2021

Training and Experience as Predictors of Principals' Efficacy for Inclusive Education Implementation

Courtney Lynch
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Courtney A. Lynch

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Elisabeth Weinbaum, Committee Chairperson, Psychology Faculty
Dr. Rochelle Michel, Committee Member, Psychology Faculty
Dr. Neal McBride, University Reviewer, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2021

Abstract

Training and Experience as Predictors of Principals' Efficacy for Inclusive Education Implementation

by

Courtney A. Lynch

MA, Walden University, 2019

MA, New Jersey City University, 2009

BA, Rutgers University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Educational Psychology

Walden University

May 2021

Abstract

Federal inclusion law requires that school administrators provide an equitable and legally compliant inclusive education for all students. Previous research has shown that successful program delivery is not possible without efficacious school leadership. Prior studies have also revealed that principals' self-efficacy judgments are directly influenced by contextual and personal factors. Limited research-based inquiries have explored which factors contribute to administrator confidence as it relates to successfully implementing inclusive educational programs in particular. Grounded in social cognitive theory, the purpose of this nonexperimental, survey-based, quantitative study was to assess the extent to which facets of elementary school principals' educational background, experience, and training, along with time spent on inclusion-related activities, predict their efficacy for successful inclusive program delivery in their schools. Data for the study were collected through a demographic questionnaire and an online survey of elementary school principals in a large northeastern state ($N = 104$) and were analyzed using descriptive statistics and a multivariate multiple linear regression. Results revealed that the overall model was significant ($p < .05$) and that years as a special educator and years as a principal were significant predictors of the aggregate outcome variable. The findings shed light on the intricate personal and contextual variables that influence principals' efficacy beliefs for administering inclusive education programs. Understanding the factors that facilitate robust levels of confidence among administrators may be used to inform principal educational and professional preparation programs that may contribute to positive social change in the field of education.

Training and Experience as Predictors of Principals' Efficacy for Inclusive Education Implementation

by

Courtney A. Lynch

MA, Walden University, 2019

MA, New Jersey City University, 2009

BA, Rutgers University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Educational Psychology

Walden University

May 2021

Dedication

This dissertation is dedicated to my mother. Thank you for always supporting my dreams and for instilling in me the belief that all goals are attainable when pursued with an open mind, a courageous heart, and an indomitable spirit.

Acknowledgments

I wish to acknowledge my committee chair, Dr. Elisabeth Weinbaum, for her optimism, wisdom, and unwavering belief in me. I also wish to recognize my committee members, Dr. Rachel Piferi, Dr. Rochelle Michel, and Dr. Neal McBride, for their ongoing support and generosity throughout this process. Additionally, I wish to recognize Anita for her indispensable guidance and uplifting sense of humor. Lastly, I must acknowledge my family and friends for their endless love and support. I would not have made it to this point without any of you and I shall be eternally grateful.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

In 2015, the Every Student Succeeds Act (ESSA) supplanted No Child Left Behind (NCLB) and reestablished the Elementary and Secondary Education Act of 1965 (Darling-Hammond et al., 2016). This federal mandate was designed to provide equitable access to inclusive high-quality educational resources and opportunities to all students as well as to close educational achievement gaps (Darling-Hammond et al., 2016). This is particularly imperative at the elementary school level because early access to positive and developmentally appropriate learning environments has been shown in the research to be a strong predictor for later academic, professional, and personal success (Alborno, 2017). At the school level, administrators serve a crucial and multifaceted role in setting the tone for how special education services are perceived by the larger school community and how they are implemented by teachers (Cobb, 2015). However, articulating new educational theories and policies and translating these into a collective practice is a complicated and challenging undertaking at best (Bai & Martin, 2015). Effective implementation of mandates, such as ESSA, require that administrators be well versed in inclusion policies and special education law (Carter & Abawi, 2018). Moreover, the changes in federal policy have increased the pressure placed on principals to demonstrate improved achievement for all students (Espisito et al., 2019). In order to achieve this goal, principals must overcome numerous challenges, such as reducing circumstances involving litigation and educator attrition, promoting cooperation among diverse stakeholders, and establishing a united school vision based on acceptance and policies that deliver individualized experiences to learners (Cobb, 2015). Critical to successful

goal attainment and perseverance over challenges are principals' self-efficacy beliefs (Cobb, 2015; Tschannen-Moran & Gareis, 2007).

Prior empirical research has indicated that self-efficacy beliefs determine how much effort an individual will put forth and how long they will persist when faced with failure or difficulty (Bandura, 1997; Goddard et al., 2000; Louis et al., 2010: Tschannen-Moran & Woolfolk-Hoy, 2001). Leadership self-efficacy refers to a leader's confidence in their own knowledge, skills, and abilities to successfully shape, guide, and inspire the actions of others (Dwyer, 2019). Leader efficacy has an important influence on goal setting, resilience, and aspirations (Tschannen-Moran & Gareis, 2004). According to Tschannen-Moran and Gareis, an individual's efficacy beliefs are exceptional predictors of behavior. In particular, they found that principals with a robust sense of self-efficacy are adaptive, obstinate, resilient, and internally motivated, whereas administrators with low self-efficacy tend to be externally driven, rigid, apathetic, anxious, and susceptible to burnout. Researchers have cautioned that self-efficacy is contextual and, in some cases, task specific, so administrators may feel efficacious leading under some conditions and not others; therefore, administrator efficacy should be assessed relative to specific educational contexts or initiatives.

To date, however, limited research has been conducted to explore which factors contribute to administrator confidence as it relates to successfully implementing inclusive educational practices within a school. To address this gap in the literature, in this study, I examined how various facets of elementary school principals' years of experience as a special educator, level of education, and hours of inclusion-related professional

development influenced their self-efficacy for successfully creating an inclusive and equitable environment within their school.

In this chapter, I present a description of the background of the problem, the problem statement, and the purpose of the study, followed by the research questions and hypotheses that guided the study. Next, the theoretical framework and nature of the study are described. Additionally, the definition of terms and an overview of the study's assumptions and limitations, scope and delimitations, and significance are discussed. The chapter concludes with a summary.

Background

Over the past 30 years, administrators have been tasked with the challenge of providing a free and appropriate education to all students (Billingsley et al., 2018). During this time, special education has evolved from poorly developed curriculum provided to socially isolated students in segregated locations to inclusive, school-wide, special education systems designed to provide all students with equitable academic and social supports (DiPaola et al., 2004). School leader responsibilities have expanded to include the promotion of an equitable climate; the provision of instructional and collaborative leadership; the management and organization of processes; and the cultivation and maintenance of positive relationships with parents, stakeholders, and community members. There is little doubt that the role of the principal has become increasingly complex and that effective administrative leadership is critical to inclusive educational reform at the school level, yet researchers have suggested that few principals are prepared to meet the requisite challenges associated with these responsibilities

(Billingsley et al., 2018; Cobb, 2015; DiPaola et al., 2004; Monteith, 2000; Walther-Thomas & DiPaola, 2002). Furthermore, research focused on school-wide implementations of inclusion has indicated that a number of issues often derail the success of administrator efforts, including teacher dissatisfaction, teacher attrition, the rise of special-education-related litigation, and principal stress and isolation (Cobb, 2015; Louis et al., 2010).

Principals' beliefs in their own capabilities influence the effort they put forth in their daily work, the perseverance they demonstrate when challenges arise, and the resilience they exhibit in the face of setbacks (Tschannen-Moran & Gareis, 2004). Simply placing experienced and capable administrators in leadership positions will not suffice; school principals must believe in their own abilities to successfully meet the multitude of challenges that come with the position (Billingsley et al., 2018). According to Bandura (2000), "individuals who doubt their capabilities are likely to lessen their efforts, give up, or settle, whereas, individuals with a strong belief in themselves will redouble their effort to master the challenge" (p. 120). The role and responsibilities of principals have not remained constant, however, and present-day principals are under increasing pressure to deliver a complete and well-rounded education that fully meets the needs of students and their families (Espisito et al., 2019). Researchers have found that principals' efficacy beliefs are inherently connected to the leadership function and play an essential role in mediating their behaviors (Tschannen-Moran & Gareis, 2007). Therefore, it is imperative to identify and understand the factors that strengthen principals' efficacy beliefs so that

administrators may effectively meet the expectations and demands of their leadership role (Tschannen-Moran & Gareis, 2007).

Problem Statement

Elementary school principals are required by law to implement inclusive education within their schools, yet they report feeling low levels of confidence in their ability to achieve this objective and limited research has been conducted to identify the specific factors that accurately predict an increased sense of efficacy in this area. More specifically, since the reauthorization of the Individuals with Disabilities Education Act (IDEA) in 2004 and ESSA in 2015, providing a quality and legally compliant inclusive education has become a central focus of education across the nation (Bauer & Silver, 2018; Cobb, 2015; Romanuck Murphy, 2018). Moreover, increases in the prevalence of special education-related litigation have forced principals to disproportionally devote between 36% and 58% of their time to special education matters (Cobb, 2015; Jacobs et al., 2004; Stevenson-Jacobson et al., 2006). Despite the high level of demand on elementary school principals in this arena, numerous school leaders have reported not feeling efficacious in their ability to implement inclusive education as mandated (Brodzeller et al., 2018; Cobb, 2015; Lynch, 2016; Romanuck Murphy, 2018). Over time, feelings of inadequacy in the arena of inclusive education may lead to being severely overwhelmed, burnout, and even early job termination for these school leaders (Fuller et al., 2018; Spillane & Lee, 2014). Thus, gaining an understanding of the factors that predict elementary school principals' sense of efficacy for administering inclusive programs is essential for a number of reasons, including the positive relationship between

feelings of efficacy and successful performance that are supported by the research literature (Arslan, 2019; Carter et al., 2018; Hallinger et al., 2018; Meyer et al., 2019; Tschannen-Moran & Gareis, 2017; Wilson et al., 2020).

At the elementary school level in particular, administrators are powerful drivers of student outcomes and play a critical role in how inclusive education services are implemented by teachers and perceived by students, parents, and the larger community (Bublitz, 2016; Cobb, 2015; Romanuck Murphy, 2018). Researchers have suggested that the earlier quality inclusive education programs are provided, the more positive the academic and other life outcomes are for these students (Brodzeller et al., 2018). In other words, the delivery of an equitable education, especially at the elementary school level, is essential for students' future academic and developmental success.

While it has been well documented that educational preparation, practical experience, and training predict principal self-efficacy broadly, there is a gap in the literature regarding the factors that influence principals' self-efficacy as it specifically relates to administering inclusive education (Bauer & Silver, 2018; Black, 2003; Cobb, 2015, Federici & Skaalvik, 2011; Hallinger et al., 2018; Jacob et al., 2015; Louis et al., 2010, Romanuck, 2018a; Tschannen-Moran & Gareis, 2004, 2007). Additionally, identifying those factors that directly influence elementary school principals' self-efficacy for administering inclusive education within schools is especially necessary given that self-efficacy beliefs are specific to contexts and personal experiences (Bandura, 1997, 2001; Tschannen-Moran & Gareis, 2004, 2007). Therefore, in this study, I sought to understand how principals' years in practice as a leader, hours of inclusion-

related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted their efficacy for administering inclusion education within their schools. This study contributes to the research literature by narrowing the gap in the understanding of how best to facilitate increased confidence in this area among elementary school principals.

Purpose of Study

The purpose of this survey-based, nonexperimental, quantitative study was to examine how elementary school principals' years in practice as leader, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted their self-efficacy for successfully implementing inclusive educational practices within their school. Specifically, I examined principals' efficacy for managing the administrator role, being an instructional leader, and being a moral leader.

Research Question and Hypotheses

The following research questions and hypotheses were examined in this study:

RQ1: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for managing the administrator role as it pertains to inclusive education?

$H_0$1: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities do not predict

principals' self-efficacy for managing the administrator role as it pertains to inclusive education.

$H_1$1: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for managing the administrator role as it pertains to inclusive education.

RQ2: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education?

$H_0$2: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities do not predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education.

$H_1$2: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education.

RQ3: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for being a moral leader as it pertains to inclusive education?

$H_0$3: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities do not predict principals' self-efficacy for being a moral leader as it pertains to inclusive education.

$H_1$3: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for being a moral leader as it pertains to inclusive education.

Theoretical Framework

The theoretical base for this study was Bandura's (1977) theory of self-efficacy. Self-efficacy is constructed from an assessment of an individual's own abilities to effect change and produce desired outcomes (Tschannen-Moran & Gareis, 2004). At the school level, it is the administrator's belief in their own ability to function and lead in a manner that is conducive to educational goal setting and attainment (Tschannen-Moran & Gareis, 2004). Attributional and interpretative analyses have a major influence on efficacy beliefs and sense of efficacy is context specific; therefore, leaders may feel efficacious leading in some contexts and not others (Tschannen-Moran & Gareis, 2004). Self-efficacy beliefs

determine how much effort an individual will put forth and how long they will persist when faced with failure or difficulty (Bandura, 1997; Goddard et al., 2000; Louis et al., 2010: Tschannen-Moran & Woolfolk-Hoy, 2001). Leadership self-efficacy is associated with confidence in an individual's own knowledge, skills, and abilities to successfully direct, organize, and inspire the actions of others and has a substantial bearing on level of aspirations, flexibility, and goal setting (Tschannen-Moran & Gareis, 2004). According to Tschannen-Moran and Gareis (2004), an individual's efficacy beliefs are exceptional determinants of their future behavior, and principals with a robust sense of self-efficacy are found to be adaptable, dogged, resilient, and internally motivated, whereas low-efficacy administrators are found to be externally driven, rigid, apathetic, anxious, and susceptible to burnout. Subsequent application of Bandura's theory and further examination of the factors that contribute to administrator efficacy as it relates to successful implementation of inclusive educational practices is critical for addressing the gap in the literature and providing high-quality services to all students within schools.

Nature of Study

The nature of this predictive study was nonexperimental and quantitative. Quantitative research is consistent with examining how administrators experience self-efficacy, and the Principal Sense of Efficacy Scale (PSES) is regarded as a reliable and valid instrument to capture this significant paradigm (Tschannen-Moran & Gareis, 2004). In order to specifically address principal self-efficacy as it relates to the implementation of inclusive education and practices, I contextualized Tschannen-Moran and Gareis's (2004) survey instrument within the questionnaire format through the addition of a

preface to the survey instructions, advising that all scale items should be answered exclusively with respect to inclusive education. Focusing on administrator efficacy beliefs for inclusive education implementation and practices aligns with Bandura's (2001) theory positing that self-efficacy beliefs are circumstance specific and assessments of efficacy should reflect an assortment of context-specific tasks and the behaviors necessary to successfully complete them. Bandura also recommended that the level and strength of self-efficacy beliefs should be examined through the presentation of tasks with varying levels of difficulty, and strength of beliefs should be measured through respondent-identified points on a continuum. Survey research is effective for investigating a variety of current issues within the field of education and has proven to be an efficient way to collect descriptive and behavioral data from a small sample of participants to represent a larger population (Putwain & von der Embse, 2019).

Definition of Terms

I used a variety of terms related to inclusive education in this study. Specifically, many terms were derived from federal mandates that provide guidance for delivering inclusive special education services. The definitions of these terms, paraphrased or directly quoted from legislative law or peer-reviewed sources, are as follows:

Administrator role: The managerial aspects of the principals' job including, but not limited to, handling paperwork, prioritizing competing demands, shaping operational policies and procedures, and supervising faculty (Tschannen-Moran & Gareis, 2004).

District leaders: Superintendents, assistant superintendents, curriculum directors, special education directors, and any other pertinent leaders responsible for making decisions related to special education programming (Gous et al., 2013).

Free and appropriate public education: A free education ensures federally funded programs provide education and related services free of charge to students with disabilities and their parents or guardians (U.S. Department of Education, 2010). An appropriate education for students with disabilities ensures that all education services are tailored to meet the individual education needs of students with disabilities as adequately as the needs of their nondisabled peers are met (U.S. Department of Education, 2010).

Inclusion: The provision of services to students with disabilities, including those with severe impairments, in their neighborhood school, in age-appropriate, general education classes with the necessary support services and supplementary aids (for the child and the teacher) both to assure the child's academic, behavioral, and social success and to prepare the child to participate as a full and contributing member of the society (The National Center on Educational Restructuring and Inclusion, 1994). For the purposes of this study, the terms *inclusion*, *inclusive special education*, *special education*, and *inclusive education* are used interchangeably.

Individualized education plan: A written statement for each child with a disability that is developed, reviewed, and revised in a meeting, that must include: a statement of the child's present levels of academic achievement and functional performance and a statement of measurable annual goals (IDEA, 2004).

Instructional leader: The instructional aspects of principalship including, but not limited to, facilitating student learning, creating a positive learning environment, and generating a shared school vision among stakeholders (Tschannen-Moran & Gareis, 2004).

Least restrictive environment: To the maximum extent appropriate, children with disabilities, including children in public or private instructions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (IDEA, 2004, para. 1).

Moral leader: The moral leadership aspects of the principals' occupation including, but not limited to, promoting school spirit among stakeholders, encouraging ethical behavior among students and personnel, and promoting a positive school image within the larger community and media (Tschannen-Moran & Gareis, 2004).

Principal: The lead building level administrator who is responsible for staffing, financial management, and instruction; individuals who are certified in curriculum and instruction or educational administration whose role is to lead, mediate, and collaborate with teachers, parents, and community stakeholders to ensure student success (Gous et al., 2013). For the purposes of this study, the terms *principal*, *administrator*, and *educational leader* are used interchangeably.

Principal sense of efficacy: A judgement of an individual's own capabilities to perform the cognitive and behavioral functions necessary to produce desired outcomes in the school they lead (Bandura, 1997). For the purposes of this study, the terms *principal sense of efficacy* and *principal self-efficacy* are used interchangeably.

Self-efficacy: An individual's belief in their own capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1977, 1986, 1997). For the purposes of this study, the terms *self-efficacy* and *efficacy* are used interchangeably.

Assumptions and Limitations

This study was based on two assumptions. The first assumption was that participants would provide credible information when answering survey questions. The second assumption was that participants who received the survey would consider each item and answer each question honestly without fear of repercussion.

This study was limited to one northeastern state within the United States, which may limit generalization in other states and other countries. Additionally, the data collection method used in this study included the administration of Likert-type surveys. Likert-type surveys are composed of closed-ended questions that limited principals' responses. Furthermore, the sample in this study was restricted to elementary school principals responsible for overseeing the implementation and maintenance of an inclusive education program at their school.

Scope and Delimitations

The following delimitations identify the boundaries of this study. First, the scope of the study included elementary school administrators from inclusive public education

programs within a large northeastern state. Secondly, although some schools in the state may have administrative teams with assistant principals, administrative aides, and lead teachers, this study only included responses from principals. I selected this population because limited research-based inquiries have previously explored which factors predict principal efficacy as it relates to successfully implementing inclusive educational practices within a public elementary school. I administered a Likert-type online survey in this investigation that allowed for timely data collection (see Putwain & von der Embse, 2019). Confidentiality was preserved through the use of aggregated data and participants were not identified in this study (see Adjerid & Kelly, 2018).

Significance of Study

Inclusion is an essential element of special education leadership that encompasses not only program delivery but also staff collaboration and parental engagement (Cobb, 2015). While the importance of the administrator's leadership role within the educational setting has been recognized by educators and researchers, a majority of the empirical studies on the effectiveness of inclusive implementation and practices has focused solely on regular and special education teachers (Rice, 2010). Moreover, recent changes in education policy and federal mandates has transformed the special education leadership role, and school principals must overcome many challenges and obstacles in order to provide an effective inclusionary education to all students in their schools (Bai & Martin, 2015). Research focused on school-wide implementations of inclusion indicates that a number of issues often derail the success of administrator efforts, including, but not limited to, teacher dissatisfaction, teacher attrition, the rise of special-education-related

litigation, and principal stress and isolation (Cobb, 2015; Louis et al., 2010). In a time when accountability, equitable practice implementation, and shared decision making are all considered essential to well-managed and well-run schools, the efficacious governance and strong leadership skills of principals and other administrators are critical (Rice, 2010). If schools are to successfully implement inclusion, it is essential that principals feel efficacious about their administrator role and their ability to be strong instructional and moral leaders (Tschannen-Moran & Gareis, 2004). Principal efficacy is shaped by interactions among internal and external factors within the leadership context; therefore, examining principal efficacy in three specified ways is significant (Tschannen-Moran & Gareis, 2004). The findings from the current study may contribute to better understanding this elusive construct.

Summary

I began this chapter with an introduction to this study before providing research literature related to the scope of the study topic. Descriptions of the background of the problem, the problem statement, and the purpose of the study followed, along with an explanation of the gap in the research literature and justification for this undertaking. The research questions and hypotheses were reviewed, which defined the direction of the study. I also provided a description of the theoretical framework, which served as the foundation for this examination, and the nature of the study, outlining the corresponding methodology. Definitions of terms were given to explain study variables and an overview of the study assumptions and limitations was presented. In a review of scope and delimitations, I described aspects of the study problem, exclusions, and generalizations.

The significance of the study section included the potential contributions that may result from this undertaking. In Chapter 2, I will provide a comprehensive examination of the research literature regarding factors that contribute to administrator confidence as it relates to successfully implementing inclusive educational practices within a school.

Chapter 2: Literature Review

Current federal mandates have tasked administrators with the job of successfully fostering an inclusive and equitable education program at the school level (Darling-Hammond et al., 2016). Principals must take on a multitude of roles within the special education milieu in order to rise to this challenge. Well-prepared and efficacious school leaders committed to the implementation of an inclusive program are critical for meaningful and lasting change. To date, however, limited research-based inquiries have explored which factors contribute to administrator confidence as it relates to successfully implementing inclusive educational practices within a school. In order to address this gap in the literature, in the current study I examined how various facets of elementary school principals' years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted their self-efficacy for successfully implementing an inclusive and equitable program within their school.

Description of Literature Search

I conducted a thorough review of the literature using the following web-based databases and search engines: Educational Resources Information Center (ERIC), Psych INFO, PsychARTICLES, Google Scholar, and ProQuest Dissertations and Theses. The Walden University online library was the primary resource used to access these databases. The foundation for this study rests on the theoretical framework of Bandura's (1977) theory of self-efficacy. Key search terms and phrases included: *administrators and inclusion education, special education and principals, administrator self-efficacy,*

principal professional development and training, instructional leadership styles, and *principal roles and responsibilities*. Additional resources were obtained by searching the references from relevant articles. The scope of the literature review spanned 1977 to 2020, with the majority of the literature being published between 2001 and 2015. I carefully selected the articles referenced in this review for their relatedness to the theoretical framework and their pertinence to the study topic.

Organization of the Chapter

This chapter begins with a discussion of the theoretical framework that was applied in this study. In additional sections, I review the history of special education and the adoption and implementation of inclusive practices within the context of K–12 education. Furthermore, research pertinent to principals' roles and responsibilities and their preparation and professional development in the area of inclusive education are also analyzed. The chapter concludes with a discussion of research related to methodology and instrumentation. Throughout the literature review, I highlight current research that supports the research question and examine factors that impact administrator self-efficacy.

Theoretical Foundation

Self-Efficacy

Over the past 12 years, Bandura's (1977) self-efficacy theory has generated more social, clinical, and personality psychology research than any other model or theory (Maddux, 2016). Self-efficacy refers to an individual's belief in their ability to perform the behaviors necessary to produce specific accomplishments (Bandura, 1977, 1986,

1997). A person's beliefs about their own efficacy indicate how well they know themselves (Bandura, 1997, p. 79). According to Bandura (1997), self-efficacy beliefs are informed by mastery experiences, vicarious learning, verbal persuasion, social influences, and physiological and affective states. Regardless of the source, the information garnered from an experience must first be cognitively processed and properly evaluated before it may be integrated into self-efficacy judgements (Bandura, 1997). Per Bandura, the cognitive processing involved in a person forming their efficacy beliefs may be broken down into two separate functions: types of information used as indicators of personal efficacy and rules applied to the information used to construct efficacy beliefs. Efficacy and mastery-based beliefs guide our behavioral choices, which are additionally mediated by three basic cognitive factors: outcome value, outcome expectancy, and self-efficacy expectancy (Maddux, 2016). Additionally, contextual, social, and personal factors will impact the manner in which information is relayed and experiences are assessed (Bandura, 1997). The primary sources of self-efficacy beliefs and cognitive processes relevant to the selection, evaluation, and integration of source information are examined in further detail in the following subsections.

Sources of Self-Efficacy

Mastery experiences are the most significant source of efficacy information because they serve as authentic indicators of a person's ability (Bandura, 1997). Successes build a strong belief in a person's abilities, whereas failures undermine this belief (Bandura, 1997). Successes and failures taken together, however, are needed to foster resiliency and perseverance. Overcoming adversity requires an exertion of control

over the environment and successful attempts to do so provide the evidence needed to promote and sustain strong self-efficacy beliefs (Bandura, 1997). Task difficulty, preexisting self-appraisals, and effort expended are additional factors that are assessed and assimilated into an individual's self-conception. However, construction of a person's efficacy through mastery experiences is not limited to performance evaluations. Individuals must also acquire the behavioral and cognitive subskills necessary for generating and executing efficacious strategies across variable circumstances (Bandura, 1997). The manner in which a person cognitively organizes mastery experiences, develops and applies self-regulative and generative skills, and understands rules and strategies promotes effective participation in complex tasks and the consequent development of a robust belief in their ability to manage daily life (Bandura, 1997).

Another source used to inform self-appraisal is vicarious experiences. Vicarious experiences offer mediated information gathered from a modeled attainment of a specific task or objective (Bandura, 1997). Modeling provides context-specific information required for an individual to judge their own capabilities to successfully complete a given task relative to the completion of the same task by another (Bandura, 1997). Social comparative inferences may serve to raise or lower efficacy beliefs depending upon whether a person's own performance is considered to be on par with, below, or superior to that being modeled by someone else. Moreover, the greater the perceived similarities between the individual and the reference group or person, the stronger the influence the modeling will have on the individual's personal ability appraisal.

Verbal persuasion serves as a third main source from which efficacy beliefs may be nurtured and strengthened (Bandura, 1997). Authentic expressions of confidence from trusted peers along with accurate appraisals of a person's ability serve to augment self-efficacy, especially when doubts are present (Bandura, 1997). Voiced encouragements provided to a receiver that is deserving have the most impact on self-affirming beliefs, whereas unsubstantiated utterances of support serve to undermine the recipient's personal appraisals and discredit the encourager. Social persuasions are often given to performers through evaluative feedback (Bandura, 1997). Evaluations affirming a person's own capabilities that encourage personal agency in remediating shortcomings are most likely to boost that individual's sense of efficacy. Whereas, evaluations that focus on the effort required to succeed rather than on aptitude are likely to undermine personal efficacy. The impact of social appraisals is also mediated by the perceived credibility of the persuader and the degree to which the judgement differs from how the individual views themselves. The more believable the source and the less the degree of discrepancy, the more likely the judgements will be internalized.

The final sources of influence on personal self-efficacy refer to physiological and affective states. These provide information about abilities related to health functioning, coping, and physical performance (Bandura, 1997). When faced with a stressful event, an individual with mastery experience in managing stress is likely to activate appropriate coping strategies and meet the challenge at hand. Personal efficacy in the somatic arena can be vulnerable to misconceptions especially when an individual construes physiological activation in difficult or stressful circumstances as a sign of weakness or

dysfunction (Bandura, 1997). In turn, greater focus on these perceived vulnerabilities often creates further agitation that may diminish a sense of efficacy and overall performance. Individual perceptions and interpretations, combined with contextual cues and preexisting efficacy beliefs, will determine the degree of arousal a person experiences as well as the impact on functioning and performance. Ultimately, the manner in which an individual cognitively processes physiological information will result in different assessments of their capabilities.

Efficacy judgements are governed by common processes that influence a person's belief in their own capabilities (Bandura, 1997). Factors that exert influence over self-appraisals may vary in reliability, informativeness, degree of interrelatedness, and complexity (Bandura, 1997). The manner in which individuals integrate their self-efficacy judgments may also differ. For example, some individuals estimate their efficacy based on the sheer number of experiences that support their capability, whereas others may weight some indicators of proficiency higher than others. In sum, a person's sense of efficacy is formed through a complex process of self-persuasion and results from the cognitive assimilation of performance appraisals that have been obtained vicariously, enactively, physiologically, and socially. The nature and structure of efficacy belief systems are, therefore, dependent on the cognitive, affective, motivational, and decisional lens through which information is processed. Once formed, these personal beliefs will determine the quality of a person's performance and accomplishments.

Cognitive Processes and Dimensions

Self-efficacy theory maintains that individuals are likely to engage in behaviors that they believe they can do and that will yield desired outcomes (Bandura, 1977). In order to determine a course of action, individuals will consider information that pertains to their capabilities according to the theory of self-efficacy (Maddux, 2016). Self-efficacy and mastery-based views influence people's behavior, which is also mediated by three cognitive processes: outcome value, outcome expectancy, and self-efficacy expectancy (Maddux, 2016).

Outcome value refers to the significance a person places on certain consequences, whereas outcome expectancy refers to the behaviors that a person predicts will secure specified consequences (Maddux, 2016). Recent research has examined the mediating role of outcome expectations on the relationship between individuals' change in self-efficacy and action planning, and the study findings suggested that action planning is its own behavior with its own set of psychosocial variables (Michalovic et al., 2016). A significant indirect effect in their findings revealed a mediating relationship between outcome expectations, changes in self-efficacy, and action planning behaviors; therefore, interventions aimed at improving action planning would benefit from targeting action-planning variables specific to self-efficacy theory. Additional researchers have evaluated motivation and sources of self-efficacy and argued that self-efficacy ratings may reflect rather than determine motivation, and several studies demonstrated causal effects of outcome expectancy on subsequent self-efficacy ratings (Williams & Rhodes, 2016). In other studies, researchers controlled for motivation by including optional self-efficacy

items and decreased associations between self-efficacy ratings and motivation were observed (Williams & Rhodes, 2016). These findings may be viable in terms of elected activities, wherein efficacy for optional behaviors and related outcome expectancies are the focus. For contexts that include the evaluation of efficacy ratings for required tasks (e.g., job requirements); however, motivation is not relevant (Williams & Rhodes, 2016).

Self-efficacy expectancy concerns an individual's belief in their ability to execute specific actions (Maddux, 2016). The majority of studies conducted on self-efficacy theory have shown that self-efficacy expectancies not only influence behavioral intentions but that they are also good predictors of behavior itself (e.g., Bandura et al., 1982; Maddux et al., 1986; Maddux & Kleinman, 2018; Maddux & Rogers, 1983; Wurtele & Maddux, 1987). Self-efficacy expectancies, similar to self-efficacy, are specific to a set of circumstances; therefore, researchers have cautioned that measurement scales designed to capture self-efficacy ratings must be equally specific (Bandura, 1977; Maddux & Keinman, 2018). Few studies have been conducted to date where outcome expectancy and outcome value are independent predictors of behavior (Maddux, 2016). Those studies that have examined the predictive power of outcome expectancy and outcome value have yielded mixed results.

Self-efficacy expectancies are believed to vary across three dimensions: magnitude, strength, and generality (Bandura, 1977, 1982, 1986a). Magnitude refers to an individual's belief in their ability to perform a task under varied degrees of difficulty, strength references a person's confidence in their ability to persist and achieve an outcome despite barriers, and generality refers to the degree to which perceived successes

and failures influence efficacy expectations regarding a related task (Maddux & Kleinman, 2018). While Bandura (1977) recommended that the robust study of self-efficacy should ideally include a comprehensive evaluation of magnitude, strength, and generality, most studies of self-efficacy are unidimensional, focusing solely on the strength of confidence a person has in their ability to perform under a specific context (Maddux, 2016).

Effects of Self-Efficacy

Self-efficacy impacts a number of elements in the educational context. In particular, research has shown that self-efficacy influences learning, self-regulation, achievement, motivation, and persistence (Bandura, 1986, 1997). In a study conducted by Bradley et al. (2017), the researchers examined self-efficacy and self-regulatory skills and their influence on achievement in an online learning environment found strong correlations between self-efficacy and self-regulatory scores for both online learning environments and traditional learning environments. These findings suggest that high self-efficacy and positive self-regulatory behaviors are reliable predictors of academic success in online courses and traditional classrooms (Bradely et al., 2017). A person with high self-efficacy in a particular domain is motivated to tackle challenges within that arena (Bandura, 1997). Conversely, those with low self-efficacy in a specific domain tend to find little incentive in putting forth efforts they believe will not yield desirable results and therefore will avoid challenging tasks (Bandura, 2001). Self-efficacy may also influence persistence in the face of challenges (Maddux & Kleinman, 2018). An individual with higher self-efficacy is more inclined to persist in the face of obstacles and

to recover their confidence quickly following perceived setbacks or failures (Maddux & Kleinman, 2018). Whereas, individuals with low self-efficacy are likely to perceive tasks as more challenging than they actually are, leading to feelings of stress and anxiety which in return reduce the individual's ability to realize the goal (Bandura, 1997; Schunk & Dibendetto, 2016). Self-efficacy predicts achievement outcomes, wherein, an individual with high self-efficacy is more likely to set challenging goals and realize them (Bandura, 1997).

Types of Self-Efficacy

Various types of self-efficacy specific to the educational milieu have been identified and defined by researchers (Bandura, 1997; Maddux & Kleinman, 2018; Schunk & Dibenedetto, 2016). These types include, but are not limited to, self-efficacy for performance, self-efficacy for learning, self-efficacy for self-regulated learning, collective self-efficacy, teacher (instructional) self-efficacy, and collective teacher (instructional) self-efficacy (Schunk & Dibendetto, 2016). Self-efficacy for performance pertains to an individual's perceived capability to perform previously learned behaviors such as, finding a classroom (Schunk & Dibendetto, 2016). Self-efficacy for learning refers to a person's perceived capability to learn new strategies, skills, and behaviors, such as, solving mathematical equations using a theorem (Maddux & Kleinman, 2018). Self-efficacy for self-regulated learning may be defined as an individual's belief in their ability to initiate thoughts, behaviors, and feelings, which are in alignment with attaining a learning goal such as, using flashcards to prepare for an exam (Schunk & Dibendetto, 2016). Collective self-efficacy references the perceived ability to work with others to

attain a common goal, for example, a group of researchers writing a journal article submission together (Schunk & Dibendetto, 2016). Teacher self-efficacy pertains to teachers' perceived capabilities to promote student learning, such as, teaching students how to solve mathematical equations correctly (Klassen et al. 2011; Woolfolk Hoy et al., 2009). Collective teacher self-efficacy references the perceived ability of a group of teachers to work together to improve student outcomes such as creating a new technology-based curriculum (Goddard et al., 2000; Henson, 2002; Klassen et al., 2011).

Self-Efficacy Versus Related Constructs

Self-efficacy is distinct from cognitive ability, which pertains to knowing what to do (Maddux & Kleinman, 2018). Instead, self-efficacy refers to knowing that you are capable of accomplishing something (Schunk & Dibendetto, 2016). In a study conducted by Pajares and Kranzler (1995), the influence of self-efficacy and mental ability on math performance was evaluated. The researchers discovered that self-efficacy had an independent, significant impact on performance beyond that of ability (Pajares & Kranzler, 1995). This finding supports the notion that ability and self-efficacy while often related, are not the same (Schunk & Dibendetto, 2016).

Self-efficacy also differs from self-concept. Self-concept refers to a multidimensional collection of self-perceptions formed from personal experiences, the environment, and the evaluations of others (Schunk & Dibendetto, 2016). Self-concept is organized hierarchically with general self-concept at the top and the subcategories that make up general self-concept below (Bong & Skaalvik, 2003; Pajares & Schunk, 2001, 2002). Since self-efficacy pertains to task specific beliefs in ability, it has been found to

influence the subcategories of self-concept and therefore, indirectly impacts general self-concept as a whole (Bong & Skaalvik, 2003; Pajares & Schunk, 2001, 2002).

Self-esteem is another variable that differs from self-efficacy. Self-esteem involves judgments of self-worth that include how an individual feels about themself, whereas, self-efficacy references an individual's confidence in what they are capable of doing (Covington, 2009; Schunk & Pajares, 2009). For example, a person may have high self-efficacy for writing or be confident in their ability to write, yet have low self-esteem for the quality of the writing produced. This supports the assertion that appraisals of self-worth have little to do with confidence in specific abilities (Schunk & Dibendetto, 2016).

In the educational setting, self-efficacy and outcome expectations may not always align (Maddux & Kleinman, 2018). On the one hand, Schunk and Dibendetto (2016) found that students who are confident in their scholastic ability, expect to do well on exams, whereas, students who lack confidence in their academic ability anticipate poorer test scores. Conversely, Bandura (1997) asserted that self-efficacy is not always consistent with outcome expectations due to the influence of external factors. For instance, a student with confidence in their scholastic ability and high standardized scores may not anticipate acceptance into their preferred college if there are only limited openings and many applicants.

The notion of perceived control is an additional term that differs from self-efficacy (Schunk & Dibendetto, 2016). Perceived control references the extent to which an individual believes that they have control over their lives (Bandura, 1997; Deci & Ryan, 2012). Skinner et al. (1990) identified three types of beliefs that affect perceived

control: capacity beliefs, strategy beliefs, and control beliefs. According to Skinner et al.capacity beliefs refer to a person's perceived capabilities or self-efficacy (e.g., I can pass the exam), strategy beliefs reference outcome expectations regarding what promotes success (e.g., I can study to pass the exam), and control beliefs refer to an individual's expectations to do well without specifying the means (e.g., I can pass the exam if I try my best). Therefore, although self-efficacy is an essential component of perceived control, there are other variables that play a role in this construct as well (Bandura, 1997).

The final conceptual variable that is different from self-efficacy is self-confidence (Schunk & Dibendetto, 2016). Self-efficacy pertains to an individual's belief in their ability to do something specific, whereas self-confidence refers to a general belief an individual has about themself without supporting information (Schunk & Dibendetto, 2016). Bandura (1997) cautioned that there is no inherent relationship between self-efficacy and self-confidence. In other words, individuals may feel confident in themselves on the whole and still simultaneously have low-efficacy for a specific tasks, and vice versa.

Leadership Self-Efficacy

Leadership or leader self-efficacy has been a focus of research over the past several decades with organizational research efforts in particular, focusing more and more on self-efficacy, which has emerged as key contributor to leader effectiveness (Maesterova et al., 2015). This may be in part, due to the changes in leadership roles within organizations which have becoming increasingly complex over time. Therefore, identifying the factors that contribute to high leader self-efficacy has become an

invaluable asset (Maesterova et al., 2015). Some debate has taken place over the operational use of the term self-efficacy in terms of general versus narrower application, however (Chen et al., 2001). Researchers have argued that task-specific and general self-efficacy have a correlational relationship, such that, if general self-efficacy is high, specific efficacy will also be high and vice versa (Chen et al., 2001; Hoyt et al., 2003). In other words, a leaders' general self-efficacy for leading will encompass the leader' self-efficacy for specific leadership tasks, even though the theory of self-efficacy itself does not include this assumption (Bandura, 1977; Chen et al., 2001; Hoyt et al., 2003). In the context of leadership, scholars have asserted that leader self-efficacy may be best described as a leader's perceived capabilities to perform the functions needed to accomplish specific leadership roles effectively (Chemers et al., 2000). Whereas, McCormick (2001) offered this slightly different amalgamation: leadership self-efficacy is the self-perceived ability to perform the behavioral and mental functions needed to control group processes related to goal achievement (p. 30). According to Yukl (2002), effective leadership is the process of facilitating individual and group efforts by persuading the collective to agree upon what needs to be done and how best to get it done and Cooper and Nirenberg (2004) defined effective leadership as successful personal influence by one or more that yields goal accomplishment in a manner personally satisfying to all participants. Although slightly different, both definitions highlight the outcomes that effective leadership should yield (Maesterova et al., 2015). In other words, effective leadership involves not only the accomplishment of organizational goals, but also the degree to which stakeholders are satisfied.

As previously stated, leadership is a critical factor that determines the success or failure of an organization, thus considerable research has focused on the topic (Maesterova et al., 2015). In particular, researcher efforts have concentrated on discovering answers to these fundamental questions: what makes some leaders more successful than others and how do we predict leader effectiveness (Maesterova et al., 2015). While answers to these questions are essential, there still is no consensus on how best to study or define leader effectiveness (Maesterova et al., 2015). In spite of this lack of consensus and the complexity of leader effectiveness which encompasses many personal, interpersonal, and organizational, components, studies on leader self-efficacy have continued to generate powerful results (Dwyer, 2019; Judge et al., 2007, Maesterova et al., 2015). For example, research has shown that leaders with higher self-efficacy are more willing to accept and maintain more challenging positions, exert more effort in meeting the demands of their role, regulate and support group behaviors, and achieve, personal and organizational goals (Hannah et al., 2012; Kane et al., 2002; Seibert et al., 2017). Although the role of the leader is multifaceted and complicated, research on leader self-efficacy has demonstrated that this construct plays a key role in a leader's success and scholarship efforts will continue to be centralized around it (Dwyer, 2019). Despite the strong connection between leader's self-efficacy and leadership effectiveness, few researchers have examined this relationship, and since the initial conception of this construct, various ways of measuring leadership self-efficacy have been adopted (Dwyer, 2019). For example, Chemers et al. (2000) evaluated criterion for leader effectiveness and found that perceived leader effectiveness is linked to leadership self-efficacy.

Further, Chemers et al. asserted that leaders' efficacy beliefs influence their choices, strategy application, and ability to overcome challenges. Similarly, Paglis and Green (2002) found a connection between leadership self-efficacy ratings and leader self-ratings for confidence, commitment, and number of attempts at leading change. Zaccoro et al. (2002) discovered that leaders with higher self-efficacy set higher goals and applied superior problem-solving strategies, and improved group performance overall. Similarly, Wisner (2011) purported that leadership self-efficacy had a significant effect on the efficacy of followers, as well as, group efficacy. Additional research has considered the mediating role of leader self-efficacy. Chen et al. (2001) evaluated the mediating effects of self-efficacy on the relationship between cognitive ability, job conscientiousness, and job performance, and the researchers found that mediation depended on job complexity. Similarly, a meta-analysis conducted by Judge et al. (2007) revealed that task or job complexity was a potential moderator of self-efficacy. A final moderator of self-efficacy reported to have predictive validity in the research literature was feedback (Maesterova et al., 2015). In accordance with Bandura's work (1997), study findings suggest that self-efficacy beliefs were more valid when based on task-specific and timely performance feedback (Maesterova et al., 2015).

Bandura's (1977) self-efficacy theory has also been the foundation that underpinned the measurement of leadership self-efficacy which lead to the development of instruments that were task and behavior specific. For example, Kane et al. (2002) evaluated leaders' self-efficacy for supporting a team to successfully perform specific job-related tasks, which they identified as a behavior essential to effective leadership. In a

study conducted by Paglis and Green (2002) for example, the researchers developed a scale designed to measure leaders' confidence in their ability to gain a team's commitment, navigate change, and set a strategic direction. Assessing leadership self-efficacy via leader behavior self-ratings was also measured by Kane et al. (2002) who combined leader behavior self-ratings with a measure of leaders' confidence in building group membership, "taking charge" when needed, and facilitating teamwork. Similarly, Bobbio and Manganelli (2009) developed a leadership self-efficacy scale featuring the following six behavioral dimensions: motivating people, gaining group consensus, and initiating and leading change processes. In a study conducted by Anderson et al. (2008), the researchers used a principal components analysis to identify 18 leadership self-efficacy dimensions. These dimensions were based on 88 leadership attributes derived from a literature review, interviews with leaders and leader self-efficacy ratings related to facilitating change, serving others, involving team members, and solving challenges. While most scholars have chosen to focus on confidence ratings for leader behaviors, some researchers have opted to measure leadership self-efficacy by concentrating on skills such as planning, delegating, problem analysis, and communication (Chemmers et al., 2000; Ng et al., 2008). Other investigators have chosen to use a less specific approach to examine leadership self-efficacy, focusing instead on capturing leaders' overall sense of efficacy (Dwyer, 2019). This strategy may be illustrated by researchers who asked leaders questions such as: "How easy it would be for you to succeed in most leadership roles?", or "How confident are you in your ability to lead most groups?" (Chan & Drasgow, 2001; Hendricks & Payne, 2007). Of the leadership self-efficacy measurement

strategies that have been employed to date, the behavioral, task, and skill-based scales, have continued to be the most popular (Dwyer, 2019).

Regardless of the popularity and success of measuring leadership self-efficacy as it pertains to behavior tasks and skills, three criticisms pertaining to the development and measurement of leadership self-efficacy construct have been identified. The first criticism pertained to the use of task-specific capability judgements for measuring leadership self-efficacy (Dwyer, 2019). Opponents have asserted that leadership roles are very complex and require an instrument that will capture these complexities, therefore, self-efficacy measurements for specific tasks, behaviors, and skills, are inadequate (Dwyer, 2019). Moreover, critics' stressed that prior studies have not drawn a sufficient distinction between "leader" and "leadership" nor between "leader self-efficacy" and "leadership self-efficacy" (Hannah et al., 2008; Schruijer & Vansina, 2002). Specifically, some researchers have asserted that a distinction should be drawn between a leader who is an individual person performing leader behaviors, and leadership which is a relational phenomenon between a leader and followers (Dwyer, 2019). The second criticism pertains to the levels-of-analysis in measuring leadership self-efficacy (Yammarino et al., 2005). Opponents have asserted that leadership self-efficacy research in general has focused on the individual as a leader of followers, however, little to no research has evaluated leadership efficacy using a multi-level organizational lens (Dwyer, 2019). The third and final criticism regarding leadership self-efficacy research pertains to contextual factors (Hannah & Avilio, 2011). Examples of contextual factors that may impact leader self-efficacy are access to resources, role discretion, and organizational culture (Dwyer,

2019). Similar to the levels-of-analysis issue, contextual factors as related to leadership self-efficacy, have rarely been investigated. A study by Hannah and Avilio (2011) is a noted exception, wherein, context was included in the development of a new scale coined the leader self and means efficacy scale. Construct validity for this scale was established and predictive validity for leader effectiveness outcomes was evaluated in this study. Specifically, findings demonstrated the existence of an interactive relationship between leader characteristics, the collective, and context (Hannah & Avilio 2011).

Determining the factors that contribute to leader effectiveness has also yielded various lines of research related to personal attributes and characteristics (Maesterova et al., 2015). For example, numerous studies have focused on leader effectiveness and personality traits such as emotional intelligence, leader dominance, extraversion, and agreeableness (Judge et al., 2004; Rosete & Ciarochi, 2005). While some significant correlations were found, these approaches also earned criticisms (Maesterova et al., 2015). Gender and leader effectiveness has also been a target of some empirical endeavors. A quantitative literature review revealed that while differences between men and women under certain conditions were noted, gender did not impact overall leader effectiveness (Eagly et al., 2008). Leader effectiveness and relationships with others has also been a focus of research. Chemers (2000) found that good leader-follower relationships increase leader efficacy, follower efficacy, and overall group efficacy, whereas, poor relationships yielded alienation and stress. Other topics explored have included leader social identity and self-concept, leader charisma, and contextual contingencies, which have returned mixed results (Maesterova et al., 2015).

Prior research has also demonstrated a positive relationship between self-efficacy perceptions and work performance in general (Bellibas & Liu, 2017; Hentrich et al., 2017; Stajkovic & Luthans, 1998). Wood and Bandura (1989a) specifically studied the relationship between leader self-efficacy and performance and found that leader self-efficacy was significantly, positively correlated with decision-making performance. Murphy (1992) was the first researcher to evaluate leader self-efficacy as it relates to outcomes and found that under stressful conditions, leaders with higher self-efficacy did not exhibit the same degree of performance decline and reported less stress than their counterparts with lower self-efficacy. Further, leaders with higher self-efficacy were observed to respond more productively to criticisms and promoted better team performance than those with lower self-efficacy (Murphy, 2002). Subsequent field and laboratory research on leader self-efficacy ratings has been examined in relation to a variety of outcome measures associated with leader's self-ratings, such as, follower ratings, peer ratings, and superior ratings (Dwyer, 2019). For example, in a study conducted by Chemers et al. (2000), a positive relationship was found between the Reserve Officers' Training Corps cadets' efficacy ratings and their instructor's ratings of cadet leadership potential. Likewise, leader self-efficacy ratings were found to be positively correlated with their superior's ratings of their promotion potential (Seibert et al., 2017). Leader self-efficacy was also found to have a positive influence on observer, peer, and superior, ratings of leadership performance (Chemers et al., 2002; Lester et al., 2011; Ng et al., 2008; Seibert et al., 2017). While, Ali et al. (2018) did not find a relationship between leader self-efficacy and subordinate ratings of leader effectiveness,

however, leadership self-efficacy was positively correlated with leader self-ratings of effectiveness. Courtright et al. (2014) found a positive correlational relationship between leader self-efficacy and direct reports' ratings of leaders' transformational leadership behavior. Perhaps some of the discrepant findings are related to differences in the way leader self-efficacy was measured as well as the nature of the questions asked of subordinates. Additionally, Courtright et al. found that leaders' responses to challenges varied by level of self-efficacy with those reporting lower self-efficacy responding more negatively to work-related issues, experiencing greater emotional exhaustion, and displaying more passive leadership behaviors than those with higher self-efficacy. Based on findings from the research discussed in this section, it appears that leader self-efficacy has predominantly been shown to positively correlate with leader effectiveness in areas such as leadership behaviors, skills, potential, and quality (Dwyer, 2019).

Principals and Self-Efficacy

Given that principals are key to facilitating effective inclusive schools, it is essential to determine which variables influence administrator success (e.g., Anderson et al., 2008; Cobb, 2015; Fisher, 2014; Friedman & Brama, 2010; Judge & Bono, 2001; McCollum et al., 2005, 2006; McCullers & Bozeman, 2010; Negiş-Işık & Derinbay, 2015; Ramchunder & Martins, 2014, Tschannen-Moran & Gareis, 2001, 2004, 2007). Previous research has established self-efficacy as one of the variables that impact the success of school leaders and past findings have validated that principals with higher self-efficacy tend to be more effective (e.g., Anderson et al., 2008; Cobb, 2015; Fisher, 2014; Friedman & Brama, 2010; Judge & Bono, 2001; McCollum et al., 2005, 2006; McCullers

& Bozeman, 2010; Negiş-Işık & Derinbay, 2015; Ramchunder & Martins, 2014, Tschannen-Moran & Gareis, 2004, 2007). Given the changing educational landscape and the increasingly complex role of administrators at the school level, there is a growing sense of importance for understanding the factors that facilitates a high level of self-efficacy in school leaders. Researchers have acknowledged that as principals' roles evolve, self-efficacy will need to be measured in relation to new arenas that were not previously part of principals' traditional role and that therefore have not been evaluated relative to the construct of self-efficacy (Negiş-Işık & Derinbay, 2015; Ramchunder & Martins, 2014, Tschannen-Moran & Gareis, 2004, 2007). While researchers have begun to consider these new and emerging leadership roles and responsibilities for principals, there still remains a gap in the literature regarding administrators and inclusion both in general and with respect to self-efficacy in particular (e.g., Anderson et al., 2008; Cobb, 2014; Fisher, 2014; Friedman & Brama, 2010; Judge & Bono, 2001; McCollum et al., 2005, 2006; McCullers & Bozeman, 2010; Negiş-Işık & Derinbay, 2015; Ramchunder & Martins, 2014, Tschannen-Moran & Gareis, 2004, 2007).

Principal self-efficacy can be defined as a type of leadership self-efficacy related to having self-confidence in an individual's ability to effectively carry out the tasks associated with being a leader of educators and the school community at large (Hannah et al., 2008). According to Federici and Skaalvik (2011), principal self-efficacy specifically pertains to an individual's ability to plan, organize and execute role-specific tasks. A principal's sense of efficacy also influences his or her ability to successfully form solid relationships with staff, parents, students, and organizations (Federici & Skaalvik, 2011).

Within the last decade, principal self-efficacy has emerged as a significant construct in the field of education and therefore its assessment has been of great interest to researchers (e.g., Bandura, 1977, 1993, 2001; Bauer & Silver, 2018; Hallinger et al., 2018; Liou & Daly, 2018). When identifying and evaluating the characteristics of an effective leader, it is essential to consider the role that motivation and learning play and the conditions under which individual will is activated (Ford et al., 2020). While previous research has focused almost exclusively on student and teacher learning, principal learning has received little scholarly attention despite the critical role that they play at the school level (Ford & Ware, 2018; Lavigne & Good, 2019). The job of the school principal is undoubtedly challenging and it has become increasingly complex as the educational landscape has continued to evolve (Lavigne & Good, 2019). The implementation of inclusive programs has resulted in greater amounts of pressure on principals to meet the needs of students, faculty, parents, and stakeholders, and principals are expected to lead their schools in a culturally responsive and sensitive manner (Khalifa, 2018; Khalifa et al., 2016). Consequently, more than 25% of principals resign from their position after only 1 year citing stress and job dissatisfaction (Battle & Gruber, 2010). Furthermore, only 50% of principals have remained in their position by year 5 and by year 6 this number drops down to 20%–40% (Baker et al., 2010). Without the proper supports tailored to address their unique and multidimensional needs, principals are likely to continue to leave their positions prematurely (Ford et al., 2020).

Of the various researcher-developed instruments, the PSES (Tschannen-Moran & Gareis, 2004) has received much attention for its potential to accurately capture

principals' efficacy beliefs (Brown, 2010; Lockard, 2013; McCullers & Bozeman, 2010; Moak, 2010; Versland, 2009; Ware et al., 2011; Williams, 2012). Although it is one of the more promising instruments developed to capture principal self-efficacy, researchers have called for additional validation and reliability studies of the PSES in different cultural contexts and with new samples in order to increase the generalizability of the scale (Brown, 2010; Lockard, 2013; McCullers & Bozeman, 2010; Moak, 2010; Versland, 2009; Ware et al., 2011; Williams, 2012). Therefore, this study aimed to address this call to further examine the robustness of the PSES. In particular, this study will leverage the PSES to examine principal self-efficacy in the context of inclusive education as this is an area in which the instrument has not previously been employed. The following section will detail the history of the PSES and review the instrument's evolution over time.

Inclusive Education

In 1975, the special education landscape in the United States began to change with the passing of IDEA. This federal law expanded upon the Rehabilitation Act of 1973 and called for children with disabilities to be educated in the least restrictive environment within a regular education classroom with typically developing peers (Zigmond et al., 2009). The reauthorization of IDEA in 1997 called for all students to participate in district and state assessments asserting that historic separation and low expectations were the driving forces behind underachievement (Zigmond et al., 2009). This was reinforced in NCLB of 2001 and IDEA 2004 which declared that in addition to assessment, accountability, academic content and performance standards should be the same for all

students (Zigmond et al., 2009). In contrast to integration which focused on students with special needs being assimilated into regular classrooms, inclusion promised an educational setting that placed students with diverse needs within the least restrictive environment (Reindal, 2016). An inclusive approach is designed to meet the needs of all students and supports the view that any observed barrier to student progress should be attributed to the context rather than the individual student (CONNECT, 2012; Sharma et al., 2012).

The concept of inclusion in the field of education has been around for some time, however, a universally accepted definition does not presently exist (Edwards et al., 2007; Thompson et al., 2015). Since its inception, the meaning and interpretation of the term inclusion have varied across leaders, teachers, parents and children, within the United States and globally (Avramidid & Norwich, 2002; Edwards et al., 2007; Göransson et al., 2015; McLeskey et al., 2014; Thompson et al., 2015, Reindal, 2016). Human rights agreements such as the Salamanca Statement and Framework for Action (United Nations Educational, Scientific and Cultural Organization, 1994) and the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2006) have resulted in interpretation variability on the international level as well (Avramidid & Norwich, 2002; Edwards et al., 2007; Goransson & Nilhom, 2014a; McLeskey et al., 2014; Powell, 2015; Reindal, 2016; Thompson et al., 2015). Although U.S. federal law does not explicitly define this concept, most U.S. educators would describe inclusion as a place where special needs students are educated alongside their non-disabled peers

(Edwards et al., 2007) and as such, the proposed study will employ this definition of inclusive education.

The transition to full inclusion in U.S. public schools has led to an abundance of research, as well as, special education policy amendments and implementation efforts which continue to evolve (Srivastava et al., 2015). The Federal Government, state legislatures, and courts have continued to validate and drive the need for comprehensive and authentic inclusive learning (Reindal, 2016). For example, in 2015 ESSA which reauthorized the ESEA of 1965, replaced NCLB as the latter act was found to not adequately address the needs of all learners (Darling-Hammond et al., 2016). ESSA was designed to ensure that all students have equitable access to inclusive, high-quality educational resources and opportunities, and to close educational achievement gaps (Darling-Hammond et al., 2016).

The equitable education and inclusion of all students is a movement that is recognized both within and outside of the United States, however, implementation and practice vary significantly across contexts and the vision of inclusion has not been fully realized anywhere in the world to date (Calder Stegemann & Jaciw, 2018). Although researchers agree that the philosophy of inclusive education is rooted in social justice, as stated previously, a universal definition of inclusive education still does not exist (Calder Stegemann & Jaciw, 2018). Additionally, each country and its subdivisions (e.g., provinces, territories, states, etc.) are in charge of their own educational systems and definitions as these relate to inclusive education (Calder Stegemann & Jaciw, 2018). The lack of consensus and explicit direction regarding implementation of inclusive education,

has proven to be a barrier to complete educational transformation across countries and stakeholders (Alborno, 2017; Bešic et al., 2017; Calder Stegemann & Jaciw, 2018; Dreyer, 2017; Neupane, 2017). Countries that have attempted to enact inclusive education systems are struggling to articulate and resolve gaps between policy and practice (Alborno, 2017; Bešic et al., 2017; Calder Stegemann & Jaciw, 2018; Dreyer, 2017; Neupane, 2017). In the meantime, researchers and educators are striving to identify a measureable blueprint that may be leveraged to successfully transform educational environments into equitable ones (Alborno, 2017; Bešic et al., 2017; Dreyer, 2017; Neupane, 2017).

In addition to the varying definitions and lack of uniformity in policies across countries regarding inclusive education, there has been little research conducted on the implementation process from start to finish, nor post-implementation outcomes (Calder Stegemann & Jaciw, 2018). Further, although researchers have conducted snapshot-in-time evaluations of inclusive education, there is limited research on changes in stakeholder's attitudes, performance, and practices related to inclusive education over time (Calder Stegemann & Jaciw, 2018). Instead, studies have focused on the opinions about inclusive education of existing and pre-service teachers, students, and parents (De Boer et al., 2011; Friesen et al., 2010; Ornelles et al., 2007). While, the use of inclusive curricula, teaching practices, and levels of academic, student success within the inclusive setting have begun to receive attention, very few studies have considered the role and perceptions of the principal in particular, throughout and following, inclusive education implementation (Calder Stegemann & Jaciw, 2018).

Principals and Inclusion

Prior to 2004, district superintendents and special education teachers were responsible for special education programming (IDEA, 2004). However, with the reauthorization of the IDEA in 2004 and ESSA in 2015, the focus shifted from a mainstream educational model to an inclusive one where the responsibility for an equitable education for all students fell squarely on the shoulders of school leaders (Bublitz, 2016; Carson, 2015; IDEA, 2004; Kurth & Mastergeorge, 2010; Romanuck Murphy, 2018; Waldron & McLeskey, 1998). In other words, principals, rather than superintendents and special education teachers, were now in the critical role of overseeing and implementing inclusive education programs in their schools (Louis et al., 2010). Despite this shift in responsibility, previous research indicates that there are very few training programs available to school leaders that specifically focus on leading inclusive special education programs (Abernathy, 2012; Ball & Green, 2014; Praisner, 2003; Williams, 2015). Additionally, school leaders routinely report that they are ill prepared for this challenge and lack the knowledge and skills to effectively oversee quality inclusive special education programs (Romanuck Murphy, 2018).

According to Louis et al. (2010) principals are the central source of leadership at the school level and their administrative practices are directly connected and linked to student achievement s noted previously, effective leadership at the principal level currently requires that they promote an inclusive school culture, become well-versed in special education law and policy, implement evidence-based instruction, and recruit and retain highly qualified teachers (Bateman et al. 2017; Espisito et al., 2019; Sutcher et al.,

2016). Rapidly changing educational settings and communities such as those that are inclusive, impose a great deal of pressure on administrators to lead effective programs (Louis et al., 2010). Past research has acknowledged three main barriers to successfully facilitating the special education milieu: access to support, inclusion, and the work of principals as special education leaders (Cobb, 2015, Burge et al., 2008; Christle & Yell, 2010; Hornby & Lafaele, 2011; Trainor, 2010).

To address the third barrier related to principals, Cobb (2015) has specified that they must nurture parental engagement, cultivate staff collaboration and deliver equitable academic programming across student populations. That said, numerous school leaders have reported limited experience working with special needs students in inclusive settings and inadequate knowledge of special education laws and research-based, educational practices that serve this population (Abernathy, 2012; Ball & Green, 2014; Praisner, 2003; Romanuck Murphy, 2018; Williams, 2015). According to Jacobs et al. (2004) over 75% of principals are uncertain of the practice and facilitation of inclusion and believe their own preparation in special education was inadequate. These administrators have expressed self-doubt and concerns that they are not successfully implementing inclusive and equitable programs (Romanuck Murphy, 2018). This is especially problematic for administrators, as federal law requires that public schools provide all students with a free and appropriate public education and noncompliance with this dictate increases vulnerability to a multitude of consequences including costly and lengthy litigation which has become increasingly common in schools across the United States (Romanuck Murphy, 2018).

Principals and Moral Leadership

Research in moral leadership in education was popularized by Hodgkinson (1978) who focused on the importance of justice and honor in administrative action rather than on scientific precision. The study of moral leadership in education has continued to be a focus over the past 30 years. In the 1980's Greenfield (1981) and Foster (1986) studied the importance of morality to instructional leadership and the role of interpersonal competence in moral leadership. In 1991, Starratt proposed a definition of ethical leadership within education that specified moral actions and he asserted that the terms moral and ethical leadership should be used interchangeably. Additionally, Starratt stated that a moral principal seeks to foster the development of humanity among students by protecting and sustaining the school community and engaging the civic community, simultaneously. This definition was incorporated by Sergiovanni (1992) in his theoretical model for individual leadership and collective interests. More recent research on the ethical dimensions of educational leadership has provided a framework for the moral conduct of educational leaders and professional administrative practices (Aksu & Kasalak, 2014; Norber & Johansson, 2014; Sergiovanni, 1992; Shapiro & Stefkovich, 2016; Starrat & Leeman, 2011). In contrast to earlier works, recent research has focused on approaching ethical dilemmas in educational leadership through the use of multiple perspectives rather than a single theoretical viewpoint (Arar et al., 2016). One perspective or dimension that should be considered when educational leaders face moral dilemmas according to Arar et al. (2016) is the ethic of care, which refers to the belief that caring should be the foundation for education leaders' decision-making. The ethic of care is

built on reciprocity, acceptance, and authenticity between the educational leader and students (Arar et al., 2016). A second perspective in this theoretical model to be considered when facing moral dilemmas is the ethic of justice which emphasizes the importance of fair and equal treatment of both the individual and the majority, with the understanding that sometimes what benefits the majority may not benefit the individual (Shapiro & Stefkovich, 2016). The third perspective in the theoretical model of moral leadership pertains to the ethic of critique, which refers to the critical lens education leaders must use to view potential injustice and take action through the confrontation and removal of discriminatory norms and power structures (Arar et al., 2016). While the concept of morality may be universal, values and norms are informed by society and culture and may differ across contexts and individuals (Arar et al., 2016). Therefore, gaining an understanding of what constitutes moral leadership among school leaders within the school cultural context is essential (Arar et al., 2016; Starratt & Leeman, 2011).

In a study conducted by Arar et al. (2016), the researchers investigated the relationships among moral educational leadership perspectives, decision-making, school-type, and experience and found statistically significant and positively correlated results among all variables, supporting the notion that the moral educational leadership dimensions are linked to school leaders' work (i.e., identifying and solving ethical dilemmas). However, the problems principals face are rarely understood completely by researchers due to their complex and systemic nature (Mortari & Tomba, 2019). Principals are challenged to be experts in organizational design, academic strategies and

learning processes, and learning and teaching outcomes (Mortari & Tomba, 2019). The cultural and moral issues within society may also have profound repercussions on schools and principals in particular, who are tasked with managing and leading during difficult and turbulent times (Mortari & Tomba, 2019). In order to successfully manage their school, a principal must put forth effort and commitment towards overseeing various aspects of school functioning including (but not limited to): legal, financial, administrative, disciplinary, educational, pedagogical, and contractual obligations (Mortari & Tomba, 2019).

A well-functioning school needs a principal who can respond to challenges as they arise in an effective and constructive manner and who can enforce rules and manage a multiplicity of school-related behaviors (Mortari & Tomba, 2019). The principal should maintain a positive influence on students, teachers, collaborators and families, as well as, on the professional and social communities to which the principal belongs (Mortari & Tomba, 2019). The principal is responsible not only for educational outcomes, but also for forming each student as a whole person (Mortari & Tomba, 2019). These outcomes are achieved by overseeing all organizational aspects of school functioning, as well as, valuing each student individually, offering enriching learning environments based on subjective needs, and creating a school culture based on shared values (Mortari & Tomba, 2019). An inspired principal builds trusting relationships with stakeholders and grows the school community in meaningful ways (Mortari & Tomba, 2019).

According to Cuban (1996) and Cranston (2006), tackling dilemmas is one the characteristic inherent in the role of a school principal. Murphy (2012) researched the

topic of school principal dilemmas and found that leaders may be confronted with three types of dilemmas in their role as school leaders: psychological, political, and ethical. Psychological dilemmas refer to those that involve the principal's emotional experiences of the challenge. Political dilemmas refer to the social and political complexities that arise from dimensions within the school that shift often in response to changes in the broader society. Ethical dilemmas refer to those challenges that require an assessment of personal and school-wide values. Murphy advised that principals direct their decisions and actions using a four-step process. First, principals should deeply analyze the problem. Next, principals should weigh solutions by identifying the pros and cons for each. Then, principals should develop a plan of action that includes answers to who, when, where, and how questions as these pertain to the dilemma. Lastly, principals should evaluate the plan and determine if modifications are needed. Although this process may be beneficial under some circumstances, it may not always be appropriate, particularly when a dilemma is complex. In such instances, Shapiro and Gross (2008) recommended using a multiple paradigms approach which leverages the perspectives of the ethics of justice, of criticism, of care and of the profession. These authors asserted that this approach is best when principals face complex dilemmas such as the psychological, political, and ethical, types described by Murphy.

The research literature suggests that there are many challenges that school leaders will continue to face with ongoing school reforms that will require morals-based decision-making and that therefore, moral educational leadership programs designed to promote ethics, social justice, and inclusion, are critical for the development of moral and

just school leaders (Arar et al., 2016; Langolois et al., 2014; Starratt, 2012). In other words, in order for a school to be run effectively, the essential components of the school (e.g., teachers, students, curricula) must be coordinated carefully by the principal (Pace, 2019). More specifically, for each component, goals must be specified, strategies must be implemented, and resources must be used appropriately. The foundation of the school is its value system, which is inspired by the principal, and which informs decision-making and establishes the principal as the school's moral leader (Mortari & Tomba, 2019). As the school's moral leader, the principal may facilitate the moral development of others in the school community by facilitating thoughtful reflection and meaningful exchanges among those they lead (Mortari & Tomba, 2019). An inspired principal builds moral character by motivating others and sharing experiences, rather than by imposing their own will (Mortari & Tomba, 2019).

Professional Development and Preparation

There is little doubt that leading a school is a challenging job or that the success of an inclusive education program is directly related to the capability of school leaders (Hallinger & Heck, 1996a, 1996b; Leithwood & Jantzi, 2000, 2005, 2008; Leithwood et al., 2004; Robinson et al., 2008; Supovitz et al., 2010; Waters et al., 2003). Administrators are no longer viewed as simply school managers, particularly because their role and responsibilities have continued to become more challenging and complex over time (NAESP & Collaborative Communications Group, 2018). Previous research has demonstrated that a connection exists between administrator preparation and career outcomes (Leithwood et al., 2004; Seashore Louis et al., 2010; Young & Crow, 2016;

Young et al., 2009). Specifically, researchers have found a link between the characteristics of principal preparation programs and perceived professional post-graduation success (Darling-Hammond et al., 2016; LaPointe et al., 2007; Leithwood et al., 1996; Orphanos & Orr, 2014; Orr, 2010). In order to properly prepare principals for their multifaceted leadership roles and responsibilities, preparation programs must provide them with training that focuses on the skills and knowledge that they need. Over the past three decades, organizations such as the National Association of Elementary School Principals (NAESP) have worked with partners to identify standards for school leadership programs, as well as, expectations for exemplary principal practices (NAESP & Collaborative Communications Group, 2018). More specifically, the Professional Standards for Educational Leaders dictate that leadership preparation programs must contain three elements: awareness, understanding, and application. School and district leaders must have an awareness of key educational concepts and procedures related to their role, an understanding of how to integrate the knowledge and skills needed for success, and the ability to effectively apply their knowledge and skills in an often ambiguous context. Exemplary practices for school administrators as pertains to inclusive education involves fostering an equitable, socially just and inclusive school culture (Esposito & Normore, 2015; Pazey & Cole, 2012), having deep knowledge in the field of special education (Bateman et al., 2017), implementing curriculum and instruction effective for special needs learners, and recruiting and retaining qualified special education teachers (Sutcher et al., 2016).

Beyond pre-service training for principals, little focus has been placed on in-service principal, professional development especially as it relates to the specific special education knowledge and skills necessary to be an effective inclusive education leader (Esposito et al., 2019). Research on school leaders in general, indicates they play an essential and quantifiable role in the success of the programs they oversee (Esposito et al., 2019). In fact, administrators are secondary only to classroom teachers in their effect on student outcomes, with approximately 25% of all educational outcomes being linked to strong school leadership (Coelli & Green, 2012; Dhuey & Smith, 2014; Hallinger & Heck, 1998; Leithwood et al., 2004; Robinson et al., 2008; Supovitz et al., 2010). That said, research has shown that much of the professional development that is offered to principals is unfocused, fragmented, and not aligned with administrator's needs, particularly as they move through various stages of their careers (NAESP & Collaborative Communications Group, 2018). According to the NAESP and Collaborative Communications Group (2018), principals identified the following areas of professional development need: improving staff performance, time management, understanding and using technology, using social media, school improvement planning, and improving student performance. Although these topics are not exclusively related to inclusive education, all of these areas of professional development are pertinent to being an effective inclusive education leader (Esposito et al., 2019). It is therefore, imperative that district- and state-level leaders continue to work with principals to understand their learning needs and that they use this information to develop relevant professional

development programs to support administrator growth (NAESP & Collaborative Communications Group, 2018).

Principals themselves continue to report that they lack the skills and knowledge required to successfully lead equitable education programs in their schools, despite the fact that the reauthorization of IDEA (2004) took place nearly 15 years ago (Abernathy, 2012; Ball & Green, 2014; Cobb, 2015; Praisner, 2003; Romanuck Murphy, 2018; Williams, 2015). According to Bateman et al. (2017), "many principals do not fully understand all components of special education, such as paperwork requirements, process requirements, legal requirements, the foundational understanding of why special education exists and the intent of the law governing special education services" (p. 48). An exhaustive and comprehensive approach towards inclusive education training is needed if administrators are expected to perform effectively in this realm (Romanuck Murphy, 2018). Therefore, it is critical that principals receive training related to inclusive education, both as part of their preparation program and while on the job (Cobb, 2015: Esposito et al., 2019). Additionally, Cobb (2015) emphasized that ongoing professional development for principals related to inclusive education should identify specific deficits where training is needed, followed by the provision of multiple and varied practical, learning opportunities that help principals develop skills in these areas.

In a case study conducted by Carter and Abawai (2018), three administrative practices were found to successfully transform a school's culture into an inclusive one. First, principals must ensure that the philosophy of inclusion is understood by teachers, parents, students, and community members and that these stakeholders are recruited to

assist in implementing their vision for inclusion (Carter & Abawai, 2018). Next, administrators must develop processes and procedures that ensure data are leveraged in the service of providing a quality education for all students (Carter & Abawai, 2018). Lastly, Carter and Abawai found that inclusive education leaders should oversee their schools in a socially just manner that incorporates the strategic and functional implementation of equitable procedures and the ongoing evaluation of program delivery efforts. These researchers asserted that findings from their study have significant practical, implications for institutions responsible for the preparation of administrators, as well as for those organizations that administer professional development to current inclusive school leaders (Carter & Abawai, 2018).

Methodology and Self-Efficacy

Quantitative and Qualitative Research

Scientific research refers to the systematic examination of theories and hypotheses aimed at increasing knowledge for the betterment of society and the advancement of the greater good (McCusker & Gunaydin, 2015). There are two main types of scientific research: qualitative and quantitative. Qualitative research is designed to explore an aspect of society through the examination of experiences, perceptions, and attitudes. Data collection and analyses within the realm of qualitative research include coding words and sentences and identifying themes (McCusker & Gunaydin, 2015). Qualitative research is appropriate for understanding how an individual or group perceive a societal issue (McCusker & Gunaydin, 2015). Whereas qualitative research emphasizes individual perceptions, quantitative research focuses on capturing data from larger samples and

using statistical models to generalize this information to the broader population from which those samples were selected. In quantitative research, the investigator begins with a hypothesis and seeks to uncover objective evidence that will either support or disprove this hypothesis. Quantitative researchers are required to remain objective in order to minimize any potential biases (McCusker & Gunaydin, 2015). The role of the qualitative researcher conversely, is more participatory in nature.

While the majority of research in the area of self-efficacy is quantitative in nature, particularly as this was the recommended method of investigation by Bandura (1977), there have been researchers who have studied self-efficacy using a qualitative methodology. More specifically, a search using the terms "self-efficacy" and "qualitative" in Thoreau from 2015 to the present, yielded 2,329 results including: 313 articles published in ERIC, 139 published in Education Source, and 60 articles published in PsycINFO. A similar search completed using the terms "self-efficacy" and "quantitative" in Thoreau for the same time period, produced 6,619 quantitative studies on self-efficacy including: 787 articles published in ERIC, 496 published in Education Source, and 6 articles published in PsycINFO. As evidenced by these statistics, there were over twice as many quantitative studies as there were qualitative studies in the area of self-efficacy for the period of time spanning 2015 to the present. This finding serves to substantiate the point that quantitative analysis continues to be the predominant method used to study the construct of self-efficacy.

The term "principals" was added to each of the previous searches to ascertain if additional differences in the use of quantitative versus qualitative methodology would be

observed. The search inclusive of the terms “self-efficacy”, “principals” and “qualitative” in Thoreau spanning the past 5 years returned seven results. Six of the seven studies were conducted outside of the United States and the remaining study took place within the United States. Additionally, 6 of the 7qualitative studies included the use of semi-structured interviews. In the remaining mixed-methods study a questionnaire with a Likert-style scale was used in addition to semi-structured interviews. The search inclusive of the terms “self-efficacy”, “principals” and “quantitative” in Thoreau spanning the past 5 years generated 11 results. All of these studies were conducted outside of the United States and used surveys. Most notably, two of the 11 studies used the PSES which is the same instrument I intend to use in my investigation, although, neither study focused on inclusive education. The similarities between this study and the 11 quantitative survey-based studies on principal self-efficacy warrants a closer examination and will be discussed below.

The first study reviewed was conducted by Daly et al. (2015) and aimed to explore factors that contribute to negative relationships between educational leaders. The researchers collected survey data from 78 educational leaders in an underperforming school district in California. Multilevel statistical analyses revealed that perceptions of trust, innovative climate, and efficacy, were associated with the formation of negative professional relationships between educational leaders. Study findings suggest that providing opportunities for administrators to learn together and collaborate will reduce negative relationships. The researcher’s use of surveys and multilevel analyses to

examine negative relationships was a unique contribution to the research literature in the area of educational leadership (Daly et al., 2015).

The psychometric properties of the Turkish version of the Principal Sense of Efficacy Scale (PSES-T) was examined in the second study which was conducted by Isik and Derinbay (2015). The researchers used Confirmatory and Exploratory factor analyses were conducted in order to determine the factor structure of the scale and two independent samples of school administrators were used. The overall study findings provided evidence for the validity and reliability of the PSES with a Turkish sample and the researchers stressed the need for additional validation and reliability within different cultural contexts and samples for scale generalization (Isik & Derinbay, 2015).

In the third study conducted by Duran and Yildirim (2017), the researchers used the PSES and a statistical model analysis of variance (ANOVA) to examine the relationship between the level of happiness and self-efficacy of administrators in the Amasya Province in Turkey. ANOVA and regression are used when there is a continuous outcome variable, however, regression is established on one or more continuous predictor variables, whereas ANOVA is based on one or more categorical predictor variables. The researchers found a significant interrelation between the happiness and the self-efficacy levels of the administrators about school administration. Variables such as length of service and age were observed to impact administrator ratings in an inverse manner, such that, younger administrators with 1-5 years of service reported higher levels of happiness and older administrators with 21 or more years of service reported higher levels of self-efficacy.

In the fourth study a mixed methods approach was used by Gyasi and Owusu-Ampomah (2016), wherein, the researchers examined the effect of principals' leadership styles on academic performance in junior high schools in Ghana. Specifically, a survey was used to examine the relationship among predictor variables such as principals' knowledge level, self-efficacy, educational quality, leadership training, and faculty development, were examined. Study findings revealed that educational programs responsible for preparing teachers should include specified training in leadership. Furthermore, the study findings support mandatory and continuous professional development in the area of leadership for all school leaders.

In the fifth study Feng (2016) evaluated teacher's perceptions of principals' leadership authenticity in Taiwan. The researcher surveyed 1,429 elementary and secondary school teachers and data was analyzed using regression and correlational analyses. The researcher found that teachers perceived the principals' leadership as moderately authentic. Additionally, findings revealed that principals' authentic leadership was positively and significantly correlated with teacher's psychological wellbeing.

Principal transformation leadership and its effects on teachers' self-efficacy was examined in the sixth study. The study included 77 elementary and secondary schools located in Greece (Gkolia et al., 2018). The researchers used the principal leadership questionnaire and the teacher's sense of efficacy scale (TSES) to collect data and a multilevel structural equation modeling analysis was used in the data analysis. Study findings revealed that the general factor on the principal leadership questionnaire had an effect on the TSES constructs (i.e., efficacy for student engagement and efficacy for

instructional strategies). These findings suggest that principals' engagement in transformational behaviors enhance teacher's self-efficacy.

Boberg and Bourgeois (2016) contributed to the research literature by examining the variables that mediate the relationship between student achievement and leadership in the seventh study. The researchers collected survey data on student engagement from 5,392 students and 569 teachers supplied survey data on principal leadership and the collective teacher self-efficacy. Data were analyzed by using mediation analysis and findings revealed that including instructional management in transformational leadership training can enhance leaders' impact on student achievement (Boberg & Bourgeois, 2016).

The eighth study reviewed, examined teacher self-efficacy, teacher and principal collaborations, and principal leadership (Sehgal et al., 2017). The researchers collected data at 25 privately owned schools in India and participants included 575 secondary school teachers and 6,020 students. Teachers were asked about their own self-efficacy, collaborations with the principal, and principal leadership, and information on teacher effectiveness was provided by the students. Data were analyzed using Structural Equation Models and results suggest that teacher collaborations and principal leadership are positively related to teacher self-efficacy and effectiveness (Sehgal et al., 2017).

Hoi et al. (2017) examined the sources of primary school teacher self-efficacy in the ninth study considered. The researchers developed and validated a 26-item scale named Sources of Teacher Efficacy Questionnaire which was found to be highly correlated with the TSES in China (Tschannen-Moran & Woolfolk Hoy, 2001). Hoi et al.

analyzed the data using confirmatory factor and multiple regression analyses and findings revealed that social persuasion was the strongest predictor of teacher self-efficacy.

In the tenth study conducted by Mehdinezhad and Mansouri (2016), the researchers examined the relationship between primary and secondary school principals' leadership behaviors and teachers' sense of self-efficacy in Iran. Data was collected from 254 teachers using the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) and the Leadership Multifactor Questionnaire (Bass & Avolio, 1992) were used. Questionnaire validity and reliability was assessed and Pearson correlation coefficient test and stepwise regression were used to analyze the data. Study findings revealed a significant relationship between principals' leadership behaviors and teachers' sense of self-efficacy. Two components of principals' leadership behaviors were also observed to predict changes in teachers' sense of self-efficacy.

In the final study reviewed, the researcher explored teachers' expectations of principals as specialized leaders of schools in Jamaica (Thompson, 2017). A 40-item questionnaire was analyzed for validity and reliability. The survey was then administered to 97 teachers at varying levels of the education system. An ANOVA was used to analyze the data collected and findings revealed that teachers expected recognition for their commitment to work and opportunities for shared leadership and participation in decision-making (Thompson, 2017). Additionally, teachers expected affirmations of their unique skill sets and opportunities to provide feedback that would be valued and incorporated (Thompson, 2017).

Correlational Research

Researchers have examined the role of self-efficacy within the education milieu, including but not limited to learning, self-regulation, motivation, and performance. Research methodologies have included experimental and correlational research and findings have demonstrated the predictive influence self-efficacy has within the field of education (Aguayo et al., 2011; Joet et al., 2011; Schunk & Pajares, 2009). Specifically, researchers have found that self-efficacy has a positive relationship with educational outcomes. Moreover, the research had demonstrated significant and positive correlations between self-efficacy for learning, task performance, and achievement (Maddux & Kleinman, 2018). Further, approximately 25% of variance found in the prediction of performance has been attributed to self-efficacy (Pajares, 2006). Indexes of self-regulation were also observed to be positively correlated with self-efficacy (McInerney, 2011; Schunk & Usher, 2011). In a study conducted by Pintrich and De Groot (1990), the researchers found that self-efficacy, self-regulation, and cognitive strategy were positively intercorrelated and predicted achievement and Bouffard-Bouchard et al. (1991), discovered that students with high self-efficacy for problem solving demonstrated superior task persistence and performance than those pupils with lower self-efficacy. Additionally, self-efficacy for writing was observed to be positively correlated with achievement goals and grade satisfaction in a study conducted by Zimmerman and Bandura (1994).

Experimental educational research has focused on the effects of instructional and other classroom variables on self-efficacy across diverse settings and populations and

findings revealed that informing students of their learning processes enhanced self-efficacy (Schunk, 2012; Schunk & Ertmer, 2000; Schunk & Usher, 2012). Schunk (2012) asserted that these study findings held true with participants in different grade levels (e.g., elementary, middle, high, postsecondary) participants with diverse abilities (e.g., regular, remedial, gifted) and across varied content areas (e.g., reading, writing, mathematics, computer applications). The effects of outcome expectations have also been analyzed by researchers. In a study conducted by Williams and Rhodes (2016) the authors present an argument asserting that existing measures of self-efficacy reflect an operationalization of what an individual is motivated to do, instead of what an individual believes that they are capable of doing. The researchers assert that a person is likely to do what they are motivated to do, therefore, the construct of self-efficacy should be considered a proximal determinant of behavior. Although Williams and Rhodes provided a compelling case for why traditional measures of self-efficacy (specifically those framed in relation to the self-regulation of health behaviors) may inadvertently assess motivation rather than self-efficacy, their argument does not consider the fact that exercise is an optional activity. The researchers indicated that adding "if you wanted to" to the end of self-efficacy items created a distance between efficacy ratings and motivational associations, however, exercise is an elected behavior. My scale items contrastingly, includes question pertaining to the job-related tasks that principals are required to do. Self-efficacy items will assess principals' confidence in their ability to perform behaviors that they must do related to their employment and noncompulsory factors are such as motivation are not relevant.

Direct and indirect effects of self-efficacy on academic outcomes has likewise been a focus of research. In a study conducted by Schunk (1981) persistence and achievement in mathematics was found to be directly affected by self-efficacy and Pajares (1996) found that self-efficacy directly impacted mathematical performance and mental ability. Additionally, researchers discovered that mathematical self-efficacy was a better predictor of mathematical performance than other variables, including but not limited to, prior experience with math, gender, perceived usefulness of mathematics, and mathematical self-concept (Pajares & Miller, 1994). Further, self-efficacy was observed to mediate gender, as well as, previous and post mathematical performances (Pajares & Miller, 1994). In a study conducted by Zimmerman and Bandura (1994) self-efficacy was observed to have indirect and direct effects on achievement and goal setting and Schunk and Gunn (1986) found that self-efficacy and strategy application had a direct influence on achievement.

Self-Efficacy Instruments

Leader Self-Efficacy

As previously noted, leaders have an essential role in the success of the organizations that they govern and individuals who assume leadership roles are typically committed, resilient, practical and goal-oriented (Bobbio & Manganelli, 2009; Locke et al., 1991; Yukl, 2006). Further successful leaders are commonly those individuals observed to have high self-efficacy beliefs, therefore it is important to better understand what makes leaders feel efficacious (Bandura; 1986, Bobbio & Manganelli, 2009; Locke et al., 1991; Yukl, 2006). Despite the critical role that leaders play, few research studies

have focused on measuring leadership self-efficacy (e.g., Chemers et al., 2000; Kane et al., 2002; Paglis & Green, 2002; Ng et al., 2008). As reviewed earlier, this is likely due to a lack of consensus regarding a leader self-efficacy definition. Nonetheless, self-efficacy instruments used to measure leader self-efficacy have predominately originated from Bandura's (1977) theory and have used a Likert-style format. For example, Paglis and Green (2002) used Bandura's (1986) social cognitive theory as the basis of their investigation of leadership self-efficacy and leadership attempts. The researchers administered Likert-style surveys and discovered a relationship between the first two dimensions of leadership self-efficacy and leadership attempts. Additionally, Paglis and Green found an interaction effect involving organizational commitment for leadership self-efficacy and overcoming obstacles dimension, and positive relationships were found between leadership self-efficacy and self-esteem, subordinates' performance abilities, job autonomy, and job autonomy. Ng et al. (2008) investigated the mediating role of leadership self-efficacy and personality traits with leader effectiveness and the moderating role of job demands and job autonomy in influencing the mediation. The researchers administered a leadership self-efficacy scale that was adapted from Chemers et al. (2000) and consisted of 11 Likert-style scale items that asked participants to rate their beliefs about their ability in specific areas of leadership related to their task, conceptual, and interpersonal skills. Scale items included (but were not limited to): planning ability, setting direction, delegating/assigning/coordinating tasks, ability to communicate, and ability to motivate others. Study findings demonstrated that leadership self-efficacy mediated the relationships for neuroticism, extraversion, and

conscientiousness with leader effectiveness (Ng et al., 2008). Additionally, leadership self-efficacy was found to mediate the relationships for all personality variables for only those leaders with low job demands, for neuroticism and conscientiousness for only those leaders with high job autonomy, and for extraversion, irrespective of level of job autonomy (Ng et al., 2008). Bobbio and Manganelli (2009) contributed to the measurement of leadership self-efficacy with their development of a 21-item Likert-style questionnaire which was based on their identified dimensions of effective leadership: the ability to choose followers and delegate responsibilities in order to get things done, key personal abilities related to communication and management of interpersonal relationships, self-awareness, self-confidence, motivation topics, the leader's attention toward preserving and gaining the support of group members, and a change-oriented mind-set. Study findings revealed gender differences regarding leadership experiences and leadership self-efficacy, wherein, men showed higher self-reported scores than women. These findings were observed to be in alignment with assumptions of the self-efficacy theory (Bandura, 1997).

Principal Self-Efficacy

Tschannen-Moran and Gareis (2004) have noted that while principals are considered essential to student success, there is limited research examining their sense of efficacy for performing the requisite tasks associated with their role. This gap in the literature is meaningful, because as noted previously, there is a significant relationship between self-efficacy and success (e.g., Bandura, 1977, 1993, 2001; Bauer & Silver, 2018; Hallinger et al., 2018; Liou & Daly, 2018). Similar to leadership and teacher self-

efficacy, principal self-efficacy has been a challenging construct to capture (Tschannen-Moran & Gareis, 2001; 2004). In the case of principal self-efficacy, this is primarily due to the complex and demanding nature of the administrator's role and the challenge of creating a reliable and valid measurement tool to assess success (Tschannen-Moran & Gareis, 2001; 2004). According to Bandura (2001), self-efficacy measurement tools should assess a variety of context-specific behaviors that are associated with successful task completion. Additionally, per Bandura, self-efficacy instruments should present a spectrum of efficacy belief ratings from which respondents may choose. Hillman (1986) was the first to measure principal self-efficacy using a forced-choice instrument that he developed. Principals were presented with 16 situations and asked to attribute their hypothetical success in each of these to their own natural ability, effort, difficulty of the task, or luck (Hillman, 1986). Despite similarities between Hillman's tool for principals and those developed and deemed effective for measuring teacher efficacy, researchers found Hillman's instrument to be burdensome to administer and the results difficult to interpret and therefore, it was ultimately not widely used by researchers (Guskey, 1981; Rose & Medway, 1981; Tschannen-Moran & Woofolk Hoy, 2001). Moreover, Hillman's instrument did not align closely enough with social cognitive theory to warrant being considered a good measure of self-efficacy (Tschannen-Moran & Gareis, 2004).

Immants and De Bradbander (1996) attempted to assess self-efficacy by measuring principals' confidence in their ability to effect student achievement outcomes and to successfully accomplish their administrative duties. Although the tool had some strengths, ultimately its psychometric properties were not found to be adequate for

continued use and the instrument was retired (Tschannen-Moran & Gareis, 2004). Dimock and Hattie (1996) proposed to measure administrator efficacy through the presentation of 12 vignettes related to six identified areas of principal functioning. Tschannen-Moran and Gareis (2004) included Dimock and Hattie's instrument in their study to assess its ability to yield reliable and valid data related to principal efficacy. Despite initial promise, testing of the Dimock and Hattie instrument yielded data with insufficient reliability and validity and therefore Tschannen-Moran and Gareis did not include it in further studies. The second measure of principals' efficacy evaluated by Tschannen-Moran and Gareis was an adaptation of Goddard et al.'s (2000) measure of collective teacher efficacy. The adapted instrument consisted of 22 items which were developed to assess principals' efficacy for specific tasks. Similar to the researchers' previous findings, the modified Goddard et al. measure produced disappointing results in that the data it yielded did not have sufficient validity and reliability (Tschannen-Moran & Gareis, 2004). Subsequent to the findings from these studies, Tschannen-Moran and Gareis elected to develop the PSES which they adapted from an instrument they created for teachers known as the TSES (Tschannen-Moran & Woofolk Hoy, 2001). This instrument was designed to capture multiple dimensions of principal efficacy by asking participants to evaluate their own context-specific abilities across tasks that varied by level of difficulty. A principal-axis factor analysis was completed and the original 50 item instrument was trimmed down to 18 items. Results from Tschannen-Moran and Gareis's final evaluation of the 18-item instrument yielded three factors with good

construct validity, though the authors advised that further studies examining the reliability and validity of data from the instrument should be conducted.

Summary

Principals are leaders charged with the task of transforming their schools into successful and equitable settings where the needs of all learners are met (McLesky & Waldron, 2015). In order to succeed at this task, a strong sense of efficacy is essential (Espisitio et al., 2019). In particular, principal self-efficacy pertains to the self-evaluation of an individual's ability to produce desired educational outcomes in their own school (Tschannen-Moran & Gareis, 2007). This self-appraisal impacts an administrator's job-related persistence, adaptability, goal selection, as well as, their professional level of aspiration (Tschannen-Moran & Gareis, 2007). The development of functional strategies and their competent application within the school setting is also dependent on principals' beliefs in their ability to succeed (Leithwood & Steinback, 1995; Leithwood et al., 1994). An efficacious school administrator as pertains to inclusive education, facilitates the rigorous implementation of inclusive programming, champions a positive school culture and climate for all learners, and includes family and community in the development and implementation of his or her inclusive vision (e.g., Carter & Abawi, 2018; Cobb, 2015; Esposito et al., 2019).

This chapter began with a description of the literature search used to guide my investigation. A discussion of the theoretical and conceptual framework that provides the foundation for this study was also presented. Additional sections detailed the history of special education and the adoption and implementation of inclusive practices. Principals'

roles and responsibilities and their preparation and professional development as these pertain to inclusive education were described as well. Further, studies pertaining to principal self-efficacy and its measurement were discussed in this review. This literature review presented current findings that support the research questions and the need for further exploration of factors that impact principal self-efficacy. In Chapter 3, I will describe the study design and methodology. I will also address instrument validity and reliability as well as pertinent ethical considerations.

Chapter 3: Research Method

The purpose of this survey-based, nonexperimental, quantitative study was to examine how elementary school principals' years in practice as leader, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict their self-efficacy for successfully implementing inclusive educational practices within their school. Specifically, I examined principals' efficacy for managing the administrator role, being an instructional leader, and being a moral leader.

This chapter contains five sections. In the first section, I describe the research design and rationale for the study. In the second section, I discuss the methodology. Validity and reliability are considered in the third section. In the fourth section, ethical considerations are reviewed. I conclude the chapter with a summary and an introduction to Chapter 4.

Research Design and Rationale

In this study, I used a survey-based, quantitative, nonexperimental design to determine how elementary school principals' years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted their self-efficacy for the administrator role and their ability to be a strong instructional and moral leader. The use of surveys to collect data was efficient and allowed me to collect data from a larger group of participants than phenomenological approaches would have (see Putwain & von der Embse, 2019). Moreover, online survey instrumentation provided anonymity and

confidentiality, which encouraged respondents to answer truthfully (see Putwain & von der Embse, 2019).

Bandura (2001) put forth several recommendations for measuring self-efficacy. First, an individual's efficacy beliefs are unique to circumstance; therefore, measures should assess a range of context-specific behaviors. Second, self-efficacy scales should examine difficulty levels and self-efficacy belief strength by providing respondents with a range of tasks that fluctuate in their degree of difficulty and asking them to identify a point along a response continuum. According to Bandura (2006), when measuring beliefs of personal efficacy, a number of safeguards should be incorporated to minimize potential motivational effects of self-assessment. Moreover, Bandura (2006) suggested these safeguards should be built into the instructions and the mode of administration of the survey. For example, Bandura (2006) recommended that self-efficacy judgments be recorded without personal identifiers to reduce the social evaluative concerns of respondents. Moreover, respondents should be informed that their responses will remain confidential and be used by the research staff only with number codes (Bandura, 2006). If the scale is labeled, Bandura (2006) suggested that a nondescript title be used to encourage honest responses and recommended the researcher state the importance of the respondent's contribution to the research being conducted. Additionally, respondents should be informed that participation will increase understanding and guide the development of programs designed to help people manage their life situations.

The PSES, which I used to measure principal self-efficacy in this study, has been shown to yield valid and reliable data in previous research (Tschannen-Moran, & Gareis,

2004). While prior research has focused on principals' self-efficacy in general, there is a paucity of research in this area as it pertains to the implementation of inclusive education and practices (Bauer & Silver, 2018; Black, 2003; Cobb, 2015, Federici & Skaalvik, 2011; Hallinger et al., 2018; Jacob et al., 2015; Louis et al., 2010, Romanuck, 2018a; Tschannen-Moran & Gareis, 2004, 2007). In order to address this gap, I contextualized the Tschannen-Moran and Gareis (2004) instrument through the addition of a preface to the survey instructions advising that all scale items should be answered exclusively with respect to inclusive education.

The three criterion variables for this study were efficacy for the administrator role, for being an instructional leader, and for being a moral leader. The four predictor variables were years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities. The three research questions were intended to determine if the predictor variables accounted for a significant amount of variance in determining principal self-efficacy for implementation of inclusive education. In particular, I used a multivariate multiple regression analysis to determine the acceptance or rejection of the null hypotheses.

Methodology

In this section, I offer a description of the study population and sampling procedures, research questions and hypotheses, instrumentation, and data collection and analyses. This information may aid in future replications of this study.

Population

The participants in this study included elementary school administrators from approximately 2,000 inclusive public education programs within a large northeastern state. Although some schools in the state may have administrative teams with assistant principals, administrative aides, and lead teachers, this study included responses only from principals. I chose this population because a limited number of research-based inquiries have previously explored which factors predict principal efficacy as it relates to successfully implementing inclusive educational practices within a public elementary school.

Sample and Sampling Procedures

I recruited a nonprobability or convenience sample of participants for this study. A convenience sample consists of participants who are accessible to the researcher and who are self-selected (Ravitch & Carl, 2016). Questionnaire data were gathered from participants through the use of SurveyMonkey, an online survey tool. I recruited potential study candidates via an invitation posting on professionally and appropriately linked social media sites, such as LinkedIn, Yahoo groups, and Facebook. The invitation provided a link that directed them to a consent form, demographic questionnaire, and the PSES (see Tschannen-Moran & Gareis, 2004). Once the online survey was completed by the participant, the results were made available to me in Statistical Package for the Social Sciences (SPSS) format through SurveyMonkey. Inclusion criterion consisted of elementary school principals from inclusive public education programs within a large northeastern state, and eligibility screening ensured that the criterion was maintained.

Principals from private education programs or administrative teams with assistant principals, administrative aides, and lead teachers were excluded as were those participants who failed to complete the survey.

I conducted a power analysis to ensure the sample size was adequate to detect a meaningful effect in the data. A multivariate multiple linear regression analysis was performed to determine the extent to which the four predictors (i.e., years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities) accounted for the variance in principals' self-efficacy for managing the administrator role and for being an instructional and moral leader as it pertains to inclusive education. Based on related research (i.e., Tschannen Moran & Gareis, 2004, 2007), I conducted a power analysis using an *F* test and a linear multiple regression: fixed model, R^2 deviation from zero to determine a minimum sample size that would allow detection of a medium effect size (.15), with a power level of .80, and an alpha level of .05 that ensured with 95% confidence that findings may not be attributed to random chance (see Liu et al., 2017). The power analysis was conducted using G*Power software, Version 3.1.9.2 (see Faul et al., 2007). Given these parameters, I determined a sample size of at least 85 participants would result in adequate power to find a significant result.

Procedures for Recruitment, Participation, and Data Collection

After receiving Walden University Institutional Review Board (IRB) approval (approval #07-14-20-0618356), I recruited study participants via professionally and appropriately linked social media sites, such as LinkedIn, Yahoo groups, and Facebook.

In order to avoid coercion, the recruiting message stated that participation would be voluntary and anonymous. Once participants agreed to participate, they were then routed to the exclusion criterion on the SurveyMonkey home page. Next, qualified participants were presented with the following information about the study: a brief summary of participation criteria; the purpose of the study; a discussion of confidentiality; the voluntary nature of the study; and ethical considerations; and a link to complete the demographic questionnaire and survey instrument should they elect to participate. Additionally, my e-mail address and phone number were provided to participants should they have any additional questions about participation.

After electronically signing the consent form, participants were asked to provide the following demographic information: years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities; then participants were asked to complete the PSES instrument. The surveys took approximately 20 minutes to complete. Once the survey was completed, participants were notified through an exit page, wherein participants were thanked for their participation and provided a link to download an e-gift card as compensation (with a value of $5.00). An incentive was warranted given the COVID-19 pandemic and the related challenges within the education milieu. Redemption did not compromise confidentiality. I provided my contact information a second time in the event that questions about the study or participation arose.

Instrumentation and Operational Definition of Constructs

In this subsection, I provide information about the demographic questionnaire, the PSES (see Tschannen-Moran & Gareis, 2004), and the predictor and criterion variables employed in this study. Additionally, a discussion of the data analysis plan is included, wherein I specify the analysis software, cleaning and screening processes, the analysis design, and the method used for interpreting the results.

Demographic Questionnaire

A demographic questionnaire that I developed was used to assess basic information regarding participants (e.g., level of education, gender, race, and chronological age) as well as collect information pertaining to the four predictor variables: years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities. (See Appendix B for the complete set of questions and the operational variables section for description of variable types).

PSES

I assessed for the criterion variables (i.e., efficacy for the administrator role, efficacy for being an instructional leader, and efficacy for being a moral leader) using the PSES, which was developed by Tschannen-Moran and Gareis (2004). The PSES is an adaptation of a prior instrument that was introduced by Tschannen-Moran and Woolfolk-Hoy (2001). The scale includes 18 items that measure the three dimensions of principal efficacy: instructional leadership, management, and moral leadership. In this study, I asked the participants to think about their current role as the principal of an inclusive education program and respond on a 9-point Likert-scale regarding whether they feel efficacious regarding a number of role-related obligations. The scale of responses ranges from *None at all* (1) to *A great deal* (9), with *Some degree* (5) representing the midpoint between these low and high extremes. Sample items include:

- "Facilitate student learning in your school,"
- "Cope with the stress of the job,"
- "Manage change in the school," and
- "Promote school spirit among a large majority of the student population."

To score the full scale, a mean of all 18 items should be calculated; to calculate a score for each of the subscales, the mean of the six items listed under each heading should be calculated (Tschannen-Moran & Gareis, 2004).

Tschannen-Moran and Gareis (2004) used principal axis factor analysis to cull the original 50-item PSES down to 18 items. Items that were removed had a communality of less than 0.30, loaded on more than one factor, or a factor loading on one of the three

principle factors of less than 0.40 (Tschannen-Moran & Gareis, 2004). Based on these criteria, three subscales or factors emerged (Tschannen-Moran & Gareis, 2004). The first factor included six items that focused on self-efficacy to handle the management aspects of the job (e.g., handle the paperwork required of the job, prioritize among competing demands of the job, and shape the operational policies and procedures that are necessary to manage the school), and factor loadings ranged from 0.53 to 0.82 (Tschannen-Moran & Gareis, 2004). The second factor included six items that had to do with self-efficacy for the instructional aspects of being a principal (e.g., create a positive learning environment in your school, facilitate student learning in your school, and generate a shared vision for the school), and factor loadings ranged from 0.45 to 0.81 (Tschannen-Moran & Gareis, 2004). The third factor included six items that pertained to self-efficacy for moral leadership (e.g., promote ethical behavior among school personnel, promote school spirit among a large majority of the student population, and promote a positive image of your school with the media); factor loadings ranged from 0.42 to 0.78 (Tschannen-Moran & Gareis, 2004).

According to Tschannen-Moran and Gareis (2004), the obtained reliability for the PSES using Cronbach's alpha of internal consistency with all 18 items, was .91. Each of the three subscales were also found to have high reliability with .86 for principals' sense of efficacy for instruction, .87 for management, and .83 for moral leadership. The three subscales were found to be moderately correlated with one another (r = .48-.58) as well. Construct validity was evaluated by correlating the PSES to other known constructs to see if the anticipated relationships would be statistically significant. The researchers

found that the principals' sense of efficacy was significantly negatively related to work alienation (r = - 0.45, $p < 0.01$) and positively correlated to both trust in teachers (r = 0.42, $p < 0.01$) and trust in students and parents (r = 0.47, $p < 0.01$). Gender and the socioeconomic status of the students of the school had no significant relationship to principals' sense of efficacy, and race was only slightly related to self-efficacy, with White principals having a slightly higher sense of efficacy than Black principals (r = 0.09, $p < 0.05$). The number of years respondents had spent as a principal or the tenure in their current school were not significantly related to their sense of efficacy, and when asked whether they would become a principal if they had it to do all over again, the more efficacious principals were somewhat more likely to say that they would (r = 0.17, $jJ <$ 0.01).

Operational Definitions

Predictor variables. In this study, I employed the following four continuous predictor variables that were acquired through the demographic information participants provided at the beginning of the online survey:

- Years as a principal: Continuous ratio variable that was measured using a scale of 1–100.
- Years of experience as a special educator: Continuous ratio variable that was measured using a scale of 1–100.
- Hours spent weekly on special-education-related activities: Continuous ratio variable that was measured using a scale of 1–100.

- Hours of inclusion-related professional development: Continuous ratio variable that was measured using a scale of 1–1,000.

Criterion variable. A principal's sense of efficacy is a judgement of their own abilities to structure a specific course of action in order to produce preferred outcomes in the school they lead (Bandura, 1977). I measured principal efficacy ratings for each of the following mean item scores at the interval level within the PSES (see Tschannen-Moran & Gareis, 2004):

- Principal sense of efficacy for the administrator role: Continuous ordinal variable at the interval level.
- Principal sense of efficacy for being an instructional leader: Continuous ordinal variable at the interval level.
- Principal sense of efficacy for being a moral leader: Continuous ordinal variable at the interval level.

Research Questions and Hypotheses

I used the following three research questions to guide this analysis.

RQ1: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for managing the administrator role as it pertains to inclusive education?

$H_0$1: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities do not predict principals' self-

efficacy for managing the administrator role as it pertains to inclusive education.

$H_1$1: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities predict principals' self-efficacy for managing the administrator role as it pertains to inclusive education.

RQ2: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education?

$H_0$2: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities do not predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education.

$H_1$2: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education.

RQ3: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities predict principals' self-efficacy for being a moral leader as it pertains to inclusive education?

$H_0$3: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities do not predict principals' self-efficacy for being a moral leader as it pertains to inclusive education.

$H_1$3: Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities predict principals' self-efficacy for being a moral leader as it pertains to inclusive education.

Data Analysis Plan

The results of correlational analysis revealed significant correlations among the dependent variables (the factors of the PSES). Therefore, to avoid Type I error inflation, separate multiple regression analyses were not conducted. Instead, I carried out a multivariate multiple linear regression analysis which included all three dependent variables in the model simultaneously, thereby, accounting for the relationships among these factors. Multivariate multiple regression is a method of modeling multiple dependent variables, with a single set of predictor variables. This yielded results for all four multivariate test statistics (i.e., Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root). I used an alpha level of .05 for significance.

First, I will present information regarding the number and percentages of respondents and non-respondents. Next, I will present descriptive information for the sample; it will include means, standard deviations, and measures of skewness and kurtosis for all interval level variables in the study. I entered data into SPSS version 25.0 for Windows and I screened for accuracy, outliers (a single or very low frequency occurrence of the value of a variable that is distanced from the bulk of the values of the variable), and missing data. The current research literature supports the use of maximum likelihood estimation to address missing data, wherein, an iterative optimization algorithm is used to identify parameter estimates that maximize fit to the observed data (see Enders, 2017). Statistical testing was performed to ensure that the assumptions of the multivariate analysis had been met (i.e., the assumptions of normality, linearity, and homoscedasticity) and that I may run the regression analysis. Highly skewed variables were transformed via a natural log function (Tabachnick & Fidell, 2018). A multivariate multiple regression analysis was conducted to address the research questions, using the four predictor variables (i.e., years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities) to determine their significance (specifically using the Wilks' lambda statistic) in accounting for the variance of the three dependent variables (principals' self-efficacy for managing the administrator role, for being an instructional leader, and for being a moral leader). I used examinations of plots of residuals from the multivariate multiple regression and individual cases saved in the SPSS worksheet to detect and handle outliers via Mahalanobis *d* metric (Tabachnick & Fidell, 2018; Warner,

2013). I will report results of the analyses in Chapter 4. Finally, in Chapter 5, I will present theoretical and practical implications and conclusions along with directions for future research.

Threats to Validity

Validity, according to Liu et al. (2019), refers to the researcher's ability to conclude that experiment affects an outcome and may not be attributed to a different factor. The two threats to validity that investigators need to be aware of are internal validity threats and external validity threats (Liu et al., 2019). Internal validity threats refer to experimental treatments or participant experiences that threaten the researcher's ability to correctly draw inferences (Liu et al., 2019). External validity threats pertain to issues that arise when the investigator draws incorrect inferences that are then applied to other persons or settings (Liu et al., 2019). Researchers need to identify potential threats to validity to help ensure that experiments are designed in a manner that avoids or minimizes these threats (Liu et al., 2019).

In this study there were several potential threats to validity that were identified. More specifically, convenience sampling was employed in this study which could reduce the generalizability of sample findings to the larger population. It also can skew who is drawn to the study and there may be a unique component associated that could suggest a relationship between variables that may not exist. Another potential threat to validity is nonresponse bias, which occurs when participants do not complete the survey or all questions on the survey are not answered (Putwain & von der Embse, 2019). In order to reduce the threat of nonresponse bias, I notified all participants that the survey would be

brief and could be easily completed in one sitting and that survey completion would make them eligible to receive an e-gift card.

Response bias is the final threat to validity that was mitigated in this study. Response bias refers to the tendency of study participants to respond inaccurately to items on questionnaires or surveys, which may be influenced by instrument validity (Putwain & von der Embse, 2019). The most common version of response bias is the social desirability bias, which occurs when a study participant selects an answer based on perceived social norms rather than on their actual experience, potentially rendering study results inaccurate (Putwain & von der Embse, 2019). In order to address and lessen the potential for this type of bias, I instructed participants to answer all items as truthfully as possible. Additionally, participants were reminded that their responses would remain confidential and that withdrawal from the study would be permitted at any time.

Ethical Considerations

Researchers need to anticipate ethical issues that may arise during their study so that they may protect participants, promote the integrity of research, and avoid misconduct of any kind (Adjerid & Kelley, 2018). Adjerid and Kelley (2018) recommended that researchers take steps in order to anticipate and address ethical considerations throughout the research process. The first step requires that the researcher consult the American Psychological Association's (2010) Ethical Principles of Psychologists and Code of Conduct, and the Walden University IRB, in order to ascertain potential ethical dilemmas that could arise from the proposed study and take proactive steps to address any concerns. Prior to initiating the research process, I obtained approval

from the IRB to conduct this study. Elementary school administrators do not qualify as a vulnerable population and there was no human interactions between myself and participants during the study (American Psychological Association, 2010). However, participants were permitted to contact me should they have any questions or concerns. The participants were asked to complete a brief demographic questionnaire and the PSES; neither scale is associated with any known psychological or physiological risks for participants (American Psychological Association, 2010). The privacy and confidentiality of all study participants was maintained by not collecting participants' names and personal information and by the safe storage of research materials for a period of no less than 5 years (American Psychological Association, 2010).

Informed Consent

An informed consent section was provided to all participants prior to the administration of the survey instrument. This document included my identification as the researcher, the sponsoring institution, the purpose of my study, the benefits of participating, the level and type of participant involvement, risks to the participant, confidentiality of the participant, withdrawal assurances, and my contact information should participants have any questions (see Adjerid & Kelley, 2018).

Data Storage, Retention, and Destruction

In alignment with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2010), the Walden University IRB, and federal guidelines, all data and research information has been stored in a password-protected file so that confidentiality of participants is maintained. Risks may be avoided by not

collecting identifying information or by separating any identifying data from research data (Adjerid & Kelley, 2018). Additional steps were taken to configure my computer with a password to limit access to research data and I will maintain password-protected files that are encrypted (Adjerid & Kelley, 2018). The safe storage of research materials will be maintained for a period of 5 years, after which time it will be destroyed.

Summary

The purpose of this nonexperimental, survey-based, quantitative study was to determine if years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities, adequately predict elementary school principals' self-efficacy for inclusive education implementation and practices. The research design was identified as survey-based, quantitative, and nonexperimental; a rationale was specified for using this methodology. The methodology section of this chapter outlined the study population, sampling and sampling procedures, and the procedures that were used for recruitment, participation, and data collection. Instrumentation and the operationalization of constructs for the study were also described, and the intended data plan, threats to validity, and ethical considerations were discussed. In Chapter 4, I will present the results of the statistical analyses. Research findings and the related tables and figures will also be included in the next chapter.

Chapter 4: Results

The purpose of this survey-based, nonexperimental, quantitative study was to examine how elementary school principals' years in practice as leader, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted their self-efficacy for successfully implementing inclusive educational practices within their school. Specifically, I examined principals' efficacy for managing the administrator role, being an instructional leader, and being a moral leader. Three research questions and three sets of corresponding hypotheses guided the investigation. I developed each research question to examine the extent to which the four predictor variables (i.e., years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities) predicted principals' self-efficacy for managing the administrator role, being an instructional leader, and being a moral leader. The three research questions were intended to determine if the predictor variables account for a significant amount of variance in determining principal self-efficacy for implementation of inclusive education.

This chapter contains three sections. In the first section, I describe the data collection process. The second section includes a discussion of the results from the multivariate multiple regression analysis. In the third section, I conclude the chapter with a summary and an introduction to Chapter 5.

Data Collection

Data collection commenced through SurveyMonkey on August 15, 2020 and concluded on August 21, 2020. No known discrepancies in data collection from the plan presented in Chapter 3 were observed. Prior to interpreting the regression results, I assessed the assumptions of normality, linearity, and homoscedasticity. As the points were clustered towards the diagonal in the normal probability plot (see Appendices C–E), the assumption of normality was met (see Norusis, 1991). As presented in Appendices C–E, the assumptions of linearity and homoscedasticity were also met as the plot of the studentized deleted residuals by the standardized predicted values yielded a random scatter (see Norusis, 1991). I checked multicollinearity between predictors via their tolerance values; multicollinearity is problematic when tolerance values are below .20 (see Norusis, 1991). Since tolerance values ranged from .79 to .90, multicollinearity was not a problem. I will report baseline descriptive and demographic characteristics of the sample in following sections.

Assessing Univariate Normality

I assessed univariate normality via the skewness and kurtosis indices of the variables measured using an interval or ratio scale. Per Kline (2015), a variable is normally distributed if its skewness index (i.e., skewness statistic/*SE*) is below 2.0 and its kurtosis index (i.e., kurtosis statistic/*SE*) is below 2.0. As shown in Table 1, most of the variables were highly skewed. Accordingly, I transformed these variables (i.e., years as a principal, hours of inclusion-related professional development, and years of experience as a special educator) via a natural log function to improve pairwise linearity and to reduce

the extreme skewness (see Tabachnick & Fidell, 2018). Since the skewness index of most of the transformed variables were within the acceptable range (i.e., they ranged from the absolute value of .91 to 3.73), I used the transformed variables in subsequent procedures (although, for ease of interpretation, descriptive statistics are presented in the original metric).

Table 1

*Results Assessing the Univariate Normality of the Study Variables (*N = *104)*

Variables	Skewness		Kurtosis	
	Statistic	Index	Statistic	Index
Years as a principal	1.42	6.00	1.07	2.29
Years as a special educator	1.75	7.40	6.19	13.20
Weekly hours on special education	2.89	12.19	11.41	24.33
Hours spent on inclusion development	.67	2.84	5.45	11.61
Principal sense of efficacy				
Administrator role	-.92	-3.90	1.65	3.51
Instructional leader	-1.72	-7.24	3.50	7.46
Moral leader	-1.17	-4.95	2.11	4.50

Note. *SE* for skewness statistic = .24. *SE* for kurtosis statistic = .47.

Checking for Univariate Outliers

Per Tabachnick and Fidell (2018), cases whose standardized values fell above the absolute value of 3.29 were deemed to be univariate outliers. One case met this criterion; thus, it was not included in subsequent analyses.

Descriptive Statistics for the Study Variables

As shown in Table 2, there was about an equal proportion of male and female participants. The majority of the respondents had a master's degree (92.2%), were White (84.5%), and were between 35 and 44 years old (76.7%).

Table 2

*Frequencies and Percentages for the Variables Describing the Sample (*N *= 103)*

Variables	*N*	%
Gender		
Male	49	47.6
Female	54	52.4
Education		
Masters	95	92.2
Doctorate	8	7.8
Race		
Black or African American	16	15.5
White American	87	84.5
Age group (in years)		
25 to 34	5	4.9
35 to 44	79	76.7
45 to 54	16	15.5
55 to 64	3	2.9

Results

Descriptive Statistics and Cronbach's Alpha for the Major Study Variables

Descriptive statistics and Cronbach's alpha for the major study variables are shown in Table 3. Per Hair et al. (2010), a measure is moderately reliable if its Cronbach's alpha is .60 or higher. Note that the item-total correlation of Item 26 was only .05; thus, I deleted it from the PSES Administrator Role subscale. Cronbach's alpha

increased from .71 to .77 when this item was dropped. Alpha for the initial PSES Instructional Leadership subscale was unacceptable at .51; since two items had a negative item-total correlation (i.e., Items 15 and 17) and one item had a zero item-total correlation (i.e., Item 18), these items were dropped, after which Cronbach's alpha increased to an acceptable .73. Similarly, alpha for the initial PSES Moral Leadership subscale was unacceptable at .35; since Item 16 had a negative item-total correlation and two items had low item-total correlations (i.e., Items 24 and 25), these items were dropped. Thereafter, alpha increased to an acceptable .67.

Table 3

*Descriptive Statistics and Cronbach's Alpha for the Study Variables (*N = *103)*

Variables	α	Range	*M*	*SD*
Years as a principal	--	2 to 28	8.47	6.38
Years as a principal in current school	--	1 to 16	4.95	2.08
Hours spent on inclusion development	--	6 to 480	85.38	72.94
Years as a general educator	--	2 to 35	7.53	5.44
Years as a special educator	--	2 to 14	4.97	1.95
Weekly hours on special education	--	6 to 50	33.21	8.14
Principal sense of efficacy	.83	3 to 9	6.82	1.19
Administrator role	.77	2 to 9	7.01	1.27
Instructional leader	.73	2 to 9	6.60	1.53
Moral leader	.67	2 to 9	6.84	1.37

The findings presented in Table 3 reveal that the sample consisted of relatively experienced principals (*M* = 8.47, *SD* = 6.38). Respondents spent between 6 and 480 hours on development of inclusion education; the mean number of hours spent was 85.38 (*SD* = 72.94). On average, respondents had more experience in the nonspecial education

field (M = 7.53, SD = 5.44) than in special education (M = 4.97, SD = 1.95). Respondents were most comfortable with the administrator role (M = 7.01, SD = 1.27) and were least comfortable with instructional leadership (M = 6.60, SD = 1.53).

Multivariate Test Results

I conducted a multivariate multiple regression analysis that included all three dependent variables in the model simultaneously, thereby accounting for the significant correlational relationships among these factors. The results for Pillai's trace, Wilks' lambda, and Hotelling's trace were found to be similar. The full model presented in Table 4 revealed that the overall model is significant ($p < .05$). In other words, the combination of the independent variables (i.e., principals' self-efficacy for managing the administrator role, for being an instructional leader, and for being a moral leader) significantly predicts the combination of dependent variables (i.e., years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities).

Table 4

*Multivariate Multiple Linear Regression Results for the Entire Model (*N *= 103)*

	Value	F	Hypothesis df	Error df	Sig.
Pillai's trace	.212	1.862	12.000	294.000	.039
Wilks' lambda	.796	1.905	12.000	254.284	.034
Hotelling's trace	.246	1.938	12.000	284.000	.030
Roy's largest root	.197	4.829[a]	4.000	98.000	.001

Note. Wilks' $\Lambda = 0.796$; $F(12, 254) = 1.90$, $p = .034$, $R^2 = .036$.
[a]. The statistic is an upper bound on F that yields a lower bound on the significance level.

Further testing of the independent effects revealed that two predictors in particular were found to be statistically significant (see Table 5). More specifically, years as a

principal (transformed) significantly predicted the combination of outcome variables (Wilks' $\Lambda = 0.877$; $F(3, 96) = 4.49$, $p = .005$). Additionally, years as a special educator (transformed) significantly predicted the combination of outcome variables (Wilks' $\Lambda = 0.907$; $F(3, 96) = 3.28$, $p = .024$).

Table 5

*Multivariate Tests Results (*N = *103)*

Effect		Value	*F*	Hypothesis *df*	Error *df*	Sig.
Intercept	Pillai's trace	.532	36.304[b]	3.000	96.000	.000
	Wilks' lambda	.468	36.304[b]	3.000	96.000	.000
	Hotelling's trace	1.135	36.304[b]	3.000	96.000	.000
	Roy's largest root	1.135	36.304[b]	3.000	96.000	.000
TYRS_PR	Pillai's trace	.123	4.494[b]	3.000	96.000	.005
	Wilks' lambda	.877	4.494[b]	3.000	96.000	.005
	Hotelling's trace	.140	4.494[b]	3.000	96.000	.005
	Roy's largest root	.140	4.494[b]	3.000	96.000	.005
THRS_INCL	Pillai's trace	.029	.951[b]	3.000	96.000	.419
	Wilks' lambda	.971	.951[b]	3.000	96.000	.419
	Hotelling's trace	.030	.951[b]	3.000	96.000	.419
	Roy's largest root	.030	.951[b]	3.000	96.000	.419
TYRS_SPED	Pillai's trace	.093	3.281[b]	3.000	96.000	.024
	Wilks' lambda	.907	3.281[b]	3.000	96.000	.024
	Hotelling's trace	.103	3.281[b]	3.000	96.000	.024
	Roy's largest root	.103	3.281[b]	3.000	96.000	.024
HRS_SPED_WEEK	Pillai's trace	.009	.288[b]	3.000	96.000	.834
	Wilks' lambda	.991	.288[b]	3.000	96.000	.834
	Hotelling's trace	.009	.288[b]	3.000	96.000	.834
	Roy's largest root	.009	.288[b]	3.000	96.000	.834

Note. Log transformed independent variables: years as principal (TYRS_PR), hours of inclusion-related professional development (THRS_INCL), years as special educator (TYRS_SPED). Independent variable hours per week spent on special-education-related activities (HRS_SPED_WEEK).

[a]. Design: Intercept + TYRS_PR + THRS_INCL + TYRS_SPED + HRS_SPED_WEEK

[b]. Exact statistic

Testing the Administrator Role Model

Research Question 1 was: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for managing the administrator role as it pertains to inclusive education? I used a multivariate multiple linear regression analysis to determine the extent to which principals' self-efficacy for managing the administrator role as it pertains to inclusive education was significantly predicted by years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities. The results of the multivariate multiple linear regression analysis revealed that the overall model was statistically significant ($p < .05$) and that years as a principal and years as a special educator, in particular, significantly predicted the aggregate measure of principals' self-efficacy as pertains to inclusive education. Therefore, I rejected the null hypothesis of years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities do not predict principals' self-efficacy for managing the administrator role as it pertains to inclusive education.

Testing the Instructional Leadership Model

Research Question 2 was: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education? I used a

multivariate multiple linear regression analysis to determine the extent to which principals' self-efficacy for being an instructional leader as it pertains to inclusive education was significantly predicted by years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities. The results of the multivariate multiple linear regression analysis revealed that the overall model was statistically significant ($p < .05$) and that years as a principal and years as a special educator in particular, significantly predicted the aggregate measure of principals' self-efficacy as pertains to inclusive education. Therefore, the null hypothesis, Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities, do not predict principals' self-efficacy for being an instructional leader as it pertains to inclusive education, is not retained.

Testing the Moral Leadership Model

Research Question 3 was: To what extent do years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predict principals' self-efficacy for being a moral leader as it pertains to inclusive education? I used a multivariate multiple linear regression analysis to determine the extent to which principals' self-efficacy for being a moral leader as it pertains to inclusive education was significantly predicted by years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on

special-education-related activities. The results of the multivariate multiple linear regression analysis revealed that that the overall model was statistically significant ($p < .05$) and that years as a principal and years as a special educator in particular, significantly predicted the aggregate measure of principals' self-efficacy as pertains to inclusive education.. Therefore, the null hypothesis, Years as a principal, hours of inclusion-related professional development, years of experience as a special educator and hours per week spent on special-education-related activities, do not predict principals' self-efficacy for being a moral leader as it pertains to inclusive education, is not retained.

Table 6

*Parameter Estimates for the Dependent Variables (*N *= 103)*

						95% Confidence Interval	
Dependent Variable	Parameter	B	Std. Error	*t*	Sig.	Lower Bound	Upper Bound
TPSES_MAN	Intercept	2.515	.275	9.141	.000	1.969	3.061
	TYRS_PR	-.100	.061	-1.638	.105	-.222	.021
	THRS_INCL	-.039	.043	-.894	.374	-.125	.047
	TYRS_SPED	.046	.103	.443	.659	-.159	.251
	HRS_SPED_WEEK	-.004	.005	-.879	.382	-.013	.005
TPSES_INLEAD	Intercept	2.355	.292	8.072	.000	1.776	2.935
	TYRS_PR	.105	.065	1.623	.108	-.023	.234
	THRS_INCL	-.074	.046	-1.611	.110	-.165	.017
	TYRS_SPED	-.171	.110	-1.559	.122	-.389	.047
	HRS_SPED_WEEK	.000	.005	-.053	.958	-.010	.010
TPSES_MORLEAD	Intercept	2.258	.336	6.730	.000	1.592	2.924
	TYRS_PR	-.117	.075	-1.573	.119	-.265	.031
	THRS_INCL	-.071	.053	-1.350	.180	-.176	.034
	TYRS_SPED	.175	.126	1.385	.169	-.076	.425
	HRS_SPED_WEEK	-.001	.006	-.133	.895	-.012	.011

Note. Log transformed dependent variables: efficacy for managing administrator role (TPSES_MAN), for being an instructional leader (TPSES_INLEAD), for being a moral leader (TPSES_MORLEAD). Log transformed independent variables: years as principal (TYRS_PR), hours of inclusion-related professional development (THRS_INCL), years as special educator (TYRS_SPED). Independent variable hours per week spent on special-education-related activities (HRS_SPED_WEEK).

Summary

Three research questions guided this study and were used to determine to what extent years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted principals' self-efficacy for successfully implementing inclusive educational practices within their school. Specifically, I examined principals' efficacy for managing the administrator role, principals' efficacy for being an instructional leader, and principals' efficacy for being a moral leader. I conducted a multivariate multiple linear regression analysis for the three research questions and the subsequent findings revealed that while the overall model is significant ($p < .05$), and that two of the predictor variables (years as a principal and years of experience as a special educator) significantly predicted the aggregate measure of principals' self-efficacy as pertains to inclusive education. I will present an interpretation of these findings and limitations of the study in Chapter 5. Additionally, I will address recommendations and implications.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to examine how elementary school principals' years in practice as a leader, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities predicted their self-efficacy for successfully implementing inclusive educational practices within their school. Specifically, I examined the sources of principals' efficacy for managing the administrator role, being an instructional leader, and being a moral leader. I conducted this study using Tschannen-Moran and Gareis's (2004) PSES instrument for measuring principal self-efficacy. The participants in this study included elementary school principals from approximately 2,000 inclusive public education programs within a large northeastern state. I addressed three research questions in this study. Each research question examined the extent to which the four predictor variables (i.e., years as a principal, hours of inclusion-related professional development, years of experience as a special educator, and hours per week spent on special-education-related activities) predicted principals' self-efficacy for managing the administrator role, being an instructional leader, and being a moral leader. The three research questions were intended to determine if the predictor variables account for a significant amount of variance in determining principal self-efficacy for implementing inclusive education. As presented in Chapter 4, the results suggested that two of the predictor variables accounted for a significant amount of variance in the aggregated outcome variables, and therefore, the null hypotheses for each research question were rejected.

In this chapter, I provide a discussion of the results. The following sections include my interpretation of the findings and a description of the limitations of the study. I also provide recommendations for future research and discuss study implications.

Interpretation of the Findings

Current federal mandates have tasked elementary school principals with the job of successfully fostering an inclusive and equitable education program at the school level. Well-prepared and efficacious school leaders committed to the implementation of an inclusive program are critical for meaningful and lasting change. To date, however, limited research-based inquiries have explored which factors contribute to administrator confidence as it relates to successfully implementing inclusive educational practices within a school. Principals are tasked more and more with multifaceted and complex responsibilities in terms of inclusive education and a gap in the research literature exists on this topic.

One instrument that was created to capture principals' self-efficacy around various aspects of their role was the PSES (Tschannen-Moran & Gareis, 2004). The PSES has been shown to yield meaningful results regarding principal self-efficacy in a variety of studies (e.g., Brown, 2010; Lockard, 2013; McCullers & Bozeman, 2010; Moak, 2010; Versland, 2009; Ware et al., 2011; Williams, 2012). While the PSES is one of the more promising instruments developed to capture principal self-efficacy, researchers have called for additional validation and reliability studies of the PSES in order to increase the generalizability of the scale (Brown, 2010; Lockard, 2013; McCullers & Bozeman, 2010; Moak, 2010; Versland, 2009; Ware et al., 2011; Williams,

2012). With this study, I sought to both address researchers' call to further validate the PSES instrument and to broaden the potential applicability of the instrument to the area of inclusive education as this is an aspect of the principals' role to which the instrument had not previously been applied. The findings of the current study has extended the literature on principals' self-efficacy in the context of inclusion education and may serve to inform the field regarding factors that contribute to greater success in this area of principal responsibility.

The Omnibus Model

While the overall model was found to be significant and two of the predictor variables (years as a principal and years of experience as a special educator) significantly predicted the aggregate measure of principals' self-efficacy as pertains to inclusive education, significant relationships between any one predictor and any one dependent variable were not revealed. Because I adapted the survey from what was intended to be a more generic measure of principal self-efficacy, it may be the case that the outcome variables (i.e., managing the administrator role, instructional leadership, moral leadership) are not sensitive enough to measure distinctions in principals' self-efficacy in the area of inclusion education. An instrument with more distinct outcome and predictor variables related to administering an inclusive education program may be more discriminatory.

Hypothesis 1: Administrator Role

The first hypothesis expressed my expectation that the four predictor variables would account for a statistically significant amount of variance in principals' self-

efficacy for managing the administrator role as it pertains to inclusive education. I employed a multivariate multiple linear regression analysis to determine if the null hypothesis should be rejected based on the selected alpha level of .05. While the null hypothesis was rejected, the nature of the analysis does not allow a separation of the dependent variables. Further examination of the parameter estimates for the dependent variables did not reveal any statistically significant relationships between any one predictor and any one dependent variable. That said, the results provided some useful insights and raised additional questions for future research. Future research should identify more distinct outcome variables related to administering an inclusive education program and also perhaps employ different predictors that are better able to discriminate a new set of outcome variables.

The finding that years as a principal and years as a special educator were statistically significant is in alignment with previous research that has demonstrated that mastery experiences are the most significant source of efficacy information because they serve as authentic indicators of a person's ability (Bauer & Silver, 2018; Black, 2003; Cobb, 2015, Federici & Skaalvik, 2011; Hallinger et al., 2018; Jacob et al., 2015; Louis et al., 2010, Maddux & Kleinman, 2018; Romanuck, 2018a; Schunk & Dibenedetto, 2016; Tschannen-Moran & Gareis, 2004, 2007). The research literature also asserted that self-efficacy beliefs are context specific and that self-efficacy instruments must measure the range of behaviors needed to succeed at a defined skill (Bandura, 2001). That said, given that the PSES was not originally designed to measure efficacy for managing the principal's role in the context of inclusive education specifically, the findings from the

current study may be misleading. For example, asking questions more specific to the administrator tasks associated with inclusive education, such as developing a special education plan for the whole school and supporting inclusive placement, may have yielded a different outcome (Jacobs et al., 2004; Stevenson-Jacobson et al., 2006). Though I advised participants in a preface to the PSES that all scale items should be answered with the context of inclusive education in mind, this modification may not have adequately compensated for the nonspecificity of the instrument to the inclusive education arena.

Other predictor variables may have been more sensitive to the distinctions among the three outcome variables and, therefore, may have resulted in a statistically significant relationship with one or more of the individual outcome variables. More specifically, respondents were asked to indicate the total number of inclusion-related professional development hours they had completed; however, a more precise indicator of mastery experience may have been to ask principals about the number of hours of inclusion-related professional development they had completed specific to administrators. Moreover, questions regarding the time frame in which these professional development hours were completed may have also been helpful for contextualizing the relevance of the training to their current role. The impact of modifying these factors is unknown; however, future researchers may consider incorporating these suggestions.

Hypothesis 2: Instructional Leader

The second hypothesis expressed my expectation that the four predictor variables would account for a significant amount of variance in principals' self-efficacy for being

an instructional leader as it pertains to inclusive education. I employed a multivariate multiple linear regression analysis to determine if the null hypothesis should be rejected based on the selected alpha level of .05. While the null hypothesis was rejected, the nature of the analysis does not allow a separation of the dependent variables. Further examination of the parameter estimates for the dependent variables did not reveal any statistically significant relationships between any one predictor and any one dependent variable. That said, the results provided some useful understandings and raised additional questions for coming explorations. Future research should identify more distinct outcome variables related to being the instructional leader of an inclusive education program and also perhaps employ different predictors that are better able to discriminate a new set of outcome variables.

The finding that years as a principal and years as a special educator were statistically significant is in alignment with previous research that has demonstrated that mastery experiences are the most significant source of efficacy information because they serve as authentic indicators of a person's ability (Bauer & Silver, 2018; Black, 2003; Cobb, 2015, Federici & Skaalvik, 2011; Hallinger et al., 2018; Jacob et al., 2015; Louis et al., 2010, Maddux & Kleinman, 2018; Romanuck, 2018a; Schunk & Dibenedetto, 2016; Tschannen-Moran & Gareis, 2004, 2007). The research literature also asserted that self-efficacy beliefs are context specific and that self-efficacy instruments must measure the range of behaviors needed to succeed at a defined skill (Bandura, 2001). That said, given that the PSES was not originally designed to measure efficacy for being an instructional leader in the context of inclusive education specifically, the findings from the current

study may not accurately represent the relationship between the predictor and outcome variables. For example, asking questions more specific to the dimensions of instructional leadership as these pertain to inclusive education, such as developing educational goals and visions, creating a collective culture among the staff, motivating teachers, observing and guiding teachers in the classroom teachers, and creating a positive and safe learning environment for the students (Skaalvik, 2020) may have yielded a different outcome (Cobb, 2015; Correa & Wagner, 2011). Additional researchers have also identified factors, such as developing a special education plan for the whole school and supporting inclusive placement, as key constructs associated with being an instructional leader in the context of inclusive education (Cobb, 2015; Jacobs et al., 2004; Stevenson-Jacobson et al., 2006). Though I added a preface to the PSES advising that all items should be answered with the context of inclusive education in mind, this modification may not have adequately compensated for the nonspecificity of the instrument to the inclusive education arena.

Hypothesis 3: Moral Leader

The third hypothesis expressed my expectation that the four predictor variables would predict principals' self-efficacy for being a moral leader as it pertains to inclusive education. I used a multivariate multiple linear regression analysis to determine if the null hypothesis should be accepted or rejected based on the selected alpha level of .05. While the null hypothesis was rejected, the nature of the analysis does not allow a separation of the dependent variables. Further examination of the parameter estimates for the dependent variables did not reveal any statistically significant relationships between any

one predictor and any one dependent variable. That said, the results provided some useful discernments and raised additional queries for future research. Future research should identify more distinct outcome variables related to being the moral leader of an inclusive education program and also perhaps employ different predictors that are better able to discriminate a new set of outcome variables.

The construct of moral leadership was an artifact of the PSES instrument and was not directly associated with research related to the administrator role in implementing inclusion education, although there are some parallels between being a moral leader as defined by Tschannen-Moran and Gareis (2004) and the construct articulated by Cobb (2015) of being a visionary. That said, a newly designed instrument focused on the visionary aspects of inclusive leadership might contain items focused on the principal being an advocate, building a positive school climate, having a strong belief in equity, communicating a vision to the broader school community, focusing on shared decision making, and promoting ethical and fair treatment of all students (Cobb, 2015; Irvine et al., 2010; McCarthy & Soodak, 2007). Designing a new instrument in this manner may be especially salient, given that self-efficacy instruments should measure the range of behaviors needed to succeed at a defined skill (Bandura, 2001). Similar to the administrator role and instructional leadership factors, including a preface to the PSES advising participants to answer the moral leadership items with the context of inclusive education in mind may not have adequately compensated for the nonspecificity of the instrument to the inclusive education arena.

Limitations of the Study

Several limitations arose during this study. First, this study was limited to one northeastern state within the United States, which may limit generalizability to other states and other countries. Additionally, the data collection method that I used in this study included the administration of Likert-type surveys. Likert-type surveys are composed of closed-ended questions which limit principals' responses, whereas, open-ended questions allow for participants to provide responses in their own words (Bigsby, 2017) Further, the sample in this study was restricted to elementary school principals responsible for overseeing the implementation and maintenance of inclusive education program at their school and therefore the findings may not be applicable to principals at the secondary level. Moreover, study candidates were limited to those I recruited via an invitation posted on social media sites, such as LinkedIn, Yahoo groups, and Facebook. Therefore, the respondents may not be representative of those of all elementary school principals. Finally, I conducted this study using participants obtained through convenience sampling. Convenience sampling inherently lacks the level of generalizability that true random sampling may provide.

Another limitation arose related to the occurrence of an unforeseen and unprecedented global event. On March 11, 2020, the COVID-19 outbreak was declared a pandemic by the World Health Organization (COVID & Team, 2020). As data collection commenced through SurveyMonkey on August 15, 2020 and concluded on August 21, 2020, it is difficult to ascertain how the recent prior experiences of respondents due to the pandemic impacted their responses to the survey. With the rapidly changing landscape in

relation to the COVID-19 crisis and no previously established distance learning model from which to draw from, K-12 educators were ill-prepared to provide educational services remotely. These inadequacy has been particularly evident within the special education milieu. That said, previous mastery experiences that might typically have been great predictors of principals' self-efficacy may have been minimized or mitigated efficacy appraisals within the context of the pandemic.

Recommendations

In order to continue to expand our understanding of principal self-efficacy as it pertains to inclusive education, a number of future research initiatives should be considered. Specifically, to gain greater clarity, a future study may employ a qualitative or mixed-methods approach to the topic of principal self-efficacy and inclusive education. A qualitative study could help provide a more robust and nuanced understanding of how principals feel about their inclusive-education related responsibilities as well as the factors that they believe contribute to their confidence in their abilities in this area. A qualitative study would use the participants' own words to describe the phenomenon being studied and might thereby facilitate a deeper understanding of administrators' lived experiences (Kalu & Bwalya, 2017). Further, a mixed-methods study may provide educational researchers with an even more comprehensive lens from which to investigate principals' self-efficacy by collecting and analyzing both their subjective experiences as well as objective data (Almalki, 2016).

Another recommendation for future research would be to survey principals in other states within the United States. This would serve to increase the sample size and

extend the generalizability of future study findings to a larger set of principals. Additionally, forthcoming research might focus on expanding the sample group to include middle school and high school principals. This may offer a more comprehensive view of principal self-efficacy as pertains to inclusive education.

Additional research will ideally include the use of an instrument geared specifically toward principal self-efficacy in the context of inclusive education. As noted by Bandura (1997), self-efficacy beliefs are context-specific. Therefore, future measurements should be designed to assess principal efficacy for tasks and behaviors related to the inclusive education milieu specifically. Literature on principal leadership in relation to special education has stressed the importance of the instructional leadership role. In order to better understand principals' confidence in their role as special education leaders, future research should include one (or more) of the following questions: (a) How do principals perceive and carry out their role as a special education leader?, (b) What types of challenges do they perceive in the area of special education leadership?, and (c) How do principals respond to the challenges they experience in the arena of special education?

Conducting a study during a more 'typical' school year when a worldwide pandemic is not occurring may also prove necessary in order to obtain a more accurate view of the elements that influence principal self-efficacy in the context of inclusive education. More specifically, while the COVID-19 pandemic has significantly impacted the everyday life of all individuals worldwide, school closures across the majority of the United States in particular, have presented both administrators and educators with the

unprecedented task of remotely and equitably teaching and supporting all students, including approximately 6.7 million students in the United States that presently receive special education services under IDEA.

Research in the area of principal self-efficacy and inclusion may also benefit from a longitudinal study design to better understand the development of principal self-efficacy over time. Future studies should not only continue to explore a snapshot-in-time view of principals' self-efficacy for inclusion education program delivery, but also, to examine the sources of self-efficacy that hold sway across a principal's career trajectory.

Two other areas of future research may pertain to principals' professional development and their role management experiences. More specifically, the role of professional development (both pre- and in-service) in principal self-efficacy as pertains to inclusive education should be more thoroughly investigated in future research. Additionally, future studies may examine principals' self-efficacy as it relates to their ability to balance special versus mainstream education responsibilities as recommended by Cobb (2015).

Implications

I designed this study to better understand the factors that contribute to principal self-efficacy as it relates to successful implementation of inclusive education practices. An increased understanding of the factors that foster principal self-efficacy in the context of inclusive education is important given recent changes in education policy and federal mandates that have transformed the role of special education leadership such that principals must overcome many challenges and obstacles in order to provide an effective

inclusionary education to all students in their schools (Bai & Martin, 2015). While the importance of the administrator's leadership role within the educational setting has been recognized by educators and researchers, a majority of the empirical studies on the effectiveness of inclusive implementation and practices has focused solely on regular and special education teachers (Rice, 2010). Moreover, research focused on school-wide implementations of inclusion indicates that a number of issues often derail the success of administrator efforts resulting in stress and feelings of isolation for principals (Cobb, 2015; Louis et al., 2010). Yet, virtually no research has been conducted prior to this study, examining factors that contribute to principal self-efficacy in the context of administering inclusive education. Given that accountability, equitable practice implementation, and shared decision-making are all considered essential to well-managed and well-run schools, the efficacious governance and strong leadership skills of principals and other administrators are critical (Rice, 2010). If schools are to successfully implement inclusion, it is essential that principals feel efficacious about their administrator role and their ability to be strong instructional leaders (Tschannen-Moran & Gareis, 2004). Principal efficacy is shaped by interactions among internal and external factors, therefore, examining principal efficacy from a variety of sources is an important endeavor to continue to pursue. As Youngs et al., (2020) noted, now is the time to engage in a systematic examination of the factors that both develop and support effective principal leadership in order to close the achievement gap that exists for many students with disabilities. Though the current study was not able to definitively identify the factors that predict principal self-efficacy in relation to inclusive education, it is clearly still a

worthwhile area of scholarly investigation, particularly with the modifications and recommendations that have been outlined in this dissertation.

Conclusion

While the findings from this study may be considered tentative given the nature of the analysis did not reveal any statistically significant relationships between any one predictor and any one dependent variable, the results provided some useful insights and raised additional questions for future research. Future research should identify more distinct outcome variables related to administering an inclusive education program and also perhaps different predictors that are better able to discriminate a new set of outcome variables. There is clearly still a need to better understand how to cultivate greater efficacy among principals with respect to their role in inclusive education. Given the changing educational landscape and the increasingly complex role of administrators at the school level, there is a growing sense of importance related to understanding the factors that facilitate a high level of self-efficacy in school leaders. Researchers have acknowledged that as the principal's role evolves, self-efficacy will need to be measured in relation to new arenas that were not previously part of the principal's responsibilities and that therefore have not been evaluated relative to the construct of self-efficacy (Negiş-Işık & Derinbay, 2015; Ramchunder & Martins, 2014, Tschannen-Moran & Gareis, 2004, 2007).

While researchers have begun to consider these new and emerging leadership roles and responsibilities for principals, there still remains a gap in the literature regarding administrators and inclusion both in general and with respect to self-efficacy in

particular (e.g., Anderson et al., 2008; Cobb, 2014; Fisher, 2014; Friedman & Brama, 2010; Judge & Bono, 2001; McCollum et al., 2005, 2006; McCullers & Bozeman, 2010; Negiş-Işık & Derinbay, 2015; Ramchunder & Martins, 2014, Tschannen-Moran & Gareis, 2004, 2007). Further research in this area is needed in order to shed light on the intricate personal and contextual variables that influence principals' efficacy beliefs. Understanding the factors that facilitate robust levels of confidence among administrators may be used to inform principal educational and professional preparation programs. Principals with vigorous self-efficacy beliefs are more likely to oversee successful inclusive educational programs which in turn may positively influence student outcomes and benefit parents, teachers, and the larger community.

References

Adjerid, I., & Kelley, K. (2018). Big data in psychology: A framework for research advancement. *American Psychologist, 73*(7), 899. https://doi.org/10.1037/amp0000190

Alborno, N. E. (2017). The "Yes….but" dilemma: Implementing inclusive education in Emirati primary schools. *British Journal of Special Education, 44,* 26–45. https://doi.org/10.1111/1467-8578.12157

Almalki, S. (2016). Integrating quantitative and qualitative data in mixed methods research--Challenges and benefits. *Journal of Education and Learning, 5*(3), 288-296. https://doi.org/10.5539/jel.v5n3p288

Anderson, D. W., Krajewski, H. T., Goffin, R. D., & Jackson, D. N. (2008). A leadership self-efficacy taxonomy and its relation to effective leadership. *The Leadership Quarterly, 19,* 595-608. https://doi.org/10.1016/j.leaqua.2008.07.003

Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. (2018). Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board Task Force report. *American Psychologist, 73*(1), 3. https://doi.org/10.1037/amp0000191

Arslan, A. (2019). The mediating role of prospective teachers' teaching self-efficacy between self-efficacy sources and attitude towards teaching profession. *International Journal of Educational Methodology, 5*(1), 87-96. https://doi.org/10.12973/ijem.5.1.101

Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration/inclusion:

A review of the literature. *European Journal of Special Needs Education*, *17*(2), 129-147. https://doi.org/10.1080/08856250210129056

Bai, H., & Martin, S. M. (2015). Assessing the needs of training on inclusive education for public school administrators. *International Journal of Inclusive Education*, *19*(12), 1229-1243. https://doi.org/10.1080/13603116.2015.1041567

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191. https://doi.org/10.1037/0033-295x.84.2.191

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, *28*(2), 117. https://doi.org/10.1207/s15326985ep2802_3

Bandura, A. (2001). *Guide for constructing Self-Efficacy Scale (Monograph).* Stanford University. https://doi.org/10.1037/t55506-000

Bandura, A., & Wessels, S. (1997). *Self-efficacy*. W.H. Freeman & Company. https://doi.org/10.14361/9783839413272-063

Bateman, D., Gervais, A., Wysocki, T. A., & Cline, J. L. (2017). Special education competencies for principals. *Journal of Special Education Leadership, 30*, 48–56.

Bauer, S. C., & Silver, L. (2018). The impact of job isolation on new principals' sense of efficacy, job satisfaction, burnout and persistence. *Journal of Educational Administration*, *56*(3), 315-33. https://doi.org/10.1108/jea-07-2017-0078

Bellibas, M. S., & Liu, Y. (2017). Multilevel analysis of the relationship between principals' perceived practices of instructional leadership and teachers' self-

efficacy perceptions. *Journal of Educational Administration, 55*(1), 49-69. https://doi.org/10.1108/jea-12-2015-0116

Bešic, E., Paleczek, L., Krammer, M., & Gasteiger-Klicpera, B. (2017). Inclusive practices at the teacher and class level: The experts' view. *European Journal of Special Needs Education, 32,* 329–345. https://doi.org/10.1080/08856257.2016.1240339

Bigsby, E. (2017). Sampling, nonprobability. In *The SAGE Encyclopedia of Communication Research Methods* (p. 6). SAGE Publications Inc. https://doi.org/10.4135/9781483381411.n538

Billingsley, B. (2012). Inclusive school reform: Distributed leadership across the change process. In J. B. Crockett, B. S. Billingsley, & M. L. Boscardin (Eds.), *Handbook of leadership and administration for special education* (pp. 170–190). Routledge. https://doi.org/10.4324/9780203837313

Billingsley, B., DeMatthews, D., Connally, K., & McLeskey, J. (2018). Leadership for effective inclusive schools: Considerations for preparation and reform. *Australasian Journal of Special and Inclusive Education, 42*(1), 65-81. https://doi.org/10.1017/jsi.2018.6

Billingsley, B. S., & McLeskey, J. (2014). What are the roles of principals in inclusive schools? In J. McLeskey, N. L. Waldron, F. Spooner, & B. Algozzine (Eds.), *Handbook of effective inclusive schools: Research and practice* (pp. 67–79). Routledge. https://doi.org/10.4324/9780203102930.ch1

Billingsley, B., McLeskey, J., & Crockett, C. (in press). Conceptualizing principal

leadership for effective inclusive schools. In J. B. Crockett, B. S. Billingsley, & M. L. Boscardin (Eds.), *Handbook of leadership and administration for special education* (2nd ed.). Routledge. https://doi.org/10.4324/9781315226378-19

Black, L. T. (2003). *The development and validation of the principal efficacy scale* (Publication No. 3112222) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations & Theses Global.

Bobbio, A., & Manganelli, A. M. (2009). Leadership self-efficacy scale: A new multidimensional instrument. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, *16*(1), 3-24.

Boscardin, M. L. (2005). The administrative role in transforming secondary schools to support inclusive evidence-based practices. *American Secondary Education, 33*, 21-32.

Bradley, M., & Sellars, M. (2020). Mediating governmentality during Covid–19: A principal's task. *Social Sciences & Humanities Open*, *2*(1). https://doi.org/10.1016/j.ssaho.2020.100086

Bradley, R. L., Browne, B. L., & Kelley, H. M. (2017). Examining the influence of self-efficacy and self-regulation in online learning. *College Student Journal*, *51*(4), 518-530.

Brodzeller, K. L., Ottley, J. R., Jung, J., & Coogle, C. G. (2018). Interventions and adaptations for children with autism spectrum disorder in inclusive early childhood settings. *Early Childhood Education Journal*, *46*(3), 277. https://doi.org/10.1007/s10643-017-0859-5

Brown, S. (2010). *An exploration of the relationship between principal leadership efficacy, principal computer self-efficacy, and student achievement* (Publication No. 3417737 [Doctoral dissertation, University of North Texas]. ProQuest Dissertations & Theses Global.

Bublitz, G. (2016). *Effective strategies for district leadership to create successful inclusion models: Special education directors and school reform in context of least restrictive environment* (Publication No. 10118412) [Doctoral dissertation, Loyola University Chicago]. ProQuest Dissertations & Theses Global.

Burkholder, G. J., Cox, K. A., & Crawford, L. M. (Eds.). (2016). *The scholar-practitioner's guide to research design.* Laureate Publishing.

Calder Stegemann, K., & Jaciw, A. P. (2018). Making it logical: Implementation of inclusive education using a logic model framework. *Learning Disabilities -- A Contemporary Journal, 16*(1), 3–18.

Carleton, E. L., Barling, J., & Trivisonno, M. (2018). Leaders' trait mindfulness and transformational leadership: The mediating roles of leaders' positive affect and leadership self-efficacy. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement, 50*(3), 185. https://doi.org/10.1037/cbs0000103

Carter, S., & Abawi, L. A. (2018). Leadership, inclusion, and quality education for all. *Australasian Journal of Special and Inclusive Education*, 1-16. https://doi.org/10.1017/jsi.2018.5

Carter, W. R., Nesbit, P. L., Badham, R. J., Parker, S. K., & Sung, L. K. (2018). The

effects of employee engagement and self-efficacy on job performance: a longitudinal field study. *The International Journal of Human Resource Management, 29*(17), 2483-2502. https://doi.org/10.1080/09585192.2016.1244096

Clifford, M. (2012). Measuring school climate for gauging principal performance: A review of the validity and reliability of publicly accessible measures. A quality school leadership issue brief. *American Institutes for Research*. https://doi.org/10.1037/e572172012-001

Cobb, C. (2015). Principals play many parts: a review of the research on school principals as special education leaders 2001–2011. *International Journal of Inclusive Education, 19*(3), 213-234. https://doi.org/10.1080/13603116.2014.916354

CONNECT: The Center to Mobilize Early Childhood Knowledge. (2012). *Policy advisory: The law on inclusive education* (Rev. ed.). The University of North Carolina, FPG Child Development Institute. https://connectmodules.dec-sped.org/wp-content/uploads/2018/11/CONNECT-Handout-1-4.pdf

Council for the Accreditation of Educator Preparation. (2017). *Guidelines on program review with national recognition using Specialized Professional Association (SPA) standards.* http://caepnet.org/~/media/Files/caep/accreditation/guidelines-on-program-review-with-nation.pdf?la=en

Council of Chief State School Officers. (2015). *Professional standards for educational leaders (PSEL).* https://doi.org/10.4135/9781412939584.n134

Council of Chief State School Officers and Collaboration for Effective Educator Development, Accountability, and Reform Center. (2015). *Promises to keep: Transforming educator preparation to better serve a diverse range of learners.*

Council of Chief State School Officers and Collaboration for Effective Educator Development, Accountability, and Reform Center. (2017). *PSEL 2015 and promoting principal leadership for the success of students with disabilities.* https://www.ccsso.org/sites/default/files/ 2017-10/PSELforSWDs01252017_0.pdf

Courtright, S. H., Colbert, A. E., & Choi, D. (2014). Fired up or burned out? How developmental challenge differentially impacts leader behavior. *Journal of Applied Psychology, 99,* 681–696.

Centers for Disease Control and Prevention Coronavirus Disease 19 Response Team (2020). Severe outcomes among patients with coronavirus disease 2019 (COVID-19). *Morbidity and Mortality Weekly Report, 69*(12), 343-346.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Darling-Hammond, L., Bae, S., Cook-Harvey, C. M., Lam, L., Mercer, C., Podolsky, A., & Stosich, E. L. (2016). *Pathways to new accountability through the Every Student Succeeds Act.* Learning Policy Institute. https://learningpolicyinstitute. org/wp-content/uploads/2016/04/Pathways_New-Accountability_Through_Every_Student_Succeeds_Act_04202016. pdf.

Davidson, D. N., & Algozzine, B. (2002). Administrators' perceptions of special education law. *Journal of Special Education Leadership, 15*(2), 43-48.

Dimmock, C., & Hattie, J. (1996). School principals' self-efficacy and its measurement in a context of restructuring. *School Effectiveness and School Improvement, 7*(1), 62-75. https://doi.org/10.1080/0924345960070103

DiPaola, M., Tschannen-Moran, M., & Walther-Thomas, C. (2004). School principals and special education: Creating the context for academic success. *Focus on Exceptional Children, 37*(1), 1-10.

Dreyer, L. M., (2017). Constraints to quality education and support for all: A Western Cape case. *South African Journal of Education, 37*, 1–11. https://doi.org10.15700/saje.v37n1a1226

Duran, A., & Yildirim, N. (2017). The relationship between school administrators' happiness levels and their self-efficacy levels. *International Journal of Higher Education*, *6*(4), 210-228. https://doi.org/10.5430/ijhe.v6n4p210

Dwyer, L. P. (2019). Leadership self-efficacy: Review and leader development implications. *Journal of Management Development*, *38*(8), 637-650. https://doi.org/10.1108/jmd-03-2019-0073

Edwards, K., Van Dyke, M., Drahota, A., & Har, K. (2007). Contextualizing inclusive education: Evaluating old and new international perspectives. *Language Arts*, *84*(4), 388.

Enders, C. K. (2017). Multiple imputation as a flexible tool for missing data handling in clinical research. *Behaviour Research and Therapy*, *98*, 4-18. https://doi.org/10.1016/j.brat.2016.11.008

Esposito, M. C. K., Tang, K., & Kulkarni, S. S., (2019). Ensuring inclusive environments

for students with disabilities: School leaders play a linchpin role. *Journal of Educational Administration & History, 51*(1), 43–52. https://doi.org/10.1080/00220620.2018.1515185

Faul, F., Erdfelder, E., Lang, A.-G. & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175-191. https://doi.org/10.3758/bf03193146

Federici, R. A., & Skaalvik, E. M. (2011). Principal self-efficacy and work engagement: Assessing a Norwegian principal self-efficacy scale. *Social Psychology of Education*, *14*(4), 575-600. https://doi.org/10.1007/s11218-011-9160-4

Fisher, C. B. (2013). *Decoding the ethics code: A practical guide for psychologists* (3rd ed.). Sage Publications, Inc. https://doi.org/10.1002/9781118001875.app2

Fisher, Y. (2014). The timeline of self-efficacy: Changes during the professional life cycle of school principals. *Journal of Educational Administration*, *52*(1), 58-83. https://doi.org/10.1108/jea-09-2012-0103

Fuller, E., Young, M., Richardson, M., Pendola, A. and Winn, K. (2018). *The Pre-K-8 School Leader in 2018: A 10-Year Study*. 9th ed. [ebook] National Association of Elementary School Principals (NAESP). https://www.naesp.org/sites/default/files/NAESP%2010-YEAR%20REPORT_2018.pdf

Friedman, A.I., & Brama, R. (2010). School principal's professional self-efficacy: The construct and its component. *Studies in Education Administration and*

Organization, *31*, 57-94.

Gibbs, S. (2007). Teachers' perceptions of efficacy: Beliefs that may support inclusion or segregation. *Educational and Child Psychology*, *24*(3), 47.

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, *37*(2), 479-507. https://doi.org/10.3102/00028312037002479

Göransson, K., Lindqvist, G., & Nilholm, C. (2015). Voices of special educators in Sweden: a total-population study. *Educational Research*, *57*(3), 287-304. https://doi.org/10.1080/00131881.2015.1056642

Government Printing Office. (2015). Every Student Succeeds Act. http://www.gpo.gov/fdsys/pkg/BILLS-114s1177enr/pdf/BILLS -114s1177enr.pdf.

Grant, A. M. (2014). The efficacy of executive coaching in times of organisational change. *Journal of Change Management*, *14*(2), 258-280. https://doi.org/10.1080/14697017.2013.805159

Grissom, J. A., & Loeb, S. (2009). Triangulating principal effectiveness: How perspectives of parents, teachers, and assistant principals identify the central importance of managerial skills. *National Center for Analysis of Longitudinal Data in Education Research, 48*(5). https://doi.org/10.1037/e722132011-001

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. L. (2010). *Multivariate data analysis* (7th ed). Prentice-Hall. https://doi.org/10.1201/b10434-14

Hallinger, P., Hosseingholizadeh, R., Hashemi, N., & Kouhsari, M. (2018). Do beliefs make a difference? Exploring how principal self-efficacy and instructional

leadership impact teacher efficacy and commitment in Iran. *Educational Management Administration & Leadership*, *46*(5), 800-819. https://doi.org/10.1177/1741143217700283

Harris, A., & Jones, M. (2020). COVID 19–school leadership in disruptive times. *School Leadership & Management*, *40*(4), 243-247.

Hentrich, S., Zimber, A., Garbade, S. F., Gregersen, S., Nienhaus, A., & Petermann, F. (2017). Relationships between transformational leadership and health: The mediating role of perceived job demands and occupational self-efficacy. *International Journal of Stress Management*, *24*(1), 34. https://doi.org/10.1037/str0000027

Herman, R., Gates, S., Arifkhanova, A., Barrett, M., Bega, A., Chavez-Herrerias, E., Han, E., Harris, M., Migacheva, K., Ross, R., Leschitz, J. & Wrabel, S. (2017). *School leadership interventions under the every student succeeds act: Evidence review*. [ebook] Rand Corporation. http://www.wallacefoundation.org

Individuals With Disabilities Education Improvement Act. (2004). Pub. L. No. 108–446. http://idea.ed.gov/ download/statute.html

Jacob, R., Goddard, R., Kim, M., Miller, R., & Goddard, Y. (2015). Exploring the causal impact of the McREL Balanced Leadership Program on leadership, principal efficacy, instructional climate, educator turnover, and student achievement. *Educational Evaluation and Policy Analysis*, *37*(3), 314-332.

Jeffrey, T. M. (2019). *Prepared for leadership and special education: A school leader's perspective.* ProQuest Dissertations & Theses Global. (2211096765).

https://ezp.waldenulibrary.org/login?url=https://search-proquest-com.ezp.waldenulibrary.org/docview/2211096765?accountid=14872

Judge, T.A., Bono, J.E. (2001). Relationship of core self-evaluations traits- self-esteem, generalized self-efficacy, locus of control, and emotional stability- with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology, 86,* 80-92. http://doi:10.1037//0021-9010.86.1.80

Kalu, F. A., & Bwalya, J. C. (2017). What makes qualitative research good research? An exploratory analysis of critical elements. *International Journal of Social Science Research, 5*(2), 43-56. https://doi.org/10.1037/str0000027

Kane, T. D., Zaccaro, S. J., Tremble Jr, T. R., & Masuda, A. D. (2002). An examination of the leader's regulation of groups. *Small Group Research, 33*(1), 65-120.

Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press. https://doi.org/10.25336/csp29418

Lai, F. T., Li, E. P., Ji, M., Wong, W. W., & Lo, S. K. (2016). What are the inclusive teaching tasks that require the highest self-efficacy? *Teaching and Teacher Education, 59,* 338-346. https://doi.org/10.1016/j.tate.2016.07.006

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. Wallace Foundation. https://doi.org/10.1007/978-90-481-2660-6_35

Liou, Y. H., & Daly, A. J. (2018). Investigating leader self-efficacy through policy engagement and social network position. *Educational Policy, 34*(3), 411-448. https://doi.org/10.1177/0895904818773904

Liu, Y., West, S. G., Levy, R., & Aiken, L. S. (2017). Tests of simple slopes in multiple regression models with an interaction: Comparison of four approaches. *Multivariate Behavioral Research*, *52*(4), 445-464.

Lockard, S. A. (2013). An analysis of the relationship between elementary principal self-efficacy and 5th grade reading achievement. (Publication No. 3590723) [Doctoral dissertation, University of Maryland]. ProQuest Dissertations & Theses Global.

Locke, E. A., Kirkpatrick, S. A., Wheeler, J., Schneider, J., Niles, K., Goldstein, H., Welsh, K., & Chah, D. (1991). *The Essence of Leadership*. Lexington Books.

Louis, K. S., Leithwood, K., Wahlstrom, K. L., Anderson, S. E., Michlin, M., & Mascall, B. (2010). How Successful Leadership Influences Student Learning: The Second Installment of a Longer Story. *Second International Handbook of Educational Change. Springer International Handbooks of Education, 23*. 611-623. https://doi.org/10.1007/978-90-481-2660-6_35

Lynch, J. M. (2012). Responsibilities of today's principal: Implications for principal preparation programs and principal certification policies. *Rural Special Education Quarterly*, *31*(2), 40-47. https://doi.org/10.1177/875687051203100205

Lynch, J. M. (2016). Effective instruction for students with disabilities: Perceptions of rural middle school principals. *Rural Special Education Quarterly*, *35*(4), 18-28. https://doi.org/10.1177/875687051603500404

Maddux, J. E. (2016). Self-efficacy. *Interpersonal and intrapersonal expectancies*, 41-46. Routledge. https://doi.org/10.4324/9781315652535-5

Maddux, J. E., & Kleiman, E. M. (2018). *Self-efficacy*. Guilford Press.

Malinen, O. P., Savolainen, H., Engelbrecht, P., Xu, J., Nel, M., Nel, N., & Tlale, D. (2013). Exploring teacher self-efficacy for inclusive practices in three diverse countries. *Teaching and Teacher Education*, *33*, 34-44. https://doi.org/10.1016/j.tate.2013.02.004

McCollum, D. L., Kajs, L. T., & Minter, N. (2005, January). School administrators' efficacy: A model and measure. In *Allied Academies International Conference. Academy of Educational Leadership. Proceedings*, *10*(1), 29.

McCollum, D. L., Kajs, L. T., & Minter, N. (2006). A confirmatory factor analysis of the school administrator efficacy scale (SAES). *Academy of Educational Leadership Journal*, *10*(3), 105-119. https://doi.org/10.1016/s1479-3660(07)10008-1

McCullers, J. F., & Bozeman, W. (2010). Principal self-efficacy: The effects of no child left behind and Florida school grades. *National Association of Secondary School Principals Bulletin*, 94, 53-74. http://doi: 10.1177/0192636510371976

McLeskey, J., Waldron, N. L., Spooner, F., & Algozzine, B. (2014). What are effective inclusive schools and why are they important? *Handbook of effective inclusive schools: Research and practice*, *3*, 3-16. https://doi.org/10.4324/9780203102930.ch1

Mesterova, J., Prochazka, J., Vaculik, M., & Smutny, P. (2015). Relationship between self-efficacy, transformational leadership and leader effectiveness. *Journal of Advanced Management Science, 3*(2). https://doi.org/10.12720/joams.3.2.109-122

Meyer, F., Sinnema, C., & Patuawa, J. (2019). Novice principals setting goals for school improvement in New Zealand. *School Leadership & Management*, *39*(2), 198-

221. https://doi.org/10.1080/13632434.2018.1473358

Michalovic, E., Hall, S., Duncan, L. R., Basset-Gunter, R., & Sweet, S. N. (2016). Outcome expectations as a mediator of individuals' self-efficacy and action planning: A self-efficacy theory study. *Journal of Exercise, Movement, and Sport, 48*(1), 202-202. https://doi.org/10.1037/t75118-000

Moak, J. (2010). The self-perception of leadership efficacy of elementary principals and the effects on student achievement. https://doi.org/10.32469/10355/8325

Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge.

Negiş-Işık, A., & Derinbay, D. (2015). Principals' sense of efficacy scale: Validity and reliability study. *Eurasian Journal of Educational Research, 60*, 1-16. http://doi: 10.14689/ejer.2015.60.1

Neupane, P., (2017). Barriers to education and school attainment: Evidence from secondary schools in rural Nepal. *International Education Studies*, *10*(2), 68–83.

Ng, K. Y., Ang, S., & Chan, K. Y. (2008). Personality and leader effectiveness: A moderated mediation model of leadership self-efficacy, job demands, and job autonomy. *Journal of Applied Psychology*, *93*(4), 733. https://doi.org/10.1037/0021-9010.93.4.733

Nimon, K. F. (2012). Statistical assumptions of substantive analyses across the general linear model: A mini-review. *Frontiers in Psychology, 3*, 322.

Norusis, M. J. (1991). *SPSS base systems user's guide*. SPSS, Inc.

Paglis, L. L., & Green, S. G. (2002). Leadership self-efficacy and managers' motivation for leading change. *Journal of Organizational Behavior: The International*

Journal of Industrial, Occupational and Organizational Psychology and Behavior, *23*(2), 215-235. https://doi.org/10.1002/job.137

Park, M. H., Dimitrov, D. M., Das, A., & Gichuru, M. (2016). The Teacher Efficacy for Inclusive Practices (TEIP) scale: Dimensionality and factor structure. *Journal of Research in Special Educational Needs*, *16*(1), 2-12. https://doi.org/10.1111/1471-3802.12047

Pollitt, K. and Leichty, R. (2017). *Principal's action plan for the every student succeeds act providing all students with a well-rounded and complete Education*. The National Association of Elementary School Principals. http://www.naesp.org

Pollock, K. (2020). School leaders' work during the coronavirus 19 disease pandemic: A two-pronged approach. *International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management), 48*(3).

Porter, A., Goldring, E., Murphy, J., Elliott, S. N., & Cravens, X. (2006). A conceptual framework for the assessment of principal and team school leadership. *Wallace Foundation,* Vanderbilt University. https://doi.org/10.1037/t67398-000

Powell, J. J. (2015). *Barriers to inclusion: Special education in the United States and Germany*. Routledge. https://doi.org/10.4324/9781315635880

Powell, B., & Gibbs, S. (2018). Behaviour and learning: The development of staff efficacy in one school. *International Journal of Whole Schooling*, *14*(2), 63-82.

Putwain, D. W., & von der Embse, N. P. (2019). Teacher self-efficacy moderates the relations between imposed pressure from imposed curriculum changes and teacher stress. *Educational Psychology*, *39*(1), 51-64.

https://doi.org/10.1080/01443410.2018.1500681

Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies, 3*(9). http://doi.10.5281/zenodo.887088

Ramchunder, Y., & Martins, N. (2014). The role of self-efficacy, emotional intelligence and leadership style as attributes of leadership effectiveness. *SA Journal of Industrial Psychology, 40*, 1-11. https://doi.org/10.4102/sajip.v40i1.1100

Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. Sage Publications.

Reindal, S. M. (2016). Discussing inclusive education: An inquiry into different interpretations and a search for ethical aspects of inclusion using the capabilities approach. *European Journal of Special Needs Education, 31*(1), 1-12. https://doi.org/10.1080/08856257.2015.1087123

Rice, J. K. (2010). Principal effectiveness and leadership in an era of accountability: What research says. Brief 8. *National Center for Analysis of Longitudinal Data in Education Research*, 1-5. https://doi.org/10.1037/e722272011-001

Romanuck Murphy, C. (2018a). Educational leaders and inclusive education: Perceptions, roles, and responsibilities. *Journal of Educational Research and Practice, 8*(1), 87-100. http://doi.org/10.5590/JERAP.2018.08.1.07

Romanuck Murphy, C. (2018b). Transforming inclusive education: Nine tips to enhance school leaders' ability to effectively lead inclusive special education programs. *Journal of Educational Research and Practice, 8*(1), 7.

https://doi.org/10.5590/jerap.2018.08.1.07

Seibert, S. E., Sargent, L. D., Kraimer, M. L., & Kiazad, K. (2017). Linking developmental experiences to leader effectiveness and promotability: The mediating role of leadership self-efficacy and mentor network. *Personnel Psychology*, *70*(2), 357-397. https://doi.org/10.1111/peps.12145

Schunk, D. H., & DiBenedetto, M. K. (2016). Self-efficacy theory in education. *Handbook of Motivation at School*, *2*, 34-54. https://doi.org/10.4324/9781315773384-9

Sharma, U., & George, S. (2016). Understanding teacher self-efficacy to teach in inclusive classrooms. *Asia-Pacific Perspectives on Teacher Self-Efficacy*, 37-51. SensePublishers. https://doi.org/10.1007/978-94-6300-521-0_3

Sharma, U., Loreman, T., & Forlin, C. (2012). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs*, *12*(1), 12-21. https://doi.org/10.1111/j.1471-3802.2011.01200.x

Sharma, U., & Sokal, L. (2016). Can teachers' self-reported efficacy, concerns, and attitudes toward inclusion scores predict their actual inclusive classroom practices? *Australasian Journal of Special Education*, *40*(1), 21-38.

Skaalvik, C. (2020). School principal self-efficacy for instructional leadership: relations with engagement, emotional exhaustion and motivation to quit. *Social Psychology of Education*, 1-20. https://doi.org/10.1007/s11218-020-09544-4

Spillane, J. P., & Lee, L. C. (2014). Novice school principals' sense of ultimate responsibility: Problems of practice in transitioning to the principal's

office. *Educational Administration Quarterly*, *50*(3), 431–465. https://doi.org/10.1177/0013161x13505290

Srivastava, M., de Boer, A., & Pijl, S. J. (2015). Inclusive education in developing countries: A closer look at its implementation in the last 10 years. *Educational Review*, *67*(2), 179-195.

Starratt, R. J. (2012). *Cultivating an ethical school*. Routledge, Taylor & Francis Group.

Starratt, R., & Leeman, Y. (2011). Ethical tensions in the daily work of principals: Finding a still point for leadership. *EAF Journal*, *22*(1), 39.

Sullivan, G. M., & Feinn, R. (2012). Using effect size-or why the p value is not enough. *Journal of Graduate Medical Education*, *4*(3), 279–282.

Sutcher, L., L. Darling-Hammond, & Carver-Thomas, D. (2016). A coming crisis in teaching? Teacher supply, demand, and shortages in the United States. *Learning Policy Institute*. https://doi.org/10.14507/epaa.27.3696

Sutcher, L., Podolsky, A., & Espinoza, D. (2017). Supporting principals' learning: Key features of effective programs. *Learning Policy Institute*, *27*, 35. https://doi.org/10.1002/9781118269329.ch6

Tabachnick, B. G., & Fidell, L. S. (2018). *Using multivariate statistics* (7th ed.). Pearson.

Thompson, S. A., Lyons, W., & Timmons, V. (2015). Inclusive education policy: What the leadership of Canadian teacher associations has to say about it. *International Journal of Inclusive Education*, *19*(2), 121-140. https://doi.org/10.1080/13603116.2014.908964

Tourangeau, R., Couper, M. P., & Steiger, D. M. (2003). Humanizing self-administered

surveys: Experiments on social presence in web and IVR surveys. *Computers in Human Behavior, 19*(1), 1-24. https://doi.org/10.1016/s0747-5632(02)00032-8

Tschannen-Moran, M., & Gareis, C. R. (2004). Principals' sense of efficacy: Assessing a promising construct. *Journal of Educational Administration*, *42*(4), 573-585. https://doi.org/10.1108/09578230410554070

Tschannen-Moran, M., & Gareis, C. R. (2007). Cultivating principals' self-efficacy: Supports that matter. *Journal of School Leadership, 17*(1), 89. https://doi.org/10.1177/105268460701700104

Tschannen-Moran, M., & Gareis, C. R. (2017). Principals, trust, and cultivating vibrant schools. In *How school leaders contribute to student success* (pp. 153-174). Springer. https://doi.org/10.1007/978-3-319-50980-8_8

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher's sense of efficacy scale. *Journal of Educational Psychology, 83*(1), 81-91. https://doi.org/10.1037/t11400-000

Urton, K., Wilbert, J., & Hennemann, T. (2014). Attitudes towards inclusion and self-efficacy of principals and teachers. *Learning Disabilities--A Contemporary Journal*, *12*(2), 151-168.

U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (2011a). *The nation's report card: Mathematics 2011*. United States Department of Education. https://www.nationsreportcard.gov/reading_2011/

U.S. Department of Education, Institute of Education Sciences, National Center for

Education Statistics (2011b). *The nation's report card: Mathematics 2011*. United States Department of Education. https://www.nationsreportcard.gov/reading_2011/

Versland, T. M. (2009). Self-efficacy development of aspiring principals in education leadership preparation programs. *Journal of Research on Leadership Education, 11*(3), 298-320. https://doi.org/10.1177/1942775115618503

Versland, T. M., & Erickson, J. L. (2017). Leading by example: A case study of the influence of principal self-efficacy on collective efficacy. *Cogent Education*, *4*(1). https://doi.org/10.1080/2331186x.2017.1286765

Ware, H. W., & Kitsantas, A. (2011). Predicting teacher commitment using principal and teacher efficacy variables: An HLM approach. *The Journal of Educational Research*, *104*(3), 183-193.

Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). SAGE Publications. https://doi.org/10.4135/9781446249406.n8

Williams, J. C. (2012). Examining the relationship between Louisiana principals' self-efficacy beliefs and student achievement. [Doctoral dissertation, University of New Orleans]. ScholarWorks@UNO. https://scholarworks.uno.edu/cgi/viewcontent.cgi?article=2504&context=td

Wilson, C., Marks Woolfson, L., & Durkin, K. (2020). School environment and mastery experience as predictors of teachers' self-efficacy beliefs towards inclusive teaching. *International Journal of Inclusive Education*, *24*(2), 218-234.

Yell, M. L., Shriner, J. G., & Katsiyannis, A. (2006). Individuals with disabilities

education improvement act of 2004 and Individuals with disabilities education improvement act regulations of 2006: Implications for educators, administrators, and teacher trainers. *Focus on Exceptional Children*, *39*(1), 1-24.

Youngs, P., Kim, J., & Mavrogordato, M. (Eds.). (2020). *Exploring principal development and teacher outcomes: How principals can strengthen instruction, teacher retention, and student achievement*. Routledge. https://doi.org/10.4324/9780429356247-1

Yukl, G. A., & Becker, W. S. (2006). Effective empowerment in organizations. *Organization Management Journal*, *3*(3), 210-231. https://doi.org/10.1057/omj.2006.20

Zigmond, N., Kloo, A., & Volonino, V. (2009). What, where, and how? Special education in the climate of full inclusion. *Exceptionality*, *17*(4), 189-204. https://doi.org/10.1080/09362830903231986

Appendix A: Letter of Permission

William & Mary
School of Education

MEGAN TSCHANNEN-MORAN, PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

October 7, 2018

Courtney,

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 B: Demographic Questionnaire

Instructions: Please complete the following demographic questions. Please note that all personal information will be kept completely confidential and none of the responses you provide will be connected to your name, email address, or other identifying information.

1. **What is the highest degree that you have achieved in the field of education?**
    a) Master's degree
    b) Doctoral degree (Ed.D. or Ph.D.)
2. **What is your gender?**
    a) Female
    b) Male
    c) Other
3. **What is your race?**
    a) White American
    b) Black or African American
    c) American Indians and Alaska Native
    d) Asian American
    e) Native Hawaiian and Other Pacific Islander
    f) Latino or Hispanic
    g) Other
4. **How old are you (in years)? (Please round up to the nearest number)**
    (Drop down menu 0-100)

5. **How many years have you been a principal? (Please round up to the nearest number)**

   (Drop down menu 0-100)

6. **How many years have you been a principal at this school? (Please round up to the nearest number)**

   (Drop down menu 0-100)

7. **How many hours of inclusion-related professional development or training have you received since attaining your highest degree in education? (Please round up to the nearest number)**

   (Drop down menu 0-1000)

8. **How many years of experience as an educator (non-special-education) have you had? (Please round up to the nearest number)**

   (Drop down menu 0-100)

9. **How many years of experience as a special educator have you had? (Please round up to the nearest number)**

   (Drop down menu 0-100)

10. **How many hours per week do you estimate that you spend on special-education-related activities? (Please round up to the nearest number)**

    (Drop down menu 0-100)

Appendix C: Plots for the Administrator Role Model

Figure C1.

Normal Probability Plot for the Administrator Role Model

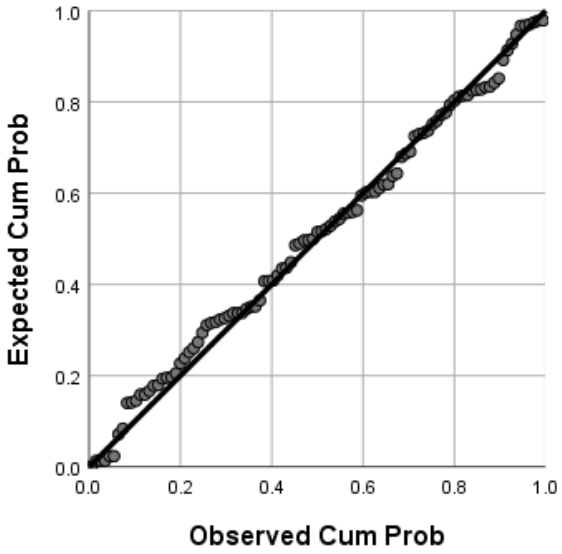
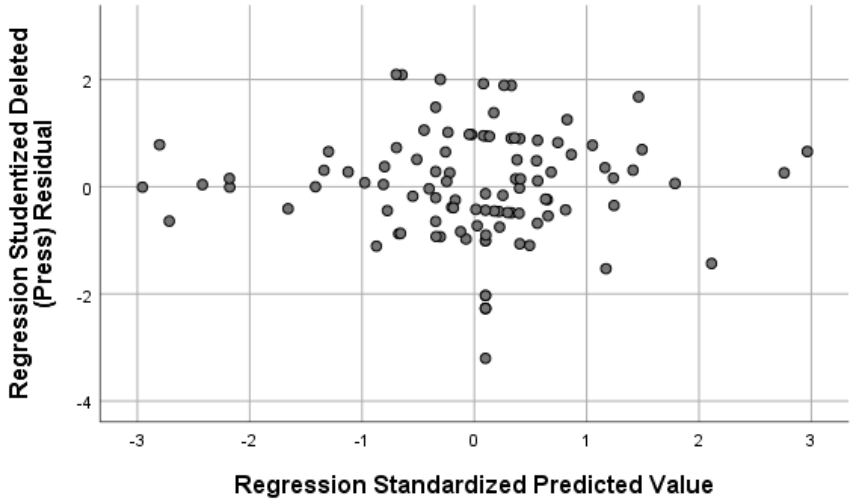


Figure C2.

Scatterplot of the Studentized Deleted Residuals by the Standardized Predicted Values for the Administrator Role Model



Appendix D: Plots for the Instructional Leadership Model

Figure D1.

Normal Probability Plot for the Instructional Leadership Model

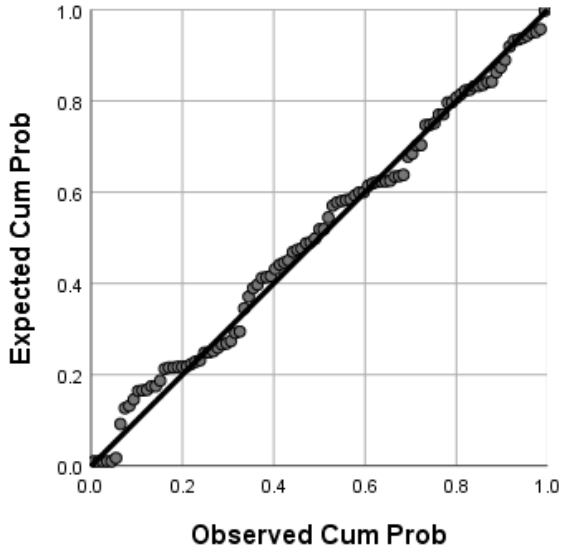
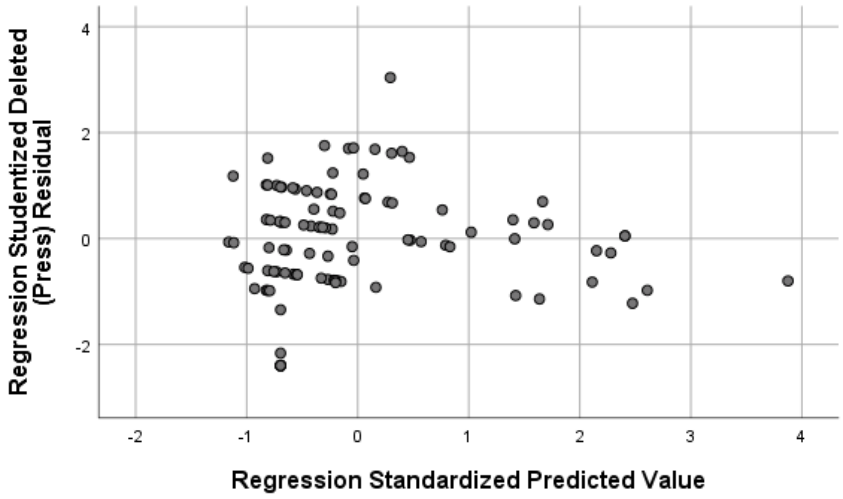


Figure D2.

Scatterplot of the Studentized Deleted Residuals by the Standardized Predicted Values for the Instructional Leadership Model



Appendix E: Plots for the Moral Leadership Model

Figure E1.

Normal Probability Plot for the Moral Leadership Model

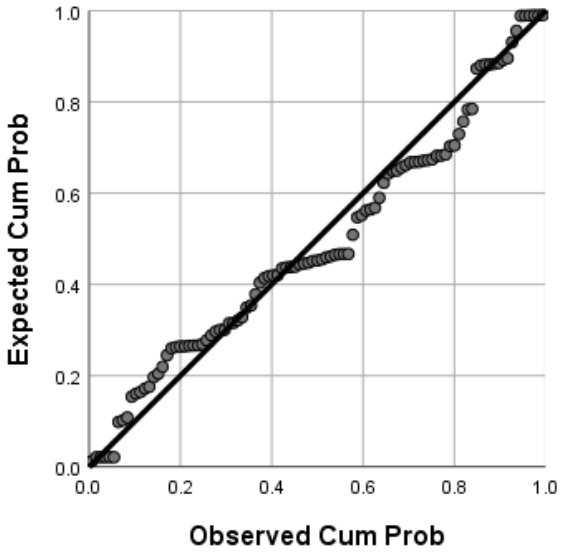


Figure E2.

Scatterplot of the Studentized Deleted Residuals by the Standardized Predicted Values for the Moral Leadership Model