass rates. Across the participating schools, principal self-efficacy was not statistically significant in predicting school level student achievement for reading or mathematics SOL pass rates. Results of the hierarchical multiple regression found in Table 6 indicate that the contribution of overall principal self-efficacy above controlling for student poverty only explained an additional 3.3% of the variance in reading SOL pass rates ($R^2 = .639$, $F(1,23) = 2.114$, $p = .159$, adjusted $R^2 = .033$). Similarly, the additional contribution of principal self-efficacy to the regression analysis for mathematics resulted in an additional explanation of 2.1% of the variance in mathematics SOL pass rates ($R^2 = .516$, $F(1,23) = 1.011$, $p = .325$, adjusted $R^2 = .021$). See Table 6.

Study findings were not successful in further clarifying a direct connection between principal leadership, as examined through principal self-efficacy, and student achievement. Findings were consistent with Louis et al. (2010) research indicating that principal's perceptions of their capability or self-efficacy did not have a direct significant impact on the mean student achievement gains of state assessments. Louis et al. (2010) explained that leader self-efficacy demonstrated significant correlations to school leadership behaviors and school and classroom conditions that indirectly impact student achievement but not to student achievement measures. Findings from this study continue to illustrate the difficulty isolating the impact of school leadership from other factors that affect student achievement (Branch et al., 2013; Hallinger, 2005; Marzano et al., 2005).

Finding two. Socioeconomic status demonstrated a statistically significant negative impact on both reading and mathematics SOL assessment pass rates. The socioeconomic status of schools participating in this study as measured by student eligibility for free and reduced price lunch ranged from a minimum of 29% low SES students to a maximum of 100% low SES students. School SES by accreditation status included an average of 76% low SES in turnaround schools compared to 49% low SES in fully accredited schools. School SES was the only variable measured in the hierarchical multiple regression analysis that resulted in a

statistically significant impact on the prediction of reading and mathematics achievement. School SES explained 60.6% of the variance in reading SOL pass rates ($R^2 = .606, p < .01$) and 49.5% of the variance in mathematics SOL pass rates ($R^2 = .495, p < .01$). The impact of SES on reading and mathematics SOL pass rate achievement was negative. As reported in Table 6, for every one standard deviation increase in school SES, a $-.778$ decrease in reading SOL pass rates is expected ($\beta = -.778, p < .001$). Likewise, for every one standard deviation increase in school SES, a $-.703$ decrease in mathematics SOL pass rates is expected ($\beta = -.703, p < .001$) as outlined in Table 7. This finding is aligned with a sizable body of research confirming the negative impact of SES on student achievement in reading and mathematics (Children's Defense Fund, 2014; Ladd, 2012; Sirin, 2005; Tienken, 2012; Tienken, 2014).

Finding three. Overall principal self-efficacy at turnaround and fully accredited schools was not statistically different despite differences in student achievement. Results of an independent samples t-test did not reveal a statistically significant difference between the mean self-efficacy of principals at turnaround versus fully accredited schools ($M = -.48, 95\% \text{ CI } [-1.04, 0.09], t(24) = -1.736, p = .095, d = 0.67$). Principal leadership literature argued that leadership behaviors and practices identified as effective remain consistent across school contexts (Cotton, 2003; Marzano et al., 2005). Further, turnaround schools literature determined that one of the challenges of turnaround schools is not identifying what constitutes effective leadership practices but rather the appropriate application of effective practices based on school needs and context (Leithwood et al., 2010; Murphy, 2008). This literature provides a potential explanation for the absence of statistically significant differences between the self-efficacy of principals at turnaround versus fully accredited schools. According to the literature, principals in each setting would engage in similar practices with the difference being that effective school leaders engage in behaviors and practices based on the needs of their schools.

Other researchers have indicated that they were unable to find examples of successful school turnaround in the absence of effective leadership (Duke, 2008; Sammons et al., 1995) while also determining that failure to dedicate effort towards identifying causes of school decline prior to applying interventions (Duke, 2006; Duke, 2008; Murphy, 2008) contributes to a lack of turnaround school success. Provided that principals in both turnaround and fully accredited schools are knowledgeable regarding effective leadership practices and are capable of applying

those practices towards intended outcomes for their schools, self-efficacy between the groups may not bear significant differences.

Finding four. The self-efficacy differences of principals at turnaround and fully accredited schools within the study sample resulted in a medium effect size. As illustrated in Figure 2, principal self-efficacy was lower for turnaround schools ($M = 6.73$, $SD = 0.59$) than fully accredited schools ($M = 7.21$, $SD = 0.80$). Turnaround school principals' mean self-efficacy fell below the level of "quite a bit" of self-efficacy (seven on the PSES Likert scale) whereas the mean self-efficacy for fully accredited school principals fell solidly within that range. The obtained effect size of $d = 0.67$ indicates a medium effect or medium difference between the group means. An effect size is a descriptive statistic that attempts to examine practical significance absent inferences to the population (Creswell, 2014). It attempts to identify the strength of the conclusions made about group differences (Creswell, 2014).

Within this particular sample, the effect size ($d = 0.67$) suggested that although not statistically different from each other, there is a medium sized effect or difference between the group means which reflects Bandura's research regarding variations in self-efficacy beliefs. Bandura's (1997) work on self-efficacy demonstrated that beliefs among individuals with the same ability can vary based on magnitude (level of task difficulty), generality (task specific or across a larger domain), and strength (conviction of the individual's belief). Additionally, Bandura (1997) explained that the task specific or contextual nature of self-efficacy does not operate in an "either/or" fashion. Individuals can have a high sense of efficacy across a domain such as school leadership but a lower sense of efficacy based on a specific context such as a turnaround school.

Further, self-efficacy research outlined four factors impacting the development of efficacy beliefs to include mastery experiences (success experiences), vicarious experiences (social modeling), social persuasion (verbal suggestion or affirmation), and physiological and emotional states (physical and emotional reactions) (Bandura, 1997). Mastery or success experiences have consistently been reported as most influential in developing efficacy (Bandura, 2010). In the current school accountability climate, school quality and success are determined by student achievement (Louis et al., 2010; NCLB, 2002; USDOE, 2015) and would influence "mastery experiences" for principals. Opportunities for these experiences and other factors impacting efficacy beliefs such as social persuasion (verbal affirmations) are potentially different

in varied school contexts such as turnaround and fully accredited schools. As the sample result suggested, these differences could be reflected in self-efficacy distinctions among principals within the various contexts.

Finding five. The efficacy for management subscale produced the lowest mean scale score of 6.25 while efficacy for instructional leadership produced the highest mean scale score of 7.39 for all principals within the sample. Although turnaround school principals' self-efficacy beliefs were lower overall and for each subscale than fully accredited school principals, both groups shared similar strengths and weaknesses among their beliefs. School principals felt least efficacious regarding management with a mean subscale score of 6.25. Based on the PSES Likert scale, a mean of 6.25 fell between the range of "some degree" (five points on the scale) and "quite a bit" (seven points on the scale) of self-efficacy regarding management. Conversely, efficacy for instructional leadership fell solidly within the range of "quite a bit" of efficacy with a mean subscale score of 7.39.

All six questions corresponding to the subscale for management resulted in means below seven as reported in Table 5. Principals' perceptions regarding their ability to maintain control of their own daily schedule had the lowest mean among all PSES survey instrument questions and among all principals ($M = 5.58$). Coping with the stress of the job ($M = 6.23$) and shaping the operational policies and procedures necessary to manage their schools ($M = 6.27$) revealed the second and third lowest mean scale score by subscale questions respectively. Principals' self-efficacy perceptions for management in their schools reflect the literature regarding principal leadership challenges. A number of researchers have argued that the job of a school leader has become impossibly broad for a single person in terms of energy and expertise and that the job expectations are unrealistic (DiPaola & Tschannen-Moran, 2003; Duke, 2004; Fullan, 2014, Marzano et al., 2005; Portin et al., 2009). The literature further demonstrated that these challenges are intensified in turnaround school environments (Murphy, 2008; Salmonowicz, 2009).

Alternately, within the instructional leadership subscale, principal efficacy regarding their ability to raise achievement on standardized test scores ($M = 6.58$) was the only question with a mean scale score below seven. Although principals overall perceived they were most efficacious regarding their instructional leadership ability, a lower mean for ability to raise achievement on assessments supports the literature asserting the complexity of achieving results despite

implementation of effective leadership practices (Dodman, 2014; Duke, 2004; Hallinger, 2005; Marzano et al., 2005).

A review of additional questions corresponding to instructional leadership efficacy indicated that generating enthusiasm for a shared vision for their school resulted in the highest mean scale score ($M = 8.27$), followed by creating a positive learning environment ($M = 8.00$), and motivating teachers ($M = 7.58$). See Table 5. These results reflect the significant correlations found between leader self-efficacy and leader behaviors such as setting directions, developing people, and redesigning the organization (Louis et al., 2010). Hallinger (2005) also noted that principal effects on instruction are more closely related to the development of school culture and modeling.

Summary of Findings

Research questions one and two examined the extent to which principal self-efficacy, overall and by subscales, could predict reading and mathematics SOL achievement in turnaround and fully accredited schools. The results detailed in Finding 1 indicate principal self-efficacy is not statistically significant in predicting student achievement as measured by reading and mathematics SOL assessment pass rates. Additionally, research questions one and two accounted for the impact of poverty on achievement by including the percentage of low SES students for each school into the hierarchical regression analysis as a control variable. Finding 2 revealed that poverty, as measured by school low SES percentages, demonstrated a statistically negative impact on both reading and mathematics SOL assessment pass rates.

Findings three, four, and five detail the data related to research question three. Research question three examined the differences between principal reported self-efficacy in turnaround and fully accredited schools. Finding 3 indicated that overall self-efficacy for principals at turnaround versus fully accredited schools were not statistically different. Finding 4 discussed the medium effect size ($d = 0.67$) obtained for research question three as it relates to Bandura's (1997) research regarding factors such as task difficulty, generality, and strength of beliefs that influence variations in self-efficacy beliefs. Finally, Finding 5 compared subscale self-efficacy scores for turnaround and fully accredited school principals based on the results of research question three. Self-efficacy for management produced the lowest mean scale score while instructional leadership produced the highest mean scale score for both turnaround and fully accredited school principals.

Implications

Limitations of the study to include the use of non-random convenience sampling within a single school division, voluntary reporting of self-efficacy, and use of a limited response survey instrument prevents generalization of the findings to other school divisions or principal populations. Despite these limitations, the study findings have implications for education leaders when considering factors impacting student achievement and the use of self-efficacy as a framework for identifying, placing, and supporting school leaders. The implications of the findings are discussed below.

Implication one. Education leaders should utilize school leadership research to identify, develop, and implement school leader practices associated with creating conditions that impact student achievement. The results of Finding One did not support a significant relationship directly linking principal self-efficacy to student achievement measures such as high stakes testing results. There is research available which has identified leadership practices associated with effective schools and student achievement (Cotton, 2003; Louis et al., 2010; Marzano et al., 2005). In spite of the urgency and emphasis placed on student achievement outcomes, focusing primarily on directly tying principal behaviors to student achievement and instruction ignores the research regarding the variety of school leader behaviors that are effective in supporting student and school success (Fullan, 2014). School leaders impact student achievement indirectly through engaging in actions that influence school and classroom conditions (Hallinger, 2005; Leithwood et al., 2004). It is critical that education leaders at the local and state levels begin to utilize this research when identifying, developing, and implementing professional development opportunities and supports for school leaders.

Implication two. Education leaders should direct focus towards identifying and implementing school level practices that address the impact of poverty on student achievement. The results of Finding Two were consistent with an established body of research demonstrating the negative correlations between poverty and student achievement (Children's Defense Fund, 2014; Ladd, 2012; Sirin, 2005; Tienken, 2012; Tienken, 2014). School level poverty as measured by the percentage of students receiving free and reduced price lunch was the only variable identified as a significant predictor of student achievement for this study. Despite a long-standing expanse of research demonstrating that school level achievement is impacted by poverty, too little of the focus of educational leadership and policy focuses on

directly addressing poverty versus academic interventions. It is imperative that education leaders at the local and state levels begin to direct focus towards identifying and implementing school level practices that help to counteract the impact of poverty. The identification and implementation of school level practices are areas that principals can be most productive and effective.

Implication three. Education leaders should assist principals in identifying and targeting the individual needs of their schools in order to impact student achievement. The results of Finding Three failed to reveal a significant difference between the mean self-efficacy of principals at turnaround and fully accredited schools. This aligns with research that affirms effective school leader behaviors and practices are not context specific (Cotton, 2003; Louis et al., 2010; Marzano et al., 2005). The research emphasizes that school success is not dependent upon the application of different types of practices in different schools but instead the right application of effective practices at each school based on contextual needs (Dodman, 2014; Duke, 2004; Hallinger, 2005; Marzano et. al, 2005). Failure to focus efforts towards identifying causes of school decline in order to apply appropriate interventions and practices has been identified as a barrier to improving schools (Duke, 2006; Duke, 2008; Murphy, 2008). In spite of the absence of statistically significant differences between principal self-efficacy at turnaround and fully accredited schools, a difference in student achievement outcomes within the schools does exist. Rather than focusing on identifying differences between school leaders, local education leaders must assess causes of decline at each school and provide principals with individual supports and resources in order to address school challenges that impact student achievement. While the urge to attempt the mass production of school improvement efforts is understandable, the literature argues that schools, like students, require differentiation in order to improve.

Implication four. Education leaders should implement strategies and practices that develop principal self-efficacy, particularly in turnaround schools. The results of Finding Four concluded that turnaround school principal self-efficacy was lower on average than that of their fully accredited school colleagues. Considering the challenges of school leadership in general and turnaround schools in particular, it is important that education leaders at the local and state levels utilize available self-efficacy research to develop the efficacy of school leaders. The functional benefits of self-efficacy in contributing to motivation and action are a pillar of

self-efficacy research (Bandura 1997, Bandura 2010; Bandura & Locke, 2003). Tschannen-Moran & Gareis (2004) argued that developing principals in order to expand their capabilities and resiliency enhances their well-being and their accomplishments. Murphy (2008) further argued that turnaround school leaders should have “unusual supplies of optimism and persistence and a penchant for enjoying the risks needed to break a school’s pernicious cycle of decline” (p. 91). Developing individual principal self-efficacy, especially in challenging schools where efficacy might be fragile, may still prove useful in combating or preventing school leadership challenges such as leader shortages.

Implication five. Education leaders should provide a balanced level of support to principals in successfully fulfilling management and instructional leadership responsibilities. The results of Finding Five showed that principals overall felt least efficacious regarding management and most efficacious related to instructional leadership. Instructional leadership is currently a focal point of school leadership research and practice. In contrast, a lower level of self-efficacy for management among principals indicates that this focus on instructional leadership practices may occur at the expense of other areas of leadership at least within the sample. That some researchers such as Mendels (2012) have proposed that the modern role of the principal is no longer focused on managerial tasks but that of instructional leadership may have led to beliefs that management behaviors and practices are of little importance.

As they have within this study, when principals demonstrate a depressed level of efficacy for maintaining their schedule and coping with stress, it is vital that education leaders pay attention. Louis et al. (2010) found that a lack of principal efficacy to carry out initiatives can derail a school division’s improvement efforts. Common sense dictates that poorly managed schools are subject to a decreased likelihood of success regardless of the amount of time and energy directed toward instructional practices. Likewise, a lack of attention towards the development and support of principals fulfilling management responsibilities and behaviors again contradicts research emphasizing school leaders’ influence on school and classroom conditions as the driver of their indirect impact on student achievement. As such, education leaders at the local and state levels should avoid an “either/or” approach to the development of school principals. Instead education leaders should seek input from principals and consult educational research in providing a well-balanced and effective menu of professional

development opportunities. Considering principal self-efficacy beliefs in collaboration with individual school needs may still prove useful in developing individual principals and providing appropriate supports.

Conclusions

The aim of this study was to assess the usefulness of self-efficacy as a potential framework for identifying, placing, and supporting school leaders by examining relationships between principal self-efficacy and student achievement as well as efficacy differences among principals at turnaround and fully accredited schools. Study findings did not support significant relationships between self-efficacy and student achievement nor significant differences between turnaround and fully accredited school principals. Findings did lead to implications for practice regarding principal support and professional development. Additionally, study implications leave open the continued exploration of self-efficacy as a means for differentiating the supports and development opportunities provided to school principals.

Recommendations for Future Research

Based on the review of available literature as well as the findings and implications outlined in this chapter, the following recommendations for future research are provided:

1. Increase the study sample size to include multiple school divisions across Virginia or nationally in order to test for significant relationships and differences within a larger population.
2. Utilize a random sampling design in conjunction with a larger sample size in order to allow for further generalization of any findings and implications for practice.
3. Conduct additional studies using a mixed-methods approach in order to provide additional insight regarding variations in and factors contributing to principal self-efficacy at turnaround and fully accredited schools. Use of a mixed-methods approach would also assist in addressing the limiting of responses inherent to the PSES survey instrument.
4. Conduct additional studies using a longitudinal research design in order to examine changes to principal self-efficacy related to changes in student achievement over time. A longitudinal research design would also aid in identifying trends and

- relationships to principal self-efficacy over time based on the implementation of professional development and supports discussed in this study's implications.
5. Conduct additional research based on the turnaround schools and self-efficacy literature to develop an efficacy instrument more specifically aligned to turnaround school challenges. Developing an instrument that directly assesses self-efficacy within this context versus relying on participants to independently apply their individual contexts to the survey questions may yield different results.
 6. Conduct a study examining relationships between principal self-efficacy, length or amount of time engaged in effective leadership practices, and school level achievement. This study may include a multi-methods approach modified from the Louis et al. (2010) study which also included school and classroom observational data, quantitative data, and qualitative interviews.

Reflections

As an elementary school principal currently in my fourth year leading a turnaround school, the findings of my study were not what I anticipated. Based on limitations to my study design and recommendations for future research, I believe that self-efficacy still holds unexplored value and potential for school leadership practices in general if not specifically for turnaround schools. One of the conclusions that I have drawn from my study findings is the possibility that the participating school division already effectively identifies and assigns principals to schools and that self-efficacy can be useful in guiding ongoing supports. Changes recommended for researchers looking to replicate this study include use of random sampling and increasing the sample size in addition to modifying the study design to allow for a more in-depth examination of principal self-efficacy at assigned schools through the use of a mixed-methods approach.

Despite the findings, the coursework throughout this program as well as the dissertation process have supported my growth as a principal and as an educational leader. Reviewing the literature on school leadership and turnaround schools provided me with a broader, more informed view of the behaviors and practices I needed to adopt on my journey towards school improvement as a principal. This experience has also helped me to realize the potential for central office leaders to implement effective practices and division improvement efforts in a timelier manner by using research to guide decisions and the development of school leaders.

While the obsession with rigid timelines heavily emphasized in federal turnaround school efforts has been criticized, I would argue that being good stewards of time as educational leaders is imperative. Children, their learning, and their future success are all dependent on our management and purposeful use of every moment they are with us. If the concept of time management is necessary in the classroom for teachers when evaluating instruction, it should be equally important for school and division leaders when making decisions that impact the effectiveness of schools.

I look forward to contributing my experiences and knowledge gained as a part of this journey to the advancement of outcomes and opportunities for school leaders in particular. It is my belief that principals are a dedicated and essential group of educators often taken for granted and thereby neglected. Having also worked at the central office level, I have gained a new respect and understanding for the challenges of school level leaders and hope to help address what I would characterize as a gap in professional practice.

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Appendix A

Principal Sense of Efficacy Scale (PSES) (Tschannen-Moran & Gareis, 2004)

Principal Questionnaire

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for principals in their school activities.

Directions: Please indicate your opinion about each of the questions below by marking one of the nine responses in the columns on the right side. The scale of responses ranges from "None at all" (1) to "A Great Deal" (9), with "Some Degree" (5) representing the mid-point between these low and high extremes. You may choose any of the nine possible responses, since each represents a degree on the continuum. Your answers are confidential.

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.

"In your current role as principal, to what extent can you..."	None at All	Very Little	Some Degree	Quite a Bit	A Great Deal				
1. facilitate student learning in your school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. generate enthusiasm for a shared vision for the school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. handle the time demands of the job?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. manage change in your school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. promote school spirit among a large majority of the student population?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. create a positive learning environment in your school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. raise student achievement on standardized tests?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. promote a positive image of your school with the media?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. motivate teachers?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. promote the prevailing values of the community in your school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. maintain control of your own daily schedule?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. shape the operational policies and procedures that are necessary to manage your school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13. handle effectively the discipline of students in your school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14. promote acceptable behavior among students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15. handle the paperwork required of the job?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16. promote ethical behavior among school personnel?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17. cope with the stress of the job?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18. prioritize among competing demands of the job?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Appendix B

Request for permission to use the PSES (Tschannen-Moran & Gareis, 2004)



Glenda Walter <gpowell6@vt.edu>

Request for Permission to use the PSES for a dissertation study

Glenda Walter <gpowell6@vt.edu>
To: mxtsch@wm.edu

Thu, Dec 29, 2016 at 12:16 PM

Good afternoon Dr. Tschannen-Moran,

I hope you have had a wonderful holiday and are looking forward to the New Year. You may not remember me but I took several classes with both you and Dr. Gareis while working on my MEd in Educational Leadership at W&M.

My name is Glenda (Powell) Walter and I am currently a doctoral candidate in the Educational Leadership and Policy Studies program at VA Tech. I am undertaking a dissertation study entitled, "*Principal Self-Efficacy as a Predictor of Student Achievement and Differences Among Principals at Fully Accredited Versus Turnaround Schools in One Urban Virginia School Division*". The purpose of this study is to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in fully accredited and turnaround schools at the elementary, middle, and high school levels.

My study interest is a direct result of my experiences as an elementary school principal within the current accountability and school improvement environment. While it is unlikely that I will remain a career school administrator (too stressful), I certainly have an affinity to school leaders and their challenges. I ultimately would like to continue to contribute to the knowledge base around school leadership recruitment, retention, and development based on individual capabilities and specific school contexts and challenges.

I have always held an interest in your research around trust and self-efficacy as they relate to outcomes in school. With your permission, I would like to be able to use the Principal Self-Efficacy Scale as the instrument for my study. I am more than happy to share results and findings from my study once completed should you be interested.

Thank you for your consideration.

Kindly,

Glenda Walter

Appendix C

Permission Letter to use the PSES (Tschannen-Moran & Gareis, 2004)



William & Mary School of Education

MEGAN TSCHANNEN-MORAN, PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

January 18, 2017

Glenda,

You have my permission to use the Principals' Sense of Efficacy Scale, which I developed with Chris Gareis, in your research. The best citation to use is:

Tschannen-Moran, M. & Gareis, C. (2004). Principals' sense of efficacy: Assessing a promising construct. *Journal of Educational Administration*, 42, 573-585.

You can find a copy of these measures and scoring directions on my web site at <http://wmpeople.wm.edu/site/page/mxtsch> . I will also attach directions you can follow to access my password protected web site, where you can find the supporting references for these measures as well as other articles I have written on this and related topics.

I would love to receive a brief summary of your results when you finish.

All the best,

Megan Tschannen-Moran
The College of William and Mary
School of Education

Appendix D

Institutional Review Board (IRB) Human Subjects Protection Certificate of Completion



Appendix E

IRB Approval Letter



Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website <http://www.irb.vt.edu>

MEMORANDUM

DATE: December 19, 2016
TO: Ted S Price, Glenda Powell Walter
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)
PROTOCOL TITLE: Principal Self-Efficacy as a Predictor of Student Achievement and Differences Among Principals at Fully Accredited versus Turnaround Schools in One Urban Virginia School Division
IRB NUMBER: 16-1126

Effective December 19, 2016, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at: <http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: **Exempt, under 45 CFR 46.110 category(ies) 2,4**
Protocol Approval Date: **December 19, 2016**
Protocol Expiration Date: **N/A**
Continuing Review Due Date*: **N/A**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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Appendix F

School Division Research and Authorization Committee Approval Letter



Office of Instructional Accountability

January 17, 2017

Ms. Glenda Powell Walter



Dear Ms. Walter:

It is my pleasure to inform you that the Research Authorization Committee (RAC) has approved your research entitled *Principal Self-efficacy as a Predictor of Student Achievement & Differences among Principals at Fully Accredited Versus Turnaround Schools in One Urban Virginia School Division*. Please include a copy of this letter in any communication with the school principals in [redacted] regarding your study. Your research interests must remain confined to the provisions outlined in your approved research request application. Authorizations for additional research or changes in your current procedures must first be submitted to the RAC for review.

The RAC mandates that all research applicants use pseudonyms in place of the names of students, staff, schools, and/or the school division in any documentation produced from your study. The use of pseudonyms in your study must include any mention [redacted] as this would inadvertently identify the school division. This precaution is taken to ensure the safety and anonymity of all persons participating in the study, safeguard the division from analyses produced from inaccurate and/or faulty methodologies, and add to the rigor and integrity of all reported results.

I wish you much success on your work, and look forward to reading the results of your final study. The RAC requests that a written final summary of all research be submitted to the chairperson upon completion. Please feel free to contact me at [redacted] or at [redacted] with any additional questions.

Sincerely,



Research Authorization Committee Chair

Appendix G
Study Cover Letter and Invitation

January 20, 2017

Dear Public School Administrator:

I am currently a doctoral candidate in the Educational Leadership and Policy Studies program at Virginia Polytechnic Institute and State University. I am undertaking a dissertation study entitled, “*Principal Self-Efficacy as a Predictor of Student Achievement and Differences Among Principals at Fully accredited Versus Turnaround Schools in One Urban Virginia School Division*”. The purpose of this study is to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in fully accredited and turnaround schools at the elementary, middle, and high school levels.

Approval to conduct the study has been granted by the VA Tech Institutional Review Board and your school division’s Research and Authorization Committee. In order to complete the study, I am requesting that principals in your school division complete a survey that will take approximately 20 minutes to complete. The first section of the survey will collect demographic information followed by the survey questions in section two.

This study is entirely voluntary and anonymous. No identifying information linking you or your school will be included in the data and participation will not have any effect on your employment within the school division. Data obtained from the study will be analyzed statistically and results will only be reported as a part of dissertation defense and possible publishing when completed, with the ambition to inform principal identification aligned to the specific needs of schools.

If you have any questions regarding this study you may contact me at [REDACTED] or gpowell6@vt.edu. Should you have any questions or concerns about the study’s conduct, your rights as a research subject, or need to report a research related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

Please click the included link to access and complete the survey.

The deadline for submission of the survey is January 27, 2017. Your completion of the survey will imply your consent to participate in the study. You may withdraw from the study at any time.

As a principal, I understand that your time is extremely valuable and appreciate your consideration regarding participation in this study.

Respectfully,
Glenda P. Walter- Doctoral Candidate, Virginia Tech

Appendix H

Second Invitation to Participate (Follow-up Phone Contact Script)

Greetings Mr./Ms./Dr. (insert name of invited participants),

My name is Glenda Walter and I am currently a doctoral candidate in the Educational Leadership and Policy Studies program at Virginia Polytechnic Institute and State University (VA Tech). I am undertaking a dissertation study entitled, “*Principal Self-Efficacy as a Predictor of Student Achievement and Differences Among Principals at Fully accredited Versus Turnaround Schools in One Urban Virginia School Division*”. The purpose of this study is to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in fully accredited and turnaround schools at the elementary, middle, and high school levels.

I am calling to follow-up regarding an introduction to my study and invitation to participate originally sent to you at your school division email address on January 20, 2017. It is my hope that you will agree to be a participant in this study. This study is voluntary and anonymous and I am requesting that principals in your school division complete a principal self-efficacy survey that will take approximately 20 minutes to complete.

I would be happy to answer any questions regarding my study and as well as forward my original invitation to you again if you request. I can be reached by phone at [REDACTED] or email at gpowell@vt.edu.

Thank you for your time and I appreciate your consideration regarding participation in this study.

Appendix I
Third Invitation to Participate

January 30, 2017

Dear Public School Administrator:

On January 20, 2017 you received an e-mail invitation to participate in a study entitled, *“Principal Self-Efficacy as a Predictor of Student Achievement and Differences Among Principals at Fully accredited Versus Turnaround Schools in One Urban Virginia School Division”*. Thank you to those who have already taken the time to participate in this study.

If you have not yet completed the study survey, you are again invited to participate. A copy of the original study cover letter and invitation are attached. The purpose of this study is to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in fully accredited and turnaround schools at the elementary, middle, and high school levels.

In order to complete my study, I am requesting that principals in your school division complete a principal self-efficacy survey that will take approximately 10 minutes to complete.

It is my hope that you will agree to be a participant in this study. The deadline for submission of the survey is February 13, 2017. The survey can be accessed at (insert individual link). Your completion of the survey will imply your consent to participate in the study. You may withdraw from the study at any time. If you have any questions regarding this study you may contact me at [REDACTED] or gpowell6@vt.edu. Should you have any questions or concerns about the study’s conduct or your rights as a research subject, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

Your input is critical in this research. I appreciate your consideration regarding participation in this study.

Respectfully,
Glenda P. Walter
Doctoral Candidate, Virginia Tech

Appendix J
Final Invitation to Participate

February 6, 2017

Dear Public School Administrator:

During the past two weeks you have received two e-mail invitations to participate in a study entitled, “*Principal Self-Efficacy as a Predictor of Student Achievement and Differences Among Principals at Fully accredited Versus Turnaround Schools in One Urban Virginia School Division*”. Thank you to those who have already taken the time to participate in this study.

If you have not yet completed the study survey, this is a final invitation to participate. A copy of the original study cover letter and invitation are attached. The purpose of this study is to examine the relationship between principal reported self-efficacy and student achievement as well as the differences between the self-efficacy beliefs of principals in fully accredited and turnaround schools at the elementary, middle, and high school levels.

In order to complete my study, I am requesting that principals in your school division complete a principal self-efficacy survey that will take approximately 10 minutes to complete.

It is my hope that you will agree to be a participant in this study. The deadline for submission of the survey is February 13, 2017. The survey can be accessed at (insert individual link). Your completion of the survey will imply your consent to participate in the study. You may withdraw from the study at any time. If you have any questions regarding this study you may contact me at [REDACTED] or gpowell6@vt.edu. Should you have any questions or concerns about the study’s conduct or your rights as a research subject, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

Your input is critical in this research. I appreciate your consideration regarding participation in this study.

Respectfully,
Glenda P. Walter
Doctoral Candidate, Virginia Tech